THE INVESTMENT DECISION-MAKING PROCESS IN SMALL MANUFACTURING ENTERPRISES

With particular reference to Printing and Clothing Industries

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DEDICATION

This thesis is dedicated to my sister, Akon,
who passed away on 2nd April 2002 in a ghastly motor accident.
She was aged 22.

Akon was a second year student at the University of Uyo in Nigeria when she departed this world. She was a dynamic and vivacious young lady who was full of life and energy. She was forward looking, positive and very hard working. She radiated warmth and friendliness towards anybody who came in contact with her. She brought happiness to her family, friends and indeed everybody who knew her.

She was intelligent, caring, loving, and kind. This description though, does not capture what we all felt about her. She was a person who touched all those who knew her with her humour, generosity of spirit and thoughtfulness. She was very popular and had a wide circle of friends, and every one she knew is shocked and devastated by her passing. Akon's love and care for her friends and family is unparalleled and will never be forgotten. Her passing is something the family finds difficult to accept. The tragedy and loss is too much to bear. The wound, the pain and sorrow are too deep to endure.

She had everything to live for: caring parents, loving brothers and sisters,
and supportive friends and relatives. She also had a promising career
ahead of her after her university education.

She is not dead, but asleep!

ABSTRACT

This research is concerned with the investment decision making process in small manufacturing enterprises in the printing and clothing industries. The focus is on the actual decision-making behaviour of owner-managers. The study uses 'Insider accounts' as a qualitative and innovative methodology, which involves in-depth, semi-structured interviews and direct observation, conducted longitudinally in 8 case study companies. It is a research method which includes detailed accounts from the actors themselves, incorporating the actual motives and behaviour of owner-managers based on the philosophy that the 'objects' studied are in fact 'subjects', who produce accounts of their world.

The results of the study suggest that owner-managers use 'bootstrapping' techniques for their investment appraisal instead of formal methods, such as those recommended in the financial management literature. 'Bootstrapping' represents an approach to decision making that is grounded in previous experience of key decision-makers and their organisations and the largely informal routines that they develop from this. These techniques include a combination of experience, judgement and gut-feeling, budgets and forecasts, and the tendering process. The concept of bootstrapping is not simply a way of owner-managers finding a solution to a problem or a sort of 'fire-fighting', it is a concept of actions grounded in experiential learning. In this sense, bootstrapping is a particular form of learning behaviour. It is essentially a trial and error learning process which brings knowledge, skills, values and attitudes together and provides owner-managers with an opportunity to evaluate outcomes associated with investment based on previous experience.

Therefore, the researcher believes that conceptualising small firm investment decision making within the context of an organisational learning approach holds promise as an explanatory framework for investment behaviour in small firms.

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CHAPTER 1
INTRODUCTION

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1.1 RATIONALE FOR THE STUDY

This thesis is concerned with the investment decision-making process in small manufacturing enterprises, focusing specifically on the printing and clothing industries and the extent to which investment decisions in these firms are based on previous learning experiences of owner-managers. It is also concerned with how capital investment is financed in these industries. Previous research (e.g. North et al, 1997) has emphasised how these two industries have very different technology bases and different levels of expenditure. This has potential implications for the investment decision-making process faced by owner-managers of these industries in terms of the scale of investment and the level of uncertainty involved.

The focus on manufacturing enterprises is justified because they are more likely to be active in introducing changes in production processes and investing in more modern technology than firms involved in service activity (North et al, 1997). There is also the belief that it is this sector which is of crucial importance to the achievement of long-term sustainable economic growth in local and regional economies (Smallbone et al, 1997) and in which more substantial investment is required compared to services.

The study is justified on many grounds. Firstly, the majority of decision-making studies attempt to explain behaviour using assumptions and methods which do not take into consideration the actual motives of the actors themselves (Jarvis et al, 1996; Spence and Rutherfoord, 2001). More specifically, Deakins et al (2000) point out that despite the increased attention paid to owner-managers in the small firm sector, little is known about the process of financial management and decision-making in small firms and the entrepreneurship process. Therefore, this study attempts to shed light on the process issue by investigating how small manufacturing enterprises behave compared with what the theories and the literature have suggested about investment decision-making. It uses a methodological approach that incorporates the actual motives, values, beliefs and intentions of owner-managers.

Secondly, investment is the key to the success of any business organisation, be it large or small, helping towards the creation of jobs in the economy and the achievement of competitiveness through innovation and quality factors (Storey et al, 1989), as well as through cost reduction, new product development and product differentiation (Smallbone et al, 1995). For example, the ability of new manufacturing technologies to produce smaller batches at low cost and the enhanced greater flexibility of manufacturing operations means that small manufacturing enterprises are able to benefit from "faster customer response, quick production, more 'customisation' and greater variety" (Austin et al, 1993, p.5). Small manufacturing enterprises (especially small printing firms) are increasingly facing competition within the UK and in Europe which means that their responsiveness to customer demand is an important factor influencing their competitiveness (BPIF, 1997). This in turn has potential implications for investment. Barkham et al (1996, p.1) argue that "competition has removed whole industries and reduced once mighty firms to shadows of their former selves" and that "deep recessions have made it difficult to plan and to commit large-scale capital investment. Yet, very few manufacturing firms can survive without incurring some capital expenditure each year (Smallbone et al, 1996). Harvey-Jones (1989, p.18) points out that "there is an intrinsic impermanence in industry, and indeed the management task is to recreate the company in a new form every year". Capital investment is the main means by which the company is 'recreated' year by year, but such decisions require a clearly understood process (Pike and Neale, 1993).

Thirdly, investment decisions designed to match equipment purchases closely to market requirements are essential if investment is to be cost-effective (CEEDR, 1997). Therefore, to encourage small manufacturing enterprises in their investment decisions, it is necessary to understand first the barriers faced by these firms and the motivations of owner-managers. These barriers are inherent in the small firm sector and range from limited resources (including investment finance and managerial expertise) to varied objectives and the concentration of decision making in the hands of one or two owners who are closely involved in the day to day operation of the business (Burns, 1996). It is also necessary to understand the uncertain and risky nature of the small firm operating environment (Jarvis

et al, 1996). Investment decisions should not be considered in isolation but should take into consideration the operating environment and the barriers faced by these firms. It is not the sophistication of techniques used that is important, but it is the whole process of the investment programme that must be examined and effectively applied to ensure success (Pike and Neale, 1993).

The fourth justification for this study is that the investment decision-making process of small firms has not been sufficiently researched. In the United Kingdom, the problems of small firms were first formally addressed in 1931 when the Macmillan Committee (1931) was set up to look specifically at the financing problems of small firms. This was followed by the Radcliff Report (1959), the Bolton Committee set up in 1969, and the Wilson Committee (1977). Of these reports, despite the identification of a finance gap by the Macmillan Commission, known as the "Macmillan gap", it is the Bolton Report (1971) which has generated considerable interest in the small firm sector (Curran, 1986). After the Bolton Report, there have been various studies in the small firm sector. But as far as investment decision is concerned the main relevant studies are those of Lund and Miner (1971), Hankinson (1983) and McIntyre and Coulthurst (1985). The work of Lund and Miner described the investment behaviour of small firms, comparing it to that of the larger firms; Hankinson investigated the investment behaviour of South Wessex Small Engineering firms; whilst McIntyre and Coulthurst concentrated on the relationship between size and the method of capital appraisal. The key findings common to these studies is that the most widely used evaluation technique in practice is the payback method.

The focus of the literature on investment decision making has been directed mainly towards the quantitative criteria, providing information on the use of appraisal techniques only. Whilst this is undeniably important, the research to date seems to have overlooked a more fundamental aspect of small enterprise investment decision-making process such as the behavioural and qualitative decision criteria (Deakins et al, 2000). Attention to the pivotal issue of motivations of owner-managers in small enterprises would seem to be a logical first step to understanding the actual investment decision-making behaviour in this

context because financial management practices in small businesses are driven by motivations of owner-managers which tend to be ignored in the literature (Chittenden et al, 1999). Previous studies are also based on methodological approaches that attempt to reduce the complexities of everyday life to simplistic 'mathematical' concepts (Jarvis et al, 1996) and therefore of limited relevance to understanding the behaviour of small firms (Spence and Rutherfoord, 2001). For example, Peel and Wilson (1996) conclude in their study involving postal questionnaire responses of 84 small firms that a relatively high proportion of small firms in their sample use quantitative investment decision-making techniques. On the other hand, Jarvis et al (1996) interviewed 20 small firms and indicated that 'best practice' models advocated by financial management literature are not necessarily appropriate to small firms and alternative approaches may be viable, even though these alternative approaches may be unorthodox in the eyes of academics.

However, Peel and Wilson (1996) argue that there is less theoretical literature on investment decisions in small firms than there is empirical research. The available theoretical and empirical literature on investment decision making developed for large firms are clearly unsuitable for small firms because the factors affecting small firm investment decisions differ considerably from those addressed by the large firm studies (Keasey and Watson, 1993; Spence and Rutherfoord, 2001). These factors, in addition to those already mentioned, include high exposure to business and financial risk; separation of financing and investment decisions; and multiple objectives.

Despite the importance of small firms to the economy as a source of innovation (Ochieng and Kalantaridis 2001; Anderson et al, 2001), a source of employment (Keeble, 1990; Smallbone, 1994; The Times, 1997; Dale and Morgan, 2001), as suppliers to large firms (Langley, 1993; Smallbone, 1994), and as a seed-corn from which giant companies grow (Storey et al, 1987; ACOST 1990), the actual investment behaviour of these firms is still relatively little researched, with economic policy being formulated without sufficient understanding of the real problems faced by these companies and the likely impact of the actions of their external environment upon them (Foster, 1993; Jarvis et al, 1996; Carter and Tzokas, 1999). Therefore, there is a lack of systematic, integrated knowledge about

investment decision-making process in small firms. In essence, the picture is incomplete and one object of this study is to determine how the uncertain external environment, and the multiple objectives influence investment decisions and thus develop the aspects of small firms' investment decision-making which have not yet had enough attention.

Finally, the central tenet in this study is that the behaviour of owner-managers of small firms need to be clearly understood with respect to investment decision making if our knowledge of how and why small firm owners invest is to be distinguished from how they ought to behave. There is need for a fuller view of the investment decision process. This is important if recommendations are to be made to small business owners and managers, financial institutions, small business advisers, consultants, and policy makers on how their financial management practices are to become more effective. This involves understanding what actually motivates small firms owner-managers and what factors influence practices (Deakins et al, 2000).

1.2 RESEARCH OBJECTIVES

The objectives of this research are as follows:

[1] To analyse the investment decision-making process of small manufacturing enterprises for different types of asset and to assess the methods actually used in relation to those that could be used.

[2] To assess the extent to which investment decisions in small firms are based on previous learning experiences of decision makers.

[3] To analyse how capital investment is financed in small manufacturing enterprises.

1.3 RESEARCH QUESTIONS

The research aims to find answers to the following questions:

[1] What motivates investment decision-making in small manufacturing enterprises?

[2] What processes are actually used in making investment decisions and to what extent are investment decisions based on qualitative criteria as well as quantitative techniques?

[3] To what extent are investment decisions in small manufacturing enterprises based on previous learning experiences of decision makers?

[4] What are the key factors influencing investment decision-making?

[5] To what extent is raising investment finance a problem to small manufacturing enterprises? What strategies do business owners use to cope with it?

1.4 DEFINING CAPITAL INVESTMENT

Investment is taken to mean all capital expenditure which is expected to produce benefits to the firm over a period extending beyond the year in which the expenditure was incurred (Nayak and Greenfield, 1994). The following is a brief summary of the more important categories of such expenditure:

[1] the purchase of plant and machinery for production;

[ii] the acquisition of new manufacturing technology;

[iii] the acquisition or erection of buildings such as factories, warehouses, and offices;

[iv] the purchase of all types of vehicles used in the business;

[v] the acquisition of 'administrative aids', such as computers and computer systems.

For the acquisition of such expenditure capital funds are usually required, hence the term: capital expenditure (Brophy and Sulman, 1993). It is the acquisition of these assets which is regarded as investment in accounting terms (Van Auken and Holman, 1995). Investment, for the purposes of this study, does not include intangible assets such as brand names, goodwill, patents, trademarks, and research and development capability.

1.5 THE FRAMEWORK FOR THE RESEARCH

The framework for the empirical analysis incorporates two inter-linking components, namely, investment appraisal, and investment finance. Much of the mainstream financial management literature puts all the emphasis on the use of conventional investment appraisal techniques and assigns too passive a role to the entire decision-making process. It also suggests that financing decisions are completely separated from investment decisions (Fisher, 1930). But in the small firm sector investment and financing decisions are positively linked and can not be separated (Brophy and Shulman, 1993).

The rest of the thesis is divided into 6 chapters. Chapter 2 deals with the conceptualisation of the small firm as a unique problem-type whereby owner-manager and size-related characteristics and constraints distinguish small firms from large firms, drawing on the behavioural/organisational theories. The chapter also builds up a theoretical framework of the small firm as a learning organisation which is used to interpret the investment decision making process. Chapter 3 makes a critical review of the existing literature in the area of the financial management of small firms. This includes a review of the distinctiveness of the small firm financial management, and methods of investment decisions. It also explores the link between investment and financing decisions, and examines the various sources of investment finance. Chapter 4 discusses the research methodology. This covers the methodological choice, developing the research method, and discusses the case study

research approach. It also discusses the approach of 'Insider accounts' which is the methodology developed for the study to ensure greater understanding of owner-managers motives for their actions. The strategy and techniques of data analysis is also discussed. It highlights the composition of the sample of firms and discusses the methodological problems and issues.

Chapter 5 presents the analysis of the investment decision-making process in the case study firms. This includes an analysis of the techniques used and an assessment of the methods employed compared to those that could have been used. The chapter explores the role of experience and the role of stakeholders such as employees, customers and equipment suppliers in investment decision-making process. Chapter 6 examines the financing process, including sources of investment finance, the effect of macro economic changes and the investment finance for different assets. Chapter 7 draws conclusions from the above based on the initial research questions. The contribution made by the study to the body of knowledge in terms of new insights is also focused around the research questions. Finally, the chapter highlights implications for future research.

CHAPTER 2
CONCEPTUALISING THE SMALL FIRM: LITERATURE REVIEW

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2.1 INTRODUCTION

Small firms are not 'little big businesses' (Welsh and White, 1984) or scaled-down versions of large firms (Jarvis et al, 1996; Westhead and Storey, 1996) but they face unique problem types (Wyer, 1990) arising from owner-manager- and size-related characteristics (Smallbone and Wyer, 1994). For example, in small firms, owner-manager attitudes, values, motivations and skills become the key underpinning of the organisational culture that is distinctively different from that in large firms where ownership and management are separate (Spence and Rutherfoord, 2001; Deakins et al, 2000). These characteristics may become enabling or constraining forces which are key determinants of the nature and form of development of the small firm (Wyer and Mason, 1998). For instance, owner-manager values of independence and autonomy may act as a constraint against the use of external equity that involves a share of ownership (Poutziouris et al, 1999). It is only when these unique problem-types which small firms face are contextualised that the complexity of the small firm management task becomes apparent (Wyer and Mason, 1998). The work of Wyer and Mason (1998) draws attention to the different change situations which small firms face. It distinguishes between, on one hand, closed- and contained- change for which short term modes of planning may be appropriate, and on the other hand, open-ended change which is totally unpredictable and unknowable and incompatible with rational long-term planning modes of management.

In conceptualising the small firm, different theories of the firm are examined. In reviewing these theories and different conceptual frameworks some are included which make no distinction between firms of different sizes and others where there is a more explicit discussion of the influence of the size of firm. Although some of these approaches do not deal with firms' size per se, nevertheless, many of the principles outlined in them, in terms of how firms actually behave rather than assumptions about how they ought to behave, are highly compatible with the starting point of this study. In other words, the literature in this area is quite important in terms of providing the grounding in decision-making behaviour of small firms, such as the neo-classical theory of the firm which is based on a set of assumptions which results in optimal decision-making behaviour (Allen, 1957), the

behavioural and organisational approaches which moves towards organisational dimensions in terms of the influence of different groups of organisational members (Cyert and March, 1963), and agency and transactions cost theories (Myers and Majluf, 1984). The second half of the chapter draws on the works of Gibb (1997); Deakins (1998) and Wyer and Mason (1998) to build up a theoretical framework of the small firm as learning organisation. The resultant insight is used to begin to emphasise the value of an organisational learning theory to understand how small firms actually behave in terms of investment decision-making processes.

2.2 NEO-CLASSICAL THEORY OF THE FIRM

Neo-Classical theory of the firm asserts that the objective of the firm is to maximise profits, assuming that the firm is operating within a perfectly competitive market (Allen, 1957). The main inadequacy of the approach from the standpoint of this study is that it only emphasises what firms ought to be doing on the basis of a set of rationality assumptions because it is an explicitly normative approach (Greenwood and Carter, 1997). As a basis of analysing what firms actually do, it has all the limitations of a neo-classical theory. That is, the theory is not concerned with what firms actually do but rather with trying to improve what they do in terms of economic rationality. Thus, the 'firm' of the theory of the firm has few characteristics that can be identified in actual businesses, especially small businesses. The theoretical 'firm' is not a complex organisation. It has no problems of control, no limited resources, no limited abilities and no uncertainty of the operating environment (Cyert and March, 1963). In other words, conventional economic theory of the firm operates from the assumption of perfect information, perfect ability and profit maximisation motivation. In effect, economic theory has been looking at the behaviour of an 'Economic Man', describing how an economic system would operate if individuals operating the system were to behave perfectly rationally (Lloyd and Dicken, 1972). Moreover, there is no recognition in the classical theory that there is any difference between firms of different sizes whereas as demonstrated later in this study there are differences in terms of behaviour between small and large firms. So, from that point of

view the neo-classical approach has got a limited value in terms of its potential as a starting point for this study.

The implications of this approach for decision making are that, firstly, in practice, profit maximisation is not the only objective of a business (Spence and Rutherfoord, 2001; Cyert and March, 1963, Simon, 1952). Simon (1952) argues that profit maximisation should be replaced with a goal of making satisfactory profits and what is satisfactory profit depends on the level of aspiration of the firm. Moreover, to emphasise the importance of profit maximisation leaves open the question of how profit is to be measured (Jarvis et al, 1996). The definition of profit in economics is different from the definition of profit in accounting mainly because of how costs are defined in the two disciplines (Johnson and Kaplan, 1987). In accounting, costs are defined in terms of money outlay (less depreciation), whereas in economics, costs include opportunity costs i.e. the value of the next best alternative use of resources which has been foregone. Even within accounting, research has revealed problems in the definition of profit and the conflict between short-run and long-run profit maximisation (Johnson and Kaplan, 1987).

Secondly, the assumption of perfect knowledge in decision-making is awkward because information is not given to the firm but is searched for, discovered and obtained at a cost and the order in which the environment is searched determines to a substantial extent the decisions that can be made (Cyert and March, 1963). Therefore, Cyert and March (1963) argue that there are substantial differences between the actual decision-making processes of firms and the decision-making process of the theory of the firm since (a) the theory does not reflect the way in which costs are actually taken into account when decisions are made; (b) the treatment of uncertainty in the theory is considerably at variance with the way in which firms react to uncertainty; (c) the executive in the firm deals with only a subset of the decision variables specified in the theory - treating the others as essentially outside his or her control.

In small firms, actions and decision-making behaviour are rarely rational because motives, values, beliefs, and perceptions of owner-managers often enter into the picture to influence

decision making (Jarvis et al, 1996). In small firms decision-making and actions are complex as it can sometimes be based on habit or custom (Weber, 1968). In practice, people often adopt a 'good enough' approach rather than attempt to achieve optimal decision i.e. 'satisficing' which is a decision that meets some minimum set of acceptable standards (Simon, 1960). In effect, satisficing offers a variant on conventional economic theory of rationality (Jarvis et al, 1996). Much of this literature deals explicitly or implicitly with large firms, and small firms, when they are considered at all, are treated almost by definition as being close to neo-classical theory.

Research has shown that small firms pursue a range of objectives other than (or as well as) wealth maximisation (Spence and Rutherfoord, 2001; Collis and Jarvis, 2000). Jarvis et al (1996) argue that these objectives may be sought for their own sake or as means to other ends and some of them may be contradictory in the sense that the pursuit of one hinders the pursuit of another. There may even be a trade-off between the various ends although owner-managers themselves may not be aware of it. These multiple objectives may include survival, being secure in self-employment, having a preferred lifestyle, being able to offer secure employment to family and friends, maintaining good or benevolent relations with employees, having self-esteem or esteem of others, contributing to the wider community, and being philanthropic (Hussey and Hussey, 1994; Stanworth and Curran, 1973). They also include what Spence and Rutherfoord (2001) call 'enlightened self-interest' which means being motivated by good business ethics - trustworthy, honest, and good quality products or services. Rather than being independent aims these objectives can be argued to reflect the primary aim of profit maximisation and "in so far as business owners themselves accord these objectives importance, they should be treated as expressing real motivating forces for owner-managers even if they apparently conflict with aims in widely accepted models of the rationality of small business owners" (Jarvis et al, 1996, p 14). This does not mean in any way that profit objective is not of importance, only that other goals and objectives may also be important. The pursuit of multiple objectives in small firms means that using the large firm standards and benchmarks for decision-making is inadequate to capture the full complexity (Collis and Jarvis, 2000). The failure to view the firm as an organisation was criticised by earlier theorists such as

Papandreou (1952) who argued for the revision to the theory of the firm and for the expansion of the framework of the firm to take account of the behavioural and the organisational dimensions of the firm. These approaches are discussed in the next section.

2.3 THE BEHAVIOURAL/ORGANISATIONAL THEORIES

The starting point of the behavioural theory is to do with the unrealistic nature of the assumptions of the neo-classical theory about decision-makers and the way in which they actually make decisions. The behavioural theory of the firm is associated with the work of Cyert and March (1963) who, building on Papandreou's criticism, argue that the goals of a business are "a series of more or less independent constraints imposed on the organisation through a process of bargaining among potential coalition members...Goals arise in such a form because the firm is, in fact, a coalition of participants with disparate demands, changing foci of attention, and limited ability to attend to all organisational problems simultaneously" (p.43). Within the context of a behavioural approach a move towards organisational dimensions can be identified because when one is dealing with decisions that are made within firms it is not just individual characteristics of decision-makers that are important, it is also organisational characteristics (Cyert and March, 1963).

Organisational theory is an extension of the behavioural theory of the firm. The theory focuses on issues, which are different from those of the economic theory of the firm. For example, it places considerable emphasis on the study of process i.e. what goes on in an organisation, and the organisational decision-making processes (Cyert and March, 1963). Like the behavioural theory, it is concerned with behaviour in organisations. It specifies the conditions of organisational survival in terms of the methods of motivating organisational participants (Simon, 1947). It also emphasises the processes of executive influence and the impact of organisational position on individual goals and perceptions (Barnards, 1938; Argyris, 1960). In particular, it emphasises the phenomenon of division of labour and specialisation as broad social trends and the importance of large-scale organisations in utilising specialised competencies (Weber, 1947). But in small firms

owner-managers, as well as workers, need to engage in a multiplicity of tasks. In owner-managed firms an individual manager needs to be multi-skilled. They need to make general decisions and to understand simple financial management. They also need to make decisions about purchases of equipment and to be able to manage people as well as to understand marketing, etc. It is therefore almost impossible to get the same level of individual skills and competence in all of these different functional areas in one person in the same way as one would find in large firms through the principle of division of labour (Collis and Jarvis, 2000).

The implication for decision-making of these approaches is that decision-making is extremely difficult in practice because there are a number of participating groups (e.g. workers, customers and suppliers, etc) involved in any business activity with varying degree of power and influence, and which often have competing objectives (Lumby, 1994). Indeed, it is rare even to find unifying objectives within any single group. Therefore, there is a fundamental divergence between theory and practice. Whilst classical theory places great emphasis on setting objectives as a rational preliminary to taking decisions on how those objectives are to be achieved, in practice, it is difficult enough to reach agreement on strategic policy, without also having to reach agreement as to the ultimate objective(s) that those strategies are designed to achieve (Lumby, 1994). March and Simon (1958) observe that the interests of a coalition of parties in a firm are vaguely related and conflicting, as well as being contradictory and complementary.

The relationship of these approaches to small firms is that in small firms there is a coalition of stakeholders such as employees, customers, trade creditors, equipment suppliers, funds providers, accountants, solicitors, acquaintances, as well as friends and family, all of whom have various and legitimate interests in the activities of the firm and a certain amount of influence over how it performs (Gibb, 1997; Deakins, 1996). The concept of stakeholder is discussed in detail in section 2.4 below. The behavioural approach also accepts that firms pursue a variety of objectives, unlike the orthodox theory which treats these objectives as derivative of, or secondary to, the central aim of profit maximisation (Jarvis et al, 1996).

Unlike neo-classical theory of the firm, the behavioural and organisational approaches emphasise that, in fact, the firm is a complex organisation where information is far from perfect, with varying abilities and a range of motives with both economic and social dimensions that cannot so easily be reduced to a simple profit maximisation motive (Katona, 1951). In other words, firms pursue a variety of objectives which cannot be treated as derivative of, or secondary to, the central aim of profit maximisation (Jarvis et al, 1996). It is argued in this study that in small firms (whether it is a one-man firm or it has other employees) there are various interest groups such as the stakeholders who have legitimate interests in the activities of the firm and a good deal of influence in how it operates, and therefore there is an organisational aspect to decision-making.

Other theories have been suggested to account for the reasons why firms might not always pursue the profit maximisation objective. In particular, explanations have been based on agency theory and the transactions costs theory (Deakins, 1996). Both theories are based on the assumption that individuals operate in their own self interest and behave opportunistically (Taylor et al, 1999). These theories recognise the existence of market imperfections and the existence of information asymmetries between transacting parties. The theories are discussed in turn in sections 2.4 and 2.5 below.

2.4 THE AGENCY THEORY

Agency problems arise when anyone (the principal) employs someone else (the agent) to perform a task on their behalf (Brophy and Shulman, 1993). The problem is how the principal can control the agent to ensure that the agent acts in the principal's best interest rather than the agent's (Lumby, 1994). Agency theory postulates that the owners of the firm (the principal) are concerned with maximising profit and the value of the firm, whilst the managers of the firm (the agents) are pursuing strategies which seek to secure their employment and increase their compensation both in pecuniary and non-pecuniary terms (Jensen and Meckling, 1976). Therefore, the managers may undertake an investment that

is not profitable for the owners but which is difficult to detect because of information asymmetries (Taylor et al, 1999). However, McMahon and Stanger (1995) argue that the principal-agent problem is partially ameliorated by the existence of a competitive market for managerial positions where satisficing top management may find themselves challenged by ambitious lower management who believe that they can do the job better. The problem can also be lessened by the threat of take-over (Lumby, 1994).

In an owner-managed business enterprise there is, by definition, no separation of ownership and control and therefore the existence of an agency relationship between an owner and a professional manager is less likely (Collis and Jarvis, 2000). However, Myers and Majluf (1984) describe agency problems as being more acute whenever the level of asymmetric information is greater, the agent has the capacity and incentive to affect wealth transfer between parties to the corporate contract, and the agent's partial ownership allows him to consume firm assets while paying less than the sum of the individual costs to the firm's principals. Applying the agency theory to the small firm sector, Deakins (1996) describes the relationship between the bank/funds providers (i.e. stakeholders) and the entrepreneur as that of a principal-agent situation, in theoretical terms. When a company uses debt finance it is possible for the owner-manager to act in a way which increases the firm's value at the direct expense of the debt holders or act in a number of self-aggrandising ways, some of which are shirking, failure to put in full effort on the project, excessive consumption of perquisites, and the expenditure of project funds in ways beneficial to the manager but not to the finance provider (Brophy and Shulman, 1993).

Brophy and Shulman (1993) argue that in the small firm, the owner-manager is likely to put his or her own interest first as his optimism and enthusiasm is likely to be greater than that of the finance provider, who would be more risk averse. Debt holders can protect themselves against these possibilities by writing restrictive covenants into loan agreements (Petit and Singer, 1985). Such restrictive covenants include restrictions on the use and disposition of assets, restrictions on the issue of new debt, personal guarantees and equity participation (Keasey and Watson, 1993). The costs involved in monitoring these

covenants and in the company complying with them are called agency costs which have the effect of adding directly to the cost of capital (Jensen and Meckling, 1976). However, the ability of the debt holders to impose covenants that actually restrict the behaviour of the firm depends on the nature of the business and the transparency of the transactions of the firm (Keasey and Watson, 1993). Petit and Singer (1985) postulate that agency cost and asymmetric problems are the reasons why lenders may require a greater level of compensation and protection from small firms compared to large firms.

Apart from banks and other providers of funds discussed above, small firms have a network of other stakeholders which have legitimate interests in the firm's activities and exercise a great deal of influence over how the firm is managed (Deakins, 1996). Other stakeholders of a small firm include, employees, trade suppliers, equipment suppliers, customers, accountants, solicitors, agents, marketing channels, regulatory authorities as well as acquaintances, friends and family (Gibb, 1997). Employees' objectives may include high pay, good working conditions, job satisfaction, and job security, and as anywhere where there are multiple objectives there are likely to be conflicts of interests (e.g. between high pay and good working conditions) which need to be traded-off against each other (Lumby, 1994). However, Lumby (1994) points out that employees' objectives impact on the firm's objectives as more of a constraint on the pursuit of the firm's objectives rather than adding to them and that the degree to which employee objectives act as a constraint largely depends upon the power they are able to exercise in the bargaining process. Customers, suppliers, funds providers and others are all legitimate sources of interests in a company's activities (Gibb, 1997). These interests may be enabling or constraining forces which are key determinants of the nature and form of development of the business (Wyer and Mason, 1998). Government or regulatory authorities obviously have a major impact on business activities through the tax systems, control of money and interests rates, parliamentary statute and through the granting of subsidies (Keasey and Watson, 1993).

The implication of the agency theory for decision making is that the very essence of small company management is the personal day-to-day handling of transactional and other

relationships with the network of stakeholders (Gibb, 1997). While the concept of stakeholder may be relatively new to the large company, Gibb (1997) indicates that they arguably form the basic ground rules for survival of the small business. The key to the survival of small firms is the ability to manage and develop this network of interdependency under conditions of uncertainty by building personal relationships of trust and confidence with their key stakeholders (Spender, 1994). The implication for this study is that investment decision-making in small firms is significantly influenced by such stakeholders as equipment suppliers and fund providers either through the provision of information, or finance or through personal guarantees or retention of ownership of the assets.

2.5 TRANSACTIONS COST TIIEORY

The term 'transaction cost' describes the costs of using the market (Ferguson et al, 1993). In conventional economic theory economic agents always make transactions without effort or difficulties because they are assumed to have full knowledge of all the relevant information (Lloyd and Dicken, 1972). Therefore mistakes are never made. In the transaction cost literature, decision-makers also strive to achieve an optimal outcome, but often fail to achieve their objective because the transaction cost theory assumes that the information available to the parties to the transaction (individuals and firms) is partial (Ferguson et al, 1993). Information is often impacted (Keasey and Watson, 1993), that is, it is known to only a few people (in some cases to only one person). Ferguson et al (1993) indicates that the theory also assumes uncertainty i.e. the future is unknown and unknowable. A further difference concerns the decision-maker's ability to handle information. The traditional literature assumes an unlimited ability to absorb and process information, whilst the transaction cost approach assumes that individual's ability to handle complex information is limited (Collis and Jarvis, 2000). This problem is referred to as bounded rationality (Simon, 1982).

The implication for decision-making is that since economic agents have imperfect information about the market in which they operate, costs are undoubtedly incurred (Gibb, 1997). Furthermore, there is a need to monitor and enforce the terms and conditions of the contract because transaction costs consist of information costs and contract costs (Taylor et al, 1999). The extent to which parties to the transaction adopt ethical behaviour and are willing to adhere to agreements influences the magnitude of these costs (Ferguson et al, 1993).

The typical small firm incurs relatively high transaction costs in respect of compliance with regulatory requirements and negotiation, financing, monitoring, bonding activities and investment decisions (Keasey and Watson, 1993). These costs arise from market imperfections such as the existence of significant fixed costs and the typically small number and/or value of transactions, as well as information asymmetry concerning the business decisions of the owner-manager(s) and the continued viability and survival of the business (Gibb, 1997). Although the transaction cost explanation has much in common with agency theory, there are, as Taylor et al (1999) point out, some significant differences between the two approaches. Whereas agency theory focuses primarily on curbing the excesses of the managers, transaction cost theory is concerned more with the nature of the assets under exchange in capital investment activity, seeking to identify the most efficient way of financing and controlling such exchanges. The theory highlights the way in which governance structures can be matched to transactions in order to minimise the costs of exchange (Taylor et al, 1999). Taylor et al (1999) argue that the cost of market exchange is high when the assets being exchanged are highly specific, and so, transaction costs are higher in small firms (Keasey and Watson, 1993).

In the context of the above discussion concerning the uniqueness of the small firm, and the presence of both agency and transaction costs problems, Gibb (1997) points out that the small firm has many of the characteristics of an effective 'business learning organisation'. Gibb argues that small firms need to 'learn' and 'unlearn' from their banker/funds provider, equipment supplier, customer, and other key agents. This means avoiding practices and techniques employed by large companies, which are not suitable for small

firms. Equally, these stakeholders need to learn what they need to know in order to achieve true empathy in the transactional relationship with the small business. Gibb (1997) postulates that it is only by improving the competency of the network/stakeholders as a whole that, arguably, a truly effective and efficient level playing field is created, with the overall benefits being the potential reduction in the transaction costs of both sides dealing with each other. Thus, transaction costs may be a function of the way in which the banker or funds provider, for example, and the small business owner learn from each other the clarity of exactly what each needs to know and the ability to maximise the process of learning from the transaction as it takes place. The characteristics of the small firm as a learning organisation are explored below.

2.6 THE SMALL FIRM AS A LEARNING ORGANISATION/ ORGANISATIONAL LEARNING IN SMALL FIRMS

2.6.1 What is a Learning Organisation?

There is some confusion in the literature between the 'learning organisation' and 'organisational learning', the two concepts sometimes being used interchangeably (Denton, 1998), although in practice organisational learning can take place without an organisation justifying the 'learning organisation' label. The concept of a learning organisation has been widely reviewed by leading academics such as Argyris and Schon (1978), Senge (1990), Garratt (1994) and Pedler et al, 1997). Senge (1990) defines a learning organisation as a place where people are continually discovering how they create their reality, and how they can change it. The work of Pedler et al (1997) is very important in this area. They conceptualise a 'learning organisation' as an organisation that facilitates the learning of its members and continually transforms itself. Therefore, organisations can only become effective if the people running them are capable of learning continuously and consciously transforming themselves and their context (Garratt, 1994). This definition ties in with the currently popular concept that the root cause of competitive advantage is a company's relative ability to learn (Gibb, 1997).

Tan (1999), cited in Wyer et al (1999), offers a more pragmatic interpretation of a learning organisation and suggests the following characteristics:

(a) *"a learning organisation must possess top level management commitment to learning in terms of provision of development opportunities, support structures and resources;*

(b) *"the fostering of continuous learning, unlearning and relearning must be promoted, thus implying the need for ability to shift existing mindset;*

(c) *"the fostering of a conducive climate for learning will require leadership which allows organisational members to exercise freedom to think for themselves, to identify problems and to take appropriate problem-solving actions, a management practice which can be referred to as 'workplace democracy'. Integral to this is a need for leadership to be open to new ideas from employees and from outsiders such as customers, suppliers and government;*

(d) *"a learning organisation is able to undertake environmental monitoring which is facilitated by a continuous learning process that enables its people to adapt to change and maintain an agility and flexibility to underpin sustainable development;*

(e) *"a key demand on the learning organisation is a need to learn and adapt faster than its competitor and integral to this is the ability to effectively utilise and leverage information technology as an enabling tool. The proposition is that quantum leap learning can in this way be achieved through the capturing, storing and sharing of knowledge throughout all levels of the organisation;*

(f) *"a successful learning organisation is able to encourage team learning which is propounded as an activity that speeds up the learning process by bringing together a group of people who can share their knowledge, skills and experience;*

(g) *"it is suggested that the key requirement of a learning organisation is its capability relating to the translation of training and learning into practice, effectively to transcend training inputs and learning activities into positive change in organisational behaviour;*

(h) *"effective learning organisations develop rewards and compensation and tie them closely in to performance – the rationale being that motivation and commitment are enhanced if workforce have a vested interest in future performance"* (Wyer et al, 1999, p.11-12).

Although the above prescriptive characteristics would form the operational parameters of idealised learning organisation, it is difficult to see how a small firm can exhibit all of these characteristics. However, some of the characteristics may be present, to some extent, in some small firms, whilst other small firms may exhibit totally different characteristics, thus suggesting that a form of organisational learning is possible in a small firm context even if a description of a 'learning organisation' is typically inappropriate. Therefore, in order to understand what a 'learning orgainsation' is, it is important to distinguish the underlying processes of 'organisational learning'. These processes are the distinctive 'organisational behaviour' that is practised in a learning organisation (Denton, 1998). They can also be viewed as the 'activities' and 'processes' by which organisations eventually reach the ideal learning organisation (Finger and Burgin Brand, 1999). However, these 'activities' and 'processes' are complex and are very difficult to realise in practice (Morgan, 1997), not least in small firms. Danau and Sommerland, (1996) emphasise the importance of 'contextual factors' in terms of organisational learning, including culture, strategy, structure and environment.

2.6.2 The Concept of the Learning Organisation within the Small Firm Context

This sub-section examines the extent to which the concept of the learning organisation has potential application in the small business context. Wyer et al (1999) argue that the evolution of the concept of a learning organisation has taken place within a large company context. For example, many of the characteristics highlighted above appear to have time,

resource and structural implications more relevant to the large organisation and the examples used to exemplify the learning organisation in action are more often than not large companies.

The starting point for consideration of the potential for the small firm achieving learning organisation status is the recognition that it is not a 'little big business' (Welsh White, 1984). The small firm is distinct from the large firm in many ways, which can substantially constrain the nature and pace of development. It is this distinctiveness and the unique problems and constraints it potentially faces which "provide the interpretative context for considering its potential for proceeding toward a learning organisation status" (Wyer et al, 1999, p.13). In small firms, owner-manager motivations, attitudes, values and/or abilities can be constraining and/or enabling. For example, owner-manager values of independence and autonomy may act as a constraint against the firm's ability to achieve a learning organisation status. Equally, the attitude of the owner-manager may be enabling if they are committed to the personal development of staff or if they provide an environment conducive to learning. This can be possible if such an owner-manager has a background in human resources management. Therefore, whilst such small firms may not achieve a learning organisation status in the formalised or idealised sense, they may create an environment for organisational learning.

Wyer et al (1999) argue that the learning organisation pre-requisite of creating opportunities for learning from everyday actions may be more difficult to implement in the small firm context. This is mainly due to the fact that "the 'space' to approach everyday actions through debate, review and questioning is likely to be constrained within many small firms" (p.13). Although this may be true, the emphasis on informal procedures by small firms may make this more of the everyday reality. It actually depends on how learning is conceptualised. Wyer et al (1999) also point out that major difficulties in small firms achieving learning organisation status relate to the encouragement of team learning to speed up the learning process. This particularly relates to getting team members to work together, empathise with the views of others and work toward a collective, shared meaning as a basis for change action. It is argued in this study that in small firms learning is often

unconscious, informal process (Marsick and Watkins, 1990). By the same token, team learning takes place through sharing knowledge and ideas of how things work in the organisation (Massari et al, 1999), even though much of the learning may be tacit and as such difficult to formalise and communicate (Nonaka, 1994).

Where external formal training is used to complement the internal learning within an organisation, Gibb (1997) argues that such training often fails to address the needs of the small firm. This is either because owner-managers lack the skills to effectively learn through more formalised methods or because they are reluctant to take on board the new learning. However, the core argument in this study is that although the behaviour of small business owners is not explicitly rational, it is boundedly rational because their knowledge is acquired through experience and the learning process, and their actions and decisions are also based on what they have learned through experience rather than what they have acquired through formal education.

2.6.3 Organisational Learning in Small Firms

Organisational learning is one of the neglected areas of the small firm research (Deakins, 1998). Consequently, Deakins (1998) argues that our knowledge and understanding of the interaction of learning and the entrepreneurship process is limited. The ability of the owner-manager to learn from decisions, from mistakes, from experience and from their networks is crucial to their decision-making behaviour and the ability of the small firm to survive (Gibb, 1997). This learning entails not only reacting or adapting to the environment in order to cope with it and survive but it also entails "'generative' learning which embodies the capacity to create and 'bring forward' experience, rather than wait for (and learn from) it" (Gibb, 1997, p.17).

Some writers argue that learning resides in individuals and therefore, in owner-managed firms, there is no organisational dimension to the learning experience. These writers base their arguments on individual learning theory (e.g. Kolb, 1984) and personal construct theory (Kelly, 1955). On the other hand, there is a large amount of organisational learning

literature (e.g. Argyris and Schon, 1978; Senge, 1990; Garratt, 1994; Pedler et al, 1997) and a growing body of opinion that even in the smallest companies there is an organisational dimension to the learning perspective because of the role of stakeholders (e.g. Wyer and Mason, 1998). In the absence of dominant power in the market place the owner-managed firm attempts to reduce the risk associated with uncertainty by building personal relationships of trust and confidence with its key stakeholders such as customers, trade/equipment suppliers, funds providers, etc (Gibb, 1997). Therefore, Gibb (1997) posits that the small firm's ability to survive is a function of its ability to learn from these stakeholders, to build trust and interdependency with them, to use them to scan the wider business environment and to define, meet and bring forward their future needs. Similarly, given the potential self-interest and learning capabilities of all individuals within the small business, learning within such organisations will derive out of sources beyond that of the owner-manager him or herself i.e. from other members of the firm (Wyer and Mason, 1998). Shaw (1997) also illustrates the importance of interaction and learning from the close-knit network of small firms in the graphic design industry.

The real level of complexity of small firm learning is emphasised if one draws upon individual learning theory as a foundation for more comprehensive explanation of how organisations learn (Wyer and Mason, 1998). Wyer and Boocock (1996), drawing on Kelly's personal construct theory and contemporary learning theories, demonstrate how strategic level learning by owner-managers requires the building up and constant changing of personal constructs and thus the capability and disposition to 'elaborate construct systems'. Argyris and Schon (1978) offer a corresponding conceptualisation by considering Kelly's (1955) theory in terms of single and double loop learning. If change situations impact on a small firm owner-manager he will use his/her existing personal construct to cope with the change. On many occasions minor adjustments to the construct may allow the owner-manager to deal with the change, simply because a similar situation has been dealt with in the past. This can be characterised as simple learning (Stacey, 1996), which takes place when the owner-manager has confirmed the validity of his current constructs by using them to make sense of a new situation.

However, sometimes change situations arise for which existing constructs are inadequate. This requires them to be extended through a process, which entails the questioning of the underlying assumptions upon which the existing constructs are based. This is referred to as complex learning (Stacey, 1996). For complex learning to take place the owner-manager's construct system must change. The crucial point is the difficulty of this process, but innovative managers must double loop learn, they must regularly shift, break and create paradigms (their personal construct). Thus, the small business consists of "individuals whose personal constructs and personal understanding may in part be anchored into a collective construct of meaning to be used to the good of the organisational members and to the good of the organisation itself" (Wyer and Mason (1998, p.9). In this context, the learning process may include bringing forward the learning of customers and others such as equipment suppliers, accountants, agents, marketing channels, as well as acquaintances, friends and family as nodes in a complex network of economic relationships, dependencies and mutual obligations (Spender, 1994).

Therefore, learning in small firms is a complex process of continual trial and error (Chakravarthy, 1982); of learning from peers; of learning by doing; of learning from feedback from customers; of learning by copying; of learning by problem solving and opportunity taking; and of learning from mistakes (Gibb, 1997). It involves a reflexive process, not just learning about the world out there, but also about the organisations' way of construing the world, which co-creates the reality in which small firms operate because they are affected not just by changes in the environment, but by their way of construing the environment (Hawkins, 1995). 'Trial-and-error' learning is an appropriate process to guide decision making in small firms under conditions of uncertainty (Chakravarthy, 1982). It is an adaptive process that provides small business owners with an opportunity to evaluate outcomes associated with a course of action before deciding upon a future course of action (Garud and Van de Ven, 1992). Garud and Van de Ven (1992) emphasise that business owners continue with a course of action if the associated outcomes are positive or change their course of action if the associated outcomes are negative.

It has been suggested that learning takes place in two ways, namely, 'closed-loop' learning and 'open-loop' learning. Closed-loop learning arises from a situation, which is similar to what one has dealt with in the past. Wyer and Mason (1998) refer to this situation as 'closed-and contained-change' situation while Costello (1996) refers to this type of learning as cumulative and history, or path, dependent. On the other hand, open-loop learning takes place when the situation is distinctively different from what one has experienced before. Wyer and Mason (1998) describe this as unknowable, unpredictable 'open-ended change' situation. The concept of closed and open loop learning is akin to Argyris and Schon's (1978) 'single loop' learning, which regards routine and immediate tasks, and 'double loop' learning, which regards changing habits and routines in every day practice and experience of other people. Deakins (1998) argues that the concept of learning loop has particular relevance in small firms, but he also indicates that there have been developments of economic dynamic and revolutionary theories on the process of organisational learning which have relevance to the learning process in small firms. Levinthal (1996) also highlights the interaction between learning and the small firm's decision-making process by emphasising the adaptive role of the owner-manager as he/she adjusts to their environment by learning from experience and changing their behaviour as a result. Revolutionary theories emphasise learning-by-doing since "learning can only take place through the attempt to solve a problem (however mundane) and therefore only take place during activity" (Arrow, quoted in Deakins, 1998).

Organisational learning in small firms depends upon the owner-manager's ability and willingness to develop personal construct systems and to change the existing 'mindset' (Wyer and Mason, 1998). This can transpire through, for example, reflection and analysis of events that have taken place, which can initiate adjustment to the construct. Key stakeholders with whom the owner-manager interfaces may also trigger the adjustment to the construct; whereby the owner-manager's perspective of a given situation is challenged by the stakeholder, offering the benefit of their experiences. Wyer and Mason (1998) argue that if the individual is able to reflect and adjust in the light of the new insight then the development and incorporation of new constructs takes

place. Thus, the potential for adopting an organisational learning perspective to enhance the understanding of how small businesses survive and develop appears high.

2.7 SUMMARY

This chapter presents a review of the literature on the conceptualisation of the small firm. The chapter indicates that Neo-classical theory of the firm operates from the assumption that profit maximisation is the only objective of the firm. In other words, the theory is not concerned with what firms actually do or how they actually behave. Rather, it makes assumptions about how they ought to behave. It is only concerned with trying to improve what firms do in terms of economic rationality without incorporating the actual motives of the actors themselves. Other approaches such as the behavioural and the organisational theories have recognised that the firm is a complex organisation with both economic and social dimensions that cannot be summed up as a single objective. These approaches have also recognised that the firm has a coalition of stakeholders who have various interests and influence in the firm. Therefore, the relationship between individuals within a firm and the relationship between firms and their stakeholders actually have important implications for decision-making in small firms. In this respect, investment decision-making in small firms is grounded in behavioural theory which provides the starting point for this study.

The organisational learning approach is a logical extension of the emphasis in this study on behaviour. That is, decision-making in small firms (whether it is a one-man firm or it has other employees) involves interaction and learning from its network of stakeholders such as customers, trade/equipment suppliers, fund providers, accountants, solicitors, agents, marketing channels, workers and regulatory authorities as well as from acquaintances, friends and family. The small firm builds trusts and interdependency with this network, and in the process scans and learns about the business environment. This process of interaction and learning helps the small firm to shape, modify or alter its decision-making behaviour. In other words, the learner is not the individual as such but rather the organisation which comprises individual member(s) and stakeholders. The

insight provided by the literature on the learning perspective will therefore be drawn upon to emphasise the value of experiential learning in small firms and to understand how owner-managers actually behave in terms of investment decision-making.

CHAPTER 3
THE FINANCIAL MANAGEMENT OF SMALL FIRMS: LITERATURE REVIEW

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3.1 INTRODUCTION

This research investigates the actual investment decision-making behaviour of small manufacturing enterprises in relation to the techniques and methods suggested in the literature. In doing so the research critically reviews existing literature in the relevant areas of financial management of small firms. This involves examining the conceptual frameworks that are available, identifying those that seem to be the most appropriate or the most productive for the purpose of the study and positioning the study in relation to the existing literature.

The chapter is divided into the following sections. Section 3.2 examines the distinctiveness of financial management in small firms. Section 3.3 reviews the methods of investment decision making. The link between investment and financing decisions is discussed in section 3.4, whilst the sources of investment finance form the basis of section 3.5. The final section draws together the various arguments and highlights the main criticisms of the existing literature.

3.2 THE DISTINCTIVENESS OF FINANCIAL MANAGEMENT IN SMALL FIRMS

Financial management in small firms is concerned with how owner-managers use financial management information to plan and control their operations (Collis and Jarvis, 2000). Clearly, efficient and effective financial management is crucial if the survival and prosperity of small firms must be ensured (Deakins et al, 2000). Consequently, Peel and Wilson (1996, p.53) argue that:

"if the financial...management practices in the small firm sector could be improved significantly, then less firms would fail and economic welfare would be increased substantially".

Sadly, the assessment of the financial management practices used in small firms, and the advice such as that given by Peel and Wilson (1996) about how these should be improved, has tended to be based solely on the standards and practices used by large companies or those adopted by professionals such as accountants, consultants, banks, etc., with relatively little attention being paid to the practices actually used by owner-managers themselves. Nayak and Greenfield (1991) argue that owner-managers in their survey of 200 small firms in the West Midlands did not use financial management techniques very effectively. Yet, these techniques are those designed for large companies and the process of financial management and associated decision-making in small firms remains something of 'a black box' (Deakins et al, 2000).

Arguments and advice based on standards and practices used by large companies can be criticised on at least three counts: First, the financial management practices of large firms are neither conclusive nor indisputable. On the contrary, they are controversial and ever changing (Johnson and Kaplan, 1987). Second, the larger companies themselves, even with highly skilled and experienced staff, do not always adhere strictly to these standards, nor are they able to avoid serious failures in financial management practice (Jarvis et al, 1996). Third, many research studies have demonstrated that small firms do not operate under the same conditions as large companies nor do they inhabit the same kinds of economic and financial environments (Curran, 1990).

In particular, financial management is concerned with liquidity management i.e. how small firms manage their cash flow, and how they cope with risks and uncertainty (Jarvis et al, 1996). These issues are discussed in the following subsections.

3.2.1 Liquidity management

The most problematic aspect of small firm financial management is liquidity management which is more critical than that indicated in the financial management literature (Jarvis et al, 1996). Liquidity refers to the level of cash and near-cash assets held, as well as cash inflows and outflows of these assets (McMahon and Stanger, 1995). The importance of

cash flow in a small enterprise is emphasised by McMahon and Stanger, 1995, p. 24 as follows:

> *"A small business can survive a surprisingly long time without a profit. It fails the day it can't meet a critical payment. In a small company, the cash flow is more important than the magnitude of the profit... Liquidity is a matter of life or death for the small business".*

McMahon and Stanger see the soundness of liquidity management as the most critical influence on survival and financial well-being in small enterprises and Chittenden et al (1999) posit that the efficient management of working capital is crucial in respect of the prosperity and growth, and survival of SMEs. Liquidity management takes the form of cash management and credit management.

[i] Cash Flow management

Cash flow management is seen as critical in planning and controlling the finances of the business (Jarvis et al, 1996). Yet a large proportion of small firms identify cash flow as their most important problem (Stanworth and Gray, 1991). The term 'cash', means coins, banknotes and currency, whilst 'cash flow' refer to the flow of cash in and out of the business (Atrill et al, 1995). Cash flow management, therefore, is the forecasting of the amount and timing of the future inflows and outflows of cash and can be prepared on a weekly, monthly or quarterly basis (Poutziouris et al, 1999). It is often presented by a schedule showing clearly when cash is to be received and paid out by the business and a closing balance at the end of each interval (Poutziouris et al, 1998).

In the prescriptive 'how to do it' literature such as Barrow (1993) it is assumed that the rationale for the use of cash flow management is to support growth. But previous research has shown that only a relatively small proportion of small firm owner-managers adopt an explicit growth strategy (Storey, 1994). Jarvis et al (1996) argue that for small companies cash flow management is used to assist them in their survival aims and is therefore more complex than suggested in the literature:

> *"Analysis of owner-managers' accounts of their management of cash flow suggested that the meanings of the terms 'cash flow' and 'cash' were much more complex than those indicated in the accounting literature. Only when the use of these terms is examined within their specific user contexts can an adequate interpretation of their meanings be established" (Jarvis et al, 1996 p.42).*

The importance of cash flow in relation to investment decisions is that investment projects may be characterised by the nature, amount, and timing of their cash inflows and cash outflows (Brophy and Shulman, 1993). Particularly relevant is the argument of the relationship between the timing of cash flows and the type of investment finance:

> *"If the factor inputs of the project must be paid for in cash prior to the receipt of cash from the sale of goods or services produced, then growth of the project will always require funding from outside the project. If, on the other hand, payment for factor inputs may be made after receipt of cash form sales, then the project generates its own internal financing and the amount of external funding needed may be reduced if not totally eliminated" (Brophy and Shulman, 1993, p.65).*

[ii] Credit management

Another important aspect of liquidity is credit management and this is closely linked with cash management (McMahon and Stanger, 1995). Credit management involves not only the giving and receiving of credit to customers and suppliers, but it also involves the assessment of individual customers, the credit periods allowed and the steps taken to ensure that payments are made in time (Poutziouris et al, 1999). It also involves the protection of the business against default (Bank of England, 1997). A major survey by the Insolvency Practitioners Society reveals that 20% of company failures (the vast majority being small companies) were due to bad debts and poor credit management (CIMA, 1994). The Bank of England (1997) also argues that the amount of finance tied up in credit transactions that could potentially be used for cash flow purposes should not be underestimated. On average 91% of daily business transactions in small firms are on credit terms (Chittenden et al, 1999). A survey of small businesses regarding their credit management revealed that 59% of respondents had more than 75% of their sales on credit, with 33% having all their sales on credit with little or no up-front credit control (Wilson,

1996). These weaknesses are confirmed by the Association of British Chambers of Commerce in their survey which found that 32% of small firms were prepared to give customers credit record and only 9% of firms insured themselves against default (British Chamber of Commerce, 1997).

In examining liquidity and small firm financial management, Ang (1992) points out that the working capital management takes a major proportion of a small firm owner-manager's time, and that part of this is devoted to management of excess liquid funds. McMahon and Stanger (1995) argue that the difference in liquidity between large and small firms supports the belief that working capital shortages are a common problem for small firms and that this difference could be the result of the small firm's limited access to capital markets and/or the basic nature of the entrepreneur. They conclude by stating that liquidity should be a matter of concern for the small enterprise because cash is such a critically scarce resource as a result of supply constraints, which do not exist to nearly the same extent for a large firm. This cause of concern is reinforced by the fact that small firm owner-managers are inclined towards risk-taking in an inherently risky environment (Foster, 1993).

3.2.2 Risk

Another distinctive aspect of the small firm financial management is risk (McMahon and Stanger, 1995). Risk is defined as the probability that projections will prove inaccurate (Marek, 1991). The literature distinguishes between two types of risk: the systematic risk and the unsystematic risk. Systematic risk is that aspect of risk which cannot be avoided by diversification (Lumby, 1994). This is the fluctuation in returns due to general factors in the market affecting all companies e.g. inflation, government policy and economic conditions (Pike and Neale, 1993). Hence any movement in the market index will tend to alter the performance of the project. It also results from reliance upon relatively few customers and/or suppliers and the dependence upon the continued good health, energies, business acumen and financial probity of the owner-manager (Keasey and Watson, 1993).

Unsystematic risk is a risk which can be eliminated by diversification and represents the variation in a company's returns due to specific factors affecting that company and not the market as a whole (Lumby, 1994). It refers to the expected impact on sales and earnings of largely random events such as strikes, the breakdown of equipment, changes in fashion for that company's products, etc. (Everett and Watson, 1993). This specific risk is a random fluctuation uncorrelated with the returns on the market portfolio. Therefore, when a large number of projects is undertaken, these random fluctuations tend to cancel out, i.e. there is risk reduction (Pike and Neale, 1993).

In combination, systematic plus unsystematic risk comprise total risk (Lumby 1994). Lumby argues that for investors only systematic risk is, or should be important as unsystematic risk tend to be diversified away through a combination or portfolios of projects, thereby eliminating the unsystematic element of risk and leaving only the systematic element. However, for owner-managers of small firms, contrary to precepts of existing financial thought, both the systematic and the unsystematic elements are important due to the typically undiversified nature of the small firm (McMahon and Stanger, 1995). The difficulties of financial planning and control, cash management functions etc. of a firm will be a function of the firm's total, rather than just systematic, risk (Everett and Watson, 1993). Therefore, some financial management techniques, while being of great assistance to large firms, may not be sufficiently comprehensive to deal with problems of smaller organisations (Jarvis et al, 1996).

In capital investment decision-making, risk refers to the business risk of an investment as opposed to financial risk which relates to the capital structure of the business (Munoz Castellanos, 2001). This is the probability that cash flows projections will prove to be inaccurate (Miller and Reuer, 1996). Even so, such projections are expected with some degree of confidence being based on past and/or existing events and data. The greater the variance between the estimated data and actual data, the greater the degree of risk, while a different of zero will indicate a risk-free investment (Marek, 1991). For the owner-manager, averse to risk, the concern would be a return lower than expectation, i.e.

'downside' risk (Munoz Catellanos, 2001; Miller and Reuer, 1996). To a risk seeker, a return greater than expectation is more important (Brophy and Shulman, 1993).

3.2.3 Uncertainty

Academics have also recognised uncertainty as a major distinctiveness of the small firm financial management (Westhead and Storey, 1996; Jennings and Beaver, 1997). Uncertainty is a condition where the future outcome cannot be predicted with any degree of confidence (Marek, 1991). Consequently, small firms have limited ability to control or shape the external environment. Most small firms are unable to influence their markets and are likely to encounter strong competition. Jennings and Beaver argue that:

> *"In the small firm efforts are concentrated not on predicting and controlling the operating environment but on adapting as quickly as possible to the changing demands of that environment and devising suitable tactics for mitigating the consequences of any threatening changes which occur" (Jennings and Beaver, 1997, p.64).*

In small firms uncertainty gives rise to relatively higher transaction costs in relation to compliance with regulations, financial transactions, and negotiations (Taylor et al, 1999). The lack of reliable and timely information and highly uncertain environment also give rise to agency costs (Poutziouris et al, 1998). Agency costs in relation to the separation of ownership from control do not of course apply to most small firms (Keasey and Watson, 1993). However, agency costs relating to customers, suppliers and bankers are higher for small enterprises. Westhead and Storey (1996) distinguish between 'internal' and 'external' uncertainty and argue that it is external uncertainty which is particularly characteristic of small firms whereas internal uncertainty is more characteristic of large firms. They argue that for the large firm it is crucial to ensure that decisions being made at the top of the organisation are appropriately implemented throughout the organisation, whereas internal control in the small firm is much easier since the owner-manager has a greater awareness of what is going on. On the other hand, the small firm encounters greater external uncertainty than the larger counterpart, mainly because of its lack of power in the market place, being at the mercy of the single large, dominant customer or single or limited range

of products/services (Westhead and Storey, 1996). A change in the customer base or product range will have a significant impact on the small firm's finances (Burns, 1996).

The major implication of these unpredictable environment is that the small firm's capital base is frequently more unstable because they rely much more on short-term financing and are usually unable to forecast even relatively short periods ahead (Jarvis et al, 1996). They respond to this 'external' uncertainty by favouring investment projects with shorter-term rather than longer-term returns (Hughes and Cosh, 1994). Therefore, the small business owner-manager is subject to a number of distinctive characteristics and uncertain and competing environment which leads to behaviour which appears to be 'erratic', 'unpredictable' and 'unacceptable' when viewed in the light of the rational, professional and acceptable standards and practices used by large firms (Curran et al, 1997).

3.2.4 The concept of rationality

The concept of 'rationality' is an extremely slippery concept and needs careful consideration (Jarvis et al, 1996). Weber (1968), however, put the notion of rationality into perspective by distinguishing between formal and substantive rationality. Formal rationality refers to actions which can be understood because they can be interpreted in terms of some calculative model e.g. the discounted cash flow approach to investment appraisal argued to maximise the value of the firm. This is "rationality of thought rather than action" (Curran et al (1997, p.18). Substantive rationality, on the other hand, includes values, principles, habits, customs and emotions of the actor which enter into the picture to influence action. Jarvis et al (1996) reject the use of formal rationality alone as financial 'good practice' and argue that any approach which interprets activities such as investment decisions in terms of departures from some formal model is at best naive and at worst absurd:

> *"People do not live by formal rationality alone. The application of formal rationality models of financial 'good practice' to the interpretation of small business owner decisions with observed departures seen as evidence of poor management skills, constitutes a failure to understand human action in economic situations" (Jarvis et al, 1996, p.7).*

Hargreaves Heap (1989) takes the concept further by categorising owner-manager's behaviour into three different senses of rationality, namely, instrumental, procedural and expressive rationality and concludes that all three forms of rationality can influence the owner-manager's financial decision. Instrumental rationality is defined as "action in relation to some clearly specified criteria which will best satisfy an actor's objectives expressed in terms of the actor's desires. The substance of these desires is irrelevant. Only the consistency of actions in relation to the defined criteria that is of interest" (Jarvis et al, 1996, p.8). There are two modified versions of this concept, namely, the notion of 'bounded rationality' (Simon, 1982) and the concept of 'satisficing' (Simon, 1960). The notion of bounded rationality places limits on actors' rationality because of their constrained capacities for information-search and information-processing. Under this form of rationality it is assumed that owner-managers make investment decisions within the constraints of the information available to them (Jarvis et al, 1996). The satisficing concept argues that, in practice, people often adopt a 'good enough' approach, i.e., a decision that meets some minimum set of acceptable standards (Jarvis et al, 1996). Despite the apparent appeal of the notion of instrumental rationality, the theory is argued to have the following weaknesses: First, predictions derived from the theory often fail when tested in psychological experiments (Machina, 1983). Second, the theory takes actors' desires as given without exploring their origins, thus understating the influence of social and normative factors on actors' behaviour (Sen, 1979). It also ignores differences between actors in styles of reasoning (Hindess, 1988).

Procedural rationality refers to a situation where actors follow shared rules or norms which offer reasons for their action (Hargreaves Heap, 1989). The justification for procedural rationality is that it is the accepted practice within the particular social context and not because such behaviour is instrumentally rational in terms of costs and benefits (Jarvis et al, 1996). However, actors are creative, interpretive beings who exercise judgement, act intelligently and do not blindly conform to social norms (Hollis, 1987). Expressive rationality, rather than relating to the best way of achieving given objectives, is more concerned with creating and exploring, the objectives pursued (Hargreaves Heap et

al, 1992). It is associated with judgement, autonomy and creativity of human actions and the capacity to define ends considered worthy or valuable by the actor (Curran et al, 1997).

The central tenet of this research is that practices, advice and techniques should be those grounded in the actual behaviour of small company owner-managers because the distinctiveness of the small firm as a form of economic enterprise demands financial management strategies tailored to its needs rather than scaled-down version of those developed for the very different needs and situations of large companies (Jarvis et al, 1996). It must be recognised that the small firm is not a 'little big business' (Wyer and Mason, 1998). Therefore, studies relating to small firms must consider the motivations, constraints and uncertainties facing small firms and recognise that these differ from those facing large firms (Deakins et al, 2000). The next section discusses the various methods and techniques put forward in the literature and their applicability to investment decisions within small firms.

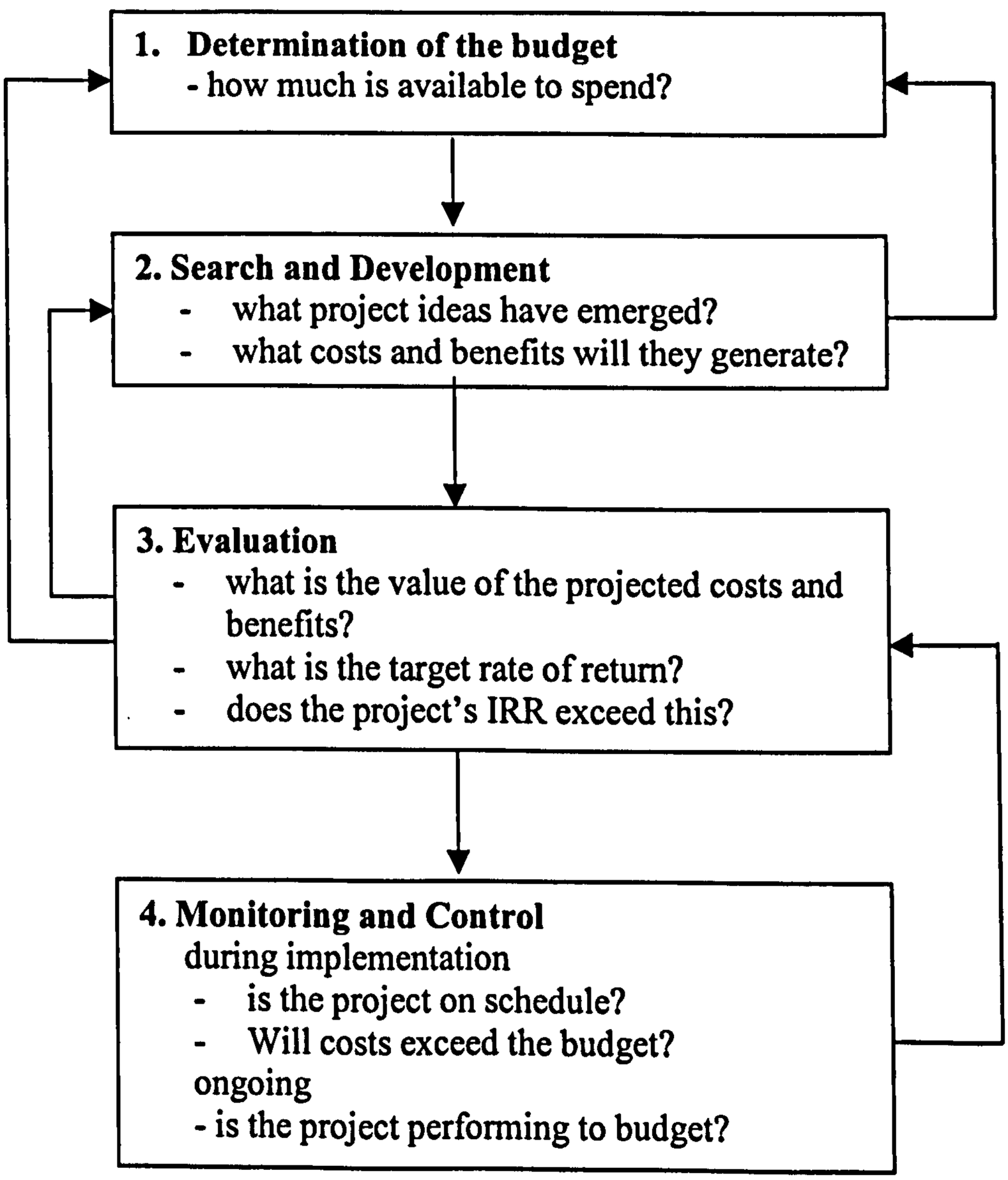
3.3 THE METHODS OF INVESTMENT DECISION MAKING

There is currently little research on the investment decision-making process of small firms. The available literature in the mainstream financial management advocates the use of either the Discounted Cash Flow techniques, the Payback method, or the Accounting Rate of Return method in a simple decision-making model as shown in figure 1 below. These techniques are also discussed in detail in the subsequent subsections.

In the simple model the decision-making begins with the determination of the budget. If the investment decision-making body is a sub-unit of a larger group, then the budget may be more or less rigidly imposed on it from above. Whereas, in small firms the amount to be spent on capital investment is largely under their control subject of course to economic and financial environments as well as their attitude towards gearing, willingness to spend, motives, and values. Secondly, the model recognises that whilst economic theory views

investment as the interaction of the supply of capital and the flow of investment opportunities, it would be quite wrong to assume that there is a continuous flow of investment ideas. The third element of the model involves the appraisal of the project and decision choice (accept or reject) based on the application of specified investment appraisal techniques such as NPV, IRR, Payback method, etc. The fourth element of the model is monitoring and controlling the project to ensure that it is on schedule, and that the project is performing according to budget.

Fig. 1: Conventional model of investment decision-making process



Source: Adapted from Pike and Neale, 1993.

3.3.1 The Discounted Cash Flow (DCF) Techniques

The DCF is a technique that estimates the future net cash inflows which are expected to result from the capital investment (Merrett and Sykes, 1973). These inflows are then discounted at the expected cost of capital for the number of years into the future that they are expected to be received (Pike and Neale, 1993). If the result of this calculation is more than the initial outlay the expenditure is financially viable (Lumby, 1994). The DCF techniques take into account both the time value of money and risk (Pike and Neale, 1993; Lumby, 19094; Levy and Sarnat, 1994). They accept the fact that early cash flows are more valuable than later cash flows because cash flows now can be reinvested to earn a return (Levy and Sarnat, 1994). Risk can also be incorporated in the appraisal process by discounting more risky projects at higher discount rate and less risky projects at lower discount rates (Lumby, 1994).

The use of DCF, in its principal form of net present value (NPV) and internal rate of return (IRR), has been given much attention in financial management literature (e.g. Pike, 1988; Pike and Neale, 1993). The literature advocates that companies should be using either of these techniques (Merrett and Sykes, 1973), preferably NPV (Lumby, 1994; Levy and Sarnat, 1994). The DCF approach to investment decisions incorporate the following assumptions:

[i] that there are capital projects to be appraised;
[ii] that cash flows from projects are to maximise owners wealth;
[iii] that management always act in the owners' best interest;
[iv] that the future cash flow can be isolated/estimated;
[v] that cash flows are discounted at the opportunity cost of capital.

The above assumptions are now criticised in turn. The literature on large firm investment decisions hardly deals with how projects are generated and in particular why projects are considered (Keasey and Watson, 1993). It is usually assumed in such literature that there are capital projects to appraise. Keasey and Watson (1993) argue that if a project arose

through competition, then a form of competitor analysis would be more appropriate than a financial analysis and that the motivations of the individuals likely to be involved need to be understood and allowed for. Also to be considered is whether the project is a routine replacement or a new plant for a new market (Smallbone et al, 1996). Whilst the discounted cash flow technique is in theory applicable in all cases, the ease of applying it is crucial (Keasey and Watson, 1993).

The DCF technique assumes the maximisation of owners' wealth, or the present value of future cash flows (Lumby, 1994). This raises the question of how owners' wealth might be maximised because different owners might see their wealth maximised in different ways (McMahon and Stanger, 1995). Some owners may not be interested simply in wealth maximisation (Petty and Bygrave, 1993; Ang, 1992). The recent attention given to green issues and ethical investments suggests that a firm's investment projects may have to take account of a wider set of objectives than pure wealth maximisation (Keasey and Watson, 1993). Collis and Jarvis (2000) argue that owners of small firms do not pursue such goals as they have a variety of reasons for going into business and pursue a range of goals including autonomy, survival and stability.

There is an assumption in the discounted cash flow approach that management always act in the best interest of the owners (Levy and Sarnat, 1994). In the real world there may be conflicts between the objectives of management and those of shareholders, although in the owner-managed firm there is unlikely to be any conflict (Collis and Jarvis, 2000; Myers and Maijuf, 1984). Conflicts only start to arise when there is a divorce of ownership and control (Taylor et al, 1999). Managers may undertake non-profitable investment even though the outcome may incur losses for shareholders which, because of information asymmetries, are difficult to detect (Taylor et al, 1999). Similarly, the objectives of customers, suppliers, bankers and other lenders might affect investment decisions (Brophy and Shulman, 1993). Customers' needs for sales services and specific products may influence investment decisions (Keasey and Watson, 1993). Keasey and Watson (1993) argue that while the discounted cash flow technique can be used to evaluate these decisions, the direct objectives underpinning the decision (such as, does the investment

give the desired degree of customer loyalty?) may be the most appropriate starting point. The problem with using the DCF approach for this type of project is that it may be difficult to assess, define and isolate its long-term consequences, thus resulting in satisficing or lifestyle strategies aimed at maintaining the business as a going concern (Collis and Jarvis, 2000). Furthermore, the banks may require security which may affect the type of project undertaken because if loans are secured on the firm's assets, then projects that have a stable but low returns may be favoured (Cosh and Hughes, 1994).

The DCF approach also assumes that the future cash flows of a project can be estimated and isolated (Lumby, 1994; Levy and Sarnat, 1994). This is perhaps the most difficult aspect of the DCF approach as management will have to imagine how the firm will be performing in the future in respect of the firm's markets and competitors and the impact a project will have on the firm given the prevalence of economic uncertainty (Petty and Bygrave, 1993). This is so because the dynamic of financial management processes and decision-making are influenced by many factors including both internal management issues and external environmental issues (Deakins et al, 2000). In the existing literature on investment decisions, cash flows are presented as fact with no information on how they are derived (Keasey and Watson, 1993). Finally, the DCF technique assumes that the cash flows are discounted by the opportunity cost of capital (Lumby, 1994). This is another problematic aspect of the DCF. Keasey and Watson (1993) argue that in a perfect capital market where funds are accessed without any problems, the cost of capital can be taken as the market rate. However, if access to funds is limited then it is unclear what the cost of capital should be because the existence of agency problems and transaction costs theory account for the market imperfections, in particular the existence of information asymmetries between transacting parties (Taylor et al, 1999).

These problems, therefore, render the DCF techniques both confusing and extremely difficult to apply in practice (Keasey and Watson, 1993). Perhaps, a notable 'danger warning' concerning the illusion of the DCF accuracy is that given by Pike and Neale (1993, p.165):

> *"DCF methods often create an illusion of exactness which the underlying assumptions do not warrant... As top management places more weight on the quantifiable element, there is a danger that the unquantifiable aspects of the decision, which frequently have a critical bearing on a project's success or failure, will be devalued...".*

This means that one needs to be cautious about the emphasis given to advanced investment appraisal methods by textbooks which give the impression that successful investment is exclusively attributable to the correct evaluation method. Only very few of the existing literature has suggested that the emphasis on sophisticated techniques is misplaced. The art of investment decisions involves asking the appropriate strategic questions, operating systematic procedures, and providing a framework, which permits managers to make better decisions. Thus, reliance on sophisticated techniques come at the expense of the human element in decision-making. Scapens (1985) argues that simple and sometimes apparently 'unrealistic' techniques are frequently observed in practice, despite extensive literature which provides complex and 'more realistic' alternatives. He postulates what he calls the 'costly truth' approach and defines this as being the accounting system that ought to be used, given all the relevant costs and benefits of doing so:

> *"The choice of a particular model will depend on the costs and benefits of that model, relative to the costs and benefits of alternative models. It would be quite reasonable for a decision maker to select a very simple model, if the costs of using the more complex alternatives exceed their benefits" (Scapens, 1985, p.128).*

Sangster (1993) confirms that the DCF techniques are more time consuming and therefore, more costly to use than other principal techniques such as payback and accounting rate of return (ARR). Burton (1989) argue that the more 'scientific' methods of investment appraisal (i.e. DCF methods) do not appear to give results which can be easily related to the changes in profit which occur as a result of investing in projects. As a consequence, management often suspects the results shown by more sophisticated methods as being academic solutions which bear little relation to the real world. Furthermore, the output of DCF methods is often expressed in terms with which management is uneasy e.g. NPV and IRR (Burton, 1989).

Keasey and Watson (1993) consider other issues: First, investment decisions in small firms are typically based on a necessity to remain in business. This means that owner-managers have very little choice. The lack of other investment opportunities compels small firms to make investment for the sake of survival. Therefore, the assumption of the DCF technique that there are projects to be appraised makes the technique particularly unsuitable for small firms. Second, as argued by Collis and Jarvis (2000), the sole objective of a firm might not be wealth maximisation since entrepreneurs establish firms for a number of reasons. Therefore, it is very unlikely that the small firm owner will evaluate investment decisions purely in terms of their discounted cash flows, but may concentrate on minimising risk by using other methods. Petty and Bygrave (1993, p.130) points out that for traditional small enterprises:

> *"The concept of wealth maximization has reduced meaning, since there are many exogenous considerations influencing the decisions, besides that of economics. Utility maximization becomes the rule, rather than the conventional wisdom of wealth maximization. The objective is not so much to create value, but to provide a 'preferred' life style within the community. Even for the 'successful' lifestyle firms, there is little in the way of value created beyond providing a living for the owner and his or her family".*

Peel and Wilson (1996), on the other hand, argue that it is the lack of financial management skills in the small firm sector, which (at least partly) explains the relatively low usage of the more sophisticated investment decision techniques, rather than a pursuance of non-wealth maximisation firm objectives. They also argue that small firms are pursuing similar objectives to their larger counterparts. In as much as it is true that the lack of financial management skills in small firms plays a part in the low usage of DCF techniques, to dismiss the multiple objectives of the small firms and to argue that they, in fact, pursue similar objectives to those of large firms would be misleading since it has been indicated by leading researchers (e.g. Curran, 1986; Stanworth and Curran, 1986; Goss, 1991; Stoke, 1992; Storey, 1994; McMahon and Stanger, 1995) that the small firms pursue objectives which are different from those of large firms, such as survival, independence, and preferred life-style.

Third, the investment decisions of small firms may also be guided by the objectives of finance providers (Cosh and Hughes, 1994). For example, as bank loans to small firms are often based on convincing business plan and are often secured on the assets of the business, owner-managers may be forced to adopt projects with a steady but relatively low cash flows to cover interest payments. Small firms' investment decisions may also be driven by their large firm customers who may only guarantee them a certain cash flow in return for making the investment demanded by the large firm customer (Smallbone, 1994). Equipment suppliers may also have a significant influence on small firm investment decisions in the sense that investment may be driven by the need to have the latest equipment whether or not the market warrants it and also in terms of providing on site training as part of their sales package (Harrison, 1997). BPIF (1996) argue that small firms spend relatively little time in considering the financing and payback options and a comparison of the cost of buying new as opposed to second hand is often given insufficient thought.

Fourth, the small firm will need to know the impact of the potential investment on both the workforce and the market-place (Smallbone et al, 1999). In particular, if the small firm is considering investing in new technology there will be difficulties in estimating and isolating the cash flows due to lack of knowledge, experience and expertise and the high opportunity cost of scarce management time (Keasey and Watson, 1993). Instead of engaging in complex calculations demanded by the DCF technique, which itself involves cost as information is not a free good, the problem might be solved by asking questions which will ascertain how the investment will affect productivity; how the workforce will cope with the change (Smallbone et al, 2000); whether there is sufficient business to meet the new capacity; its reliability and the life span (Smallbone et al, 1999).

Finally, due to the environment in which small firms operate attempts to use the DCF technique in investment decision making are "so fraught with conceptual and practical difficulties that its benefits (if any) would be unlikely to prove sufficient to justify its consumption of scarce management time" (Keasey and Watson, 1993, p.230). The presence of multiple objectives, high levels of uncertainty, information asymmetry and

problems in obtaining long-term finance, etc., leads to an (investment) environment where a number of other factors come to play (Collis and Jarvis, 2000; Deakins et al 2000).

3.3.2 The payback method

The Payback method estimates the period of time taken for the future net cash inflows to match the initial cash outlay (Pike 1988). In order words, it measures the length of time taken to recoup the original investment (Wootton, 1985). Whilst theory and most academics have condemned the use of payback as misleading in making investment decisions because of its theoretical weaknesses, which include ignoring all cash flows beyond the payback period and failing to take account of the time value of money (Drury et al, 1993), it continues to flourish as the most widely applied formal technique (Pike and Neale, 1993). For example, in the study of SMEs by McIntyre and Coulthurst (1985) 82% of the firms in the sample used payback method. In Peel and Wilson (1996) 67.6% of the firms in the sample claimed to use the payback method, whilst in Austin et al (1994) the only quantitative decision criteria used by any firm was payback method.

To overcome some of the theoretical limitations of the payback method, Drury et al (1993) suggest that all cash flows should be adjusted to their present values and the discounted values should then be used to calculate the discounted payback period. Pike (1988) observes that for the majority of investment proposals payback provides a reasonable approximation to the current decision obtained in applying the NPV rule. The reason for this is that the two fundamental objections referred to above compensate for each other to some extent i.e. the error from ignoring post-payback cash flows is compensated by the error arising from failure to consider the time value of money in the payback calculation. It should be noted that these 'compensating errors' are to the extent that early cash flows are a reasonable predictor of the latter cash flows (Pike, 1988).

Pike (1993) advance the following practical merits of payback: First, the payback period provides a measure of investment profitability. If the annual cash inflows from an investment are uniform, the payback reciprocal is the internal rate of return for an

investment of infinite life, or a good approximation to this rate for long-lived investment. Second, payback method provides a simple and reasonably efficient method of investment evaluation when constraints prevail. The most obvious constraint is the time owner-managers can devote to investment evaluation. The payback method may also be of value where companies face liquidity problems and require a fast repayment of investment (Drury et al, 1993). Third, payback is seen as a useful tool in times of high levels of uncertainty. Whereas more sophisticated techniques attempt to model the uncertainty surrounding investment returns, payback assumes that risk is time related; the longer the period, the greater the chance of failure. The high level of unpredictability and uncertainties concerning the small firm operating environment have rendered the task of forecasting cash flows almost impossible; but for the most part, cash flows are correlated over time (Jarvis et al 1996). If the operating returns are below the expected level in the early years they will probably also be below plan in the later years (Petty and Bygrave, 1993). The DCF techniques, as used by large firms, ignores this increase in uncertainty over time (Keasey and Watson, 1993). Early cash flows, therefore, have an important information content on the degree of accuracy of subsequent cash flows (Lumby, 1994). By concentrating on the early cash flows, payback chooses to base its evaluation on data in which managers have greater confidence (Pike and Neale, 1993). The final endearing quality of payback method is its simplicity (Pike, 1993). The non-quantitative manger is reluctant to rely on the recommendations of sophisticated models when he lacks both the time and expertise to verify such outcomes (Drury et al, 1993).

3.3.3 The Accounting Rate of Return (ARR)

The ARR is the method which compares the average profit of the investment with the book value of the asset acquired (Pike and Neale, 1993). It is also known as the return on capital employed (ROCE) or the return on investment (ROI) (Wootton, 1985). It can be calculated on the original capital investment or on the average amount invested over the life of the asset (Marrek, 1991).

The ARR can be criticised on the following grounds: First, it uses accounting profit rather than cash flows (Pike and Neale, 1993). Second, it ignores the time-value of money (Drury, 1993). Despite the theoretical shortcomings of this method, there has been a certain amount of support for it in the literature and very well understood in business as it is commonly used as a measure of performance (Wootton, 1985). It may well be that to businessmen the idea of appraising capital investments by measuring the changes in profits as a result of the investment is an attractive one (Burton, 1989). In McIntyre and Coulthurst (1985) 33% of the sample firms used ARR, whilst 33.8% of sample firms used the technique in Peel and Wilson (1996). Since profit rather than cash flow is used, it incorporates all the problems inherent in profit measurement and care must be taken when comparisons are made that the same bases are used, i.e. profit is before or after tax, investment is valued on historical or current values and either total value or depreciated value is used (Wootton, 1985).

Nevertheless, Pike (1993) observes that the accounting rate of return on total investment consistently understates, and the accounting rate of return on average investment overstates, the internal rate of return, and concludes that the case for retaining the ARR is, therefore, only valid when applied as a secondary criterion. Burton (1989) argues that the use of accounting profit measures is inappropriate for the purpose of appraising investment.

From the discussions above, it can be said that the focus of the literature on investment decision making has been directed only towards the quantitative criteria. Deakins et al (2000) argue that in the UK serious academic studies on financial management practices are rare. The only available small firm literature (e.g. Nayak and Greenfield, 1994; Peel and Wilson, 1996; and Chittenden et al, 1999) with a couple of exceptions (e.g. Jarvis et al 1996; and Perren et al, 1999) rely upon postal questionnaire survey methodology and hence are remote, static in nature and limited in depth of insights into the actual processes and approaches in small firms. It can also be said that other available literature which are clearly developed for large firms are of limited relevance to understanding the behaviour of small firms because the factors affecting small firm investment decisions differ

considerably from those addressed by the large firm studies (Jarvis et al, 1996). These factors can be summarised to include:

[i] The high exposure to business and financial risk due to the uncertainties of the small firm operating environment and the owner-manager's relatively undiversified portfolio.

[ii] The separation of financing and investment decisions can not apply to small firms because of the nature of their financial environment. In the small companies the provision of finance is limited to specific projects due to the presence of uncertainty, asymmetric information and limited sources of finance (see section 3.4 below).

[iii] Multiple objectives. Since small firm owners may be pursuing objectives other than wealth maximisation (e.g. survival, independence, preferred life-style, and social priority) (Spence and Rutherfoord, 2001) then they would be less likely to use the DCF techniques which are consistent with the wealth maximisation objective but may focus on minimising risk by using other methods.

Existing literature on investment decisions have consistently found that the payback method is the most popular quantitative techniques used even by large companies (Pike and Neale, 1993; Austin et al, 1994). However, emphasis is still placed on other techniques such as the discounted cash flow and the accounting rate of return (McIntyre and Coulthurst, 1985; Peel and Wilson, 1996). As revealed in this section, the mainstream literature on investment decisions have all advocated quantitative techniques as being the more 'objective' criteria and the qualitative criteria as being more 'subjective' (e.g. Sangster, 1993; Pike and Neale, 1993). Yet, the small companies have neither the skills nor the resources to employ these sophisticated techniques (Sangster, 1993).

These other studies also suffer from methodological issues such as reliance on mail questionnaires with 'closed ended' questions which fail to incorporate the actual motives

and behaviour of the subjects under study and do not help to answer the basic questions relating to process (Deakins et al, 2000). It might indeed be that owner-managers confronted with questionnaires which demonstrate the 'right' or 'proper' investment evaluation techniques feel constrained to tick 'correct' answers to the questions asked (Jarvis et al, 1996). Whether they use these techniques in the actual investment behaviour is another matter entirely. On the other hand, some owner-managers may be unfamiliar with the formal terminology used in questionnaires. Therefore, it is quite possible that claims to use a particular technique would not be borne out by other methods of investigation (Jarvis et al 1996).

Consequently, existing small firm literature engage in empirical inquiries into investment decision-making process of small firms which fail to address the key questions of owner-managers' behaviour and motivations and how they might be translated into business strategy. Therefore, this study attempts to carry out an empirical investigation of the small firm's investment decision-making process, which incorporates human behaviour, intentions, motives, beliefs, rules and values. It is this qualitative and human elements of the investment decision making which is often overlooked in the literature (Barkham et al, 1996). Barkham et al (1996, p.8) argue that:

> *"The 'removal' of the 'human elements' from modern micro-economic theory was an inevitable consequence of the development of a model of the firm which would appeal in terms of consistency and robustness".*

This research seeks to address this gap by arguing for the integration of these missing 'human elements' in the small firm financial practices as a whole and the small firm investment decisions in particular. It also aims to add value to these earlier studies by extending the scope of the investment decision making behaviour beyond the quantitative criteria through a qualitative methodology conducted longitudinally to generate better information and by incorporating the real motivations and actual behaviour of the owner-managers to enhance a balanced knowledge of entrepreneurship. As pointed out above, the DCF techniques, and in fact other investment decision approaches developed for large companies are clearly unsuitable for small firms, firstly, because profit maximisation

which is assumed in such approaches is not the sole objective of small firms. Secondly, the separation of financing and investment decisions, also assumed in conventional techniques, cannot apply to small firms due to the nature of their financial environment where investment decisions may be driven by the objectives of the loan provider. Therefore, it is necessary to explore in the next section the link between investment decision and financing decision.

3.4 THE LINK BETWEEN INVESTMENT AND FINANCING DECISIONS

Investment and financing considerations are probably the most important decisions facing the business entity (Cottrell, 1989). Investment may prove to be attractive, but finance must be obtained for the project to go forward, whether or not the finance is to come from 'own' funds or from other sources. Brophy and Shulman (1993) argue that three factors are central in the financing of investment projects:

[i] the corporate liquidity, or the ability of the project to be internally self-funded;

[ii] the required rate of return (hurdle rate) i.e. the cost of capital of the project, and the agency costs associated with it; and

[iii] the availability of capital.

The literature on capital investment has developed from the assumption that investment and financing decisions can be effectively separated (Fisher, 1930). But in small firms investment decisions are controlled by debt providers and debt is effectively used to control management opportunism (Keasey Watson, 1993; Taylor et al, 1999). The 'pecking order' hypothesis, explained later in section 3.4.3, also provides an alternative explanation of the capital structure (Taylor et al, 1999; Cosh and Hughes, 1994). These points are discussed in detail below.

3.4.1 Investment decisions are controlled by debt providers

Brophy and Shulman (1993) hypothesise that investment and financing are positively related. Keasey and Watson (1993) take this hypothesis further by arguing that investment decisions and the financing decisions are linked to the point that investment decisions are actually controlled by debt providers. They argue that the Fisher (1930) separation theorem which states that investment and financing decisions are separate, cannot therefore be applicable in the small firm sector. This is because the limited sources of finance available to small firms, together with the presence of uncertainty and asymmetric information, creates contractual difficulties which are overcome by external financiers typically linking the provision of finance to specific projects and, as in the case of leasing and hire purchase, retaining ownership of the assets (Cosh and Hughes, 1994).

The Fisher theorem is widely assumed in the large firm investment decision-making literature (Taylor et al, 1999). The theorem was given impetus by Modigliani and Miller (1958) in their seminal article which employ rigorous economic analysis to examine financial management problems. They argued that, given perfect capital market assumptions, a firm's capital structure is irrelevant in determining its total market value. This means that how an investment is financed is irrelevant to the value it generates. However, the Modigliani and Miller (M&M) theory has attracted considerable criticisms based upon the 'perfect market' assumption which does not exist in the real world. The first criticism concerns the effects of corporate and personal taxes (Modigliani and Miller, 1963; Miller, 1977). The Modigliani and Miller's (1963) analysis of gearing incorporating taxation implies that the tax advantage from tax relief on debt interest encourages companies to utilise as much debt finance as possible. Miller (1977) argue that since companies find debt finance more attractive than equity, due to the tax relief obtained, then they would demand a greater amount of this type of finance. However, in order to persuade a shareholder to switch to debt the company must offer an after personal tax return equal to the after personal tax return on equity (Miller, 1977).

Another objection of the M&M theory concerns the existence of bankruptcy costs (Taylor et al, 1999). Myers (1984) argues that if a company has a high level of gearing, then there is a very high fixed payment for interest each year and if the company hits bad times then high gearing would cause cash flow difficulties and a possible bankruptcy. But if a company has low gearing then difficulties from low profits can be avoided by simply reducing dividends. Myers then concludes that the existence of bankruptcy cost will cause the market value of a company at high gearing to fall. However, there is considerable debate over whether bankruptcy costs are large enough to have a significant effect. A further criticism of the M&M theory is the existence of agency costs and transaction costs (Taylor et al, 1999) as discussed earlier in sections 2.2.4 and 2.2.5, respectively.

3.4.2 The use of debt to control management opportunism

Perhaps the most relevant criticism of the irrelevancy of the capital structure is the use of debt to control management opportunism (Grossman and Hart, 1982). Taylor et al (1999) point out that the agency problem is exacerbated by the presence of free cash flow available to managers for discretionary expenditure. They indicate that debt is the device used to reduce the free cash flow since managers are obliged to meet contractual obligations associated with debt, namely interest payments, the default of which may cause debt-holders to claim their assets and managers to lose their decision-making rights, and possibly their jobs. Grossman and Hart (1982) argue that financial instrument cannot be wholly described in terms of return streams because they also confer control rights due to the presence of information costs and the separation of ownership from control. The presence of securitised loans means that failure costs are largely borne by the owner-manager, and provides the incentive to undertake projects that enable debt repayment commitment to be met (Ang, 1991). However, some of the costs of failure are borne by the providers of debt finance but the risk is considerably reduced by the securing of debt finance on the personal assets of the owner-managers (Cosh and Hughes, 1994). This curtails the protection of limited liability and increases the probability of financial distress and forces the owner-manager to consider not just the expected returns but also the riskiness of the investment, undertaking investment with little risk and poor returns in

order to be certain of being able to cover their debt obligations (Keasey and Watson, 1993).

The main reason why debt providers seek to secure their loans on the business and/or personal assets of the owner is that these are the only funds which can go to the creditors in the event of liquidation, since many small firms cannot be sold as going concerns (Cosh and Hughes, 1994). This is because the major part of small firms' value comes from intangible assets (i.e. the owner-manager's specialised skills and knowledge of customers and suppliers) (Keasey and Watson, 1993). Keasey and Watson (1993) argue that since the owner-manager cannot be forced to relinquish his or her skills and specialised knowledge, these are not available to creditors if the firm is liquidated. Another justification of the banks (or indeed any other investors) securing their loans on the assets of the business and/or those of the owner-manager is that all upside gains accrue to the owner-manager while the investor bears all potential losses (Cosh and Hughes, 1994). The investor being aware of this advantage has to take steps to lessen his potential losses (Keasey and Watson, 1993). The control mechanisms often come in the form of monitoring and sanctions as already discussed above. The effectiveness of these mechanisms depends on the structure of the debt (Taylor et al 1999). Keasey and Watson argue that:

> *"...a unified debt structure (a single debt holder) will provide the most effective monitor, while a diverse debt structure (many small debt holders) will be less effective. For example, an individual debt holder may not know without incurring information costs how many other debt holders there are, the priority of their claims or whether any have not been paid" (Keasey and Watson, 1993, p. 234).*

It is therefore easy for the owner-manager to circumvent control by deliberately concealing their firms' true financial structure from the loan providers, either through different kinds of debt structure or by applying debt finance to projects of associated companies created just for that purpose. However, Keasey and Watson (1993) have pointed out that the exact choice of debt structure by small firms is problematic. They argue that although a diverse debt structure may allow firms more flexibility in their

repayment/non-payment, it may also increase the chances of liquidation by giving rise to a race to grab the assets of the firm once liquidation is imminent. The ability of banks to secure their loans on the assets of the business and those of the owner may lead to an over-investment in safe, saleable assets and the excessive concern with the personal solvency may result in the owner-manager choosing an asset structure designed to be overly liquid to meet the immediate demands from the lenders even though this may not be optimal in business terms (Cosh and Hughes, 1994). Although small firms are able to exploit and avoid at least some of this control process, the loan providers are always anticipating this and are able to react and arrange their debt provision accordingly (Deakins, 1996).

3.4.3 The 'pecking order' hypothesis

The 'pecking order' hypothesis, like the agency and transaction cost theories, has been suggested to account for inter-firm differences in capital structure (Taylor et al, 1999). The pecking order hypothesis was developed by Myers (1984) and tested by Cosh and Hughes (1994). The pecking order philosophy appears to be stronger in private small firms (Poutziouris et al, 1999). The hypothesis suggests that the financing of investment is undertaken by firms using internally generated funds such as retained earnings first, before considering the use of debt when the retained earnings are used up, and then equity, as a final resort when borrowing limits have been reached (Cosh and Hughes, 1994; Jordan et al, 1998). The hypothesis is based on the premise that owner-managers are very reluctant to cede control of their firms which is always the case when external equity is involved and only if contractual obligations are not met when debt is involved (Poutziouris et al, 1999; Taylor et al 1999).

The practical significance of this link between investment and financing decisions, as observed by Brophy and Shulman (1993), is that financing, in a certain sense, plays a 'gatekeeper' role with respect to investment, determining which projects will go forward (Brigham and Gapenski, 1991). Investment spending is a type of expenditure incurred in the current period although the benefits are expected in the future (Nayak and Greenfield, 1994). This means that companies with limited capital resources, or capital constraints,

may reduce investment expenditure as a result (Brophy and Shulman, 1993). Brophy and Shulman argue that firms perceived as having lower investment expenditure needs may be viewed as being less vulnerable to capital constraints but warn that:

> *"This 'good news' may be at least partially offset by the eventual realisation that such firms may have lower barriers to entry and be subject to greater market pressure from innovative competitors.... Part of the competitive decline in U.S. industry in recent years may be traced to this interaction and, indeed, part of the current recovery may also be traced to corporate realisation of the important link between finance and [investment] " (Brophy and Shulman, 1993, p.70).*

To drive home the significance of this interaction Brophy and Shulman also point out that the availability of flexible sources of financing, able and willing to bear 'short window' investment risk and skilled at redeploying funds earned from one generation of product into the development of the next generation of product will also add to the overall rate of investment in a market economy. This is clearly in contrast to the approach adopted in the mainstream finance literature in which investment decisions precede the financing decisions (Brigham and Gapenski, 1991; Van Horne, 1991). Therefore, this suggests that the financing decisions has the ability to exercise significant influence and power over which investment, if any, should be pursued (Brophy and Shulman, 1993). Recognising this relationship is important not only to the owner-manager but also to policy makers, financial managers and planners if they are not to continue to treat investment decision and financing decision as being always separate, but as being interdependent (Keasey and Watson, 1993).

3.5 RELATIONSHIP OF INVESTMENT DECISIONS WITH OTHER AREAS OF MANAGEMENT

One of the characteristics of studies in management and decision-making within small companies is that one cannot totally separate what is going on in one area of business from others because they are often very much inter-related. Therefore, there is need to relate investment decisions to competitive tactics/strategies because investment decisions in

small firms is associated with the business basically focusing on cost and price as its source of competitiveness. That means investing in production/other assets as a rationale to produce more cheaply than other companies. Thus, the purpose of this section is to relate production investment strategy to product/market strategies in relation to human resources management, marketing and customer relationship.

3.5.1 Human Resources Management

CEEDR (1997) indicates that digital technology has led to a completely different way of working with a need for a new range of skills with implications for retraining some staff and making others redundant. The BPIF (1997) argues that whilst some of the skills required in the digital paradigm are exactly the same as those in traditional printing, others are completely new. The study echoes that the rapid pace of technical change requires regular retraining and therefore puts an even greater premium on flexible staff with a good grounding in basic principles, and that many printing companies have a shortage, or sometimes a complete absence of people with these skills. Thus they need to place more emphasis on training in future. Smallbone et al (1999) re-iterate that the introduction of new technology has had important consequences for skills needs within the printing industry. In addition to examining the extent to which new skills are required by both production staff and management they identify likely changes in the skills required over the next 2 to 3 years as a result of the maturing and wider diffusion of digital technologies.

These skills, as far as the pre-press staff are concerned, include greater information and computer technology (ICT) skills; proficiency in using software for typesetting and page make-up, which will become increasingly important for pre-press staff as the volume of work in non-digital form declines; and increasing use of ISDN and internal networks requiring skills in network management. It also include multi-skilling in all pre-press processes combined with a knowledge of print; greater flexibility of production staff across pre-press, press and finishing; CTP imagesetting/platemaking and proficiency in using digital presses; and skilled digital press operation. They also identified the skills required among press staff such as increased ICT competencies among computer

controlled 'litho' presses operators; key skill changes necessary for the adoption of computerised presses, CTP and direct digital presses; and platemaking skills for print operators in firms operating 24 hour working.

As far as management skills are concerned, key skills needs include formal and flatter management structure required for digital work flow; project management skills; network/management information system (MIS) operation management skills; greater management competencies especially in sales and marketing; and closer relationships with clients and an awareness of the importance of 'customer service'. Apart from the need for pre-press, and press staff to acquire new ICT skills, there is also the need for other staff involved in receiving work from customers, such as counter and administrative staff and sales representatives, to acquire these skills. This will improve their technical relationship with customers and help to rectify file incompatibilities before work is accepted, thus prevent the high cost of rectifying errors.

As revealed in the literature training, which involves short, on-site courses, took place mostly in the workplace, with the initial training being provided by equipment suppliers as part of the purchase package (Smallbone et al, 2000). According to exiting literature, the bulk of training in small firms is largely informal (Matlay, 1997) and not based on a structured approach nor on an explicit plan and budget (Curran et al, 1997). In Curran (op. cit.), although training was largely informal, there was a high level of learning activity by employees, albeit ad hoc, task specific and based on 'learning by doing'. Although BPIF (1997) suggests that the newly developed NVQ qualifications are useful, if not essential, foundations, and constitute a basic platform on which firms need to build if they are to meet their specific skills needs, college courses are little used by leading edge companies because they are expensive and difficult to use under realistic operating conditions (Smallbone et al, 1999). However, owner-managers must recognise skills development and training as an ongoing learning process, and not just a one-off induction into how to use newly acquired equipment. Therefore, to increase the returns on investment in new equipment, and to remain competitive and profitable owner-managers

must invest in the skills of their workforce which in the medium term will be their most important assets (CEEDR, 2000).

Although some firms in the clothing sector have started to invest in computer-aided-manufacturing (Smallbone et al, 1996) and garment design is being increasingly undertaken by computers, the industry is still resistant to the introduction of computers (Fletcher and Hardill, 1995). The clothing industry, apart from being an old fashion industry, is craft-based and remains for the most part, labour-intensive to the present day (Fletcher and Hardill, 1995). In the clothing industry in the UK cutter and pressers are mostly men, machining is almost entirely done by women, whilst a large proportion of the workforce is drawn from the ethnic minority communities and home-workers (Ram, 1991). Although it seems that this industry has experienced difficulties in attracting skilled labour, Ram argues that this was not due to any scarcity of people able to do the jobs required. "Rather, certain kinds of workers were sought, workers who would tolerate the vagaries of the product market, particular forms of work organisation and low wages" (Ram, 1991, p.616).

3.5.2 Marketing strategy

Increased digitisation has resulted in changing demand patterns with customers increasingly adopting JIT stocking techniques and expecting printers to satisfy their printing requirements at very short notice (CEEDR, 1997). These changing patterns present both threats and opportunities depending on the extent to which printing firms adjust to them. In these circumstances, marketing and distribution becomes the key to competitiveness. This means that in the increasing use of the Internet, printing firms may have a website and provide an electronic shop-front where potential clients will be able to get estimates quickly over the Internet and the work can be delivered electronically. It also means that printing firms must be able to adopt the concept of 'one-stop shop' (Horton, 1998).

The concept of a one-stop shop means that printers are able to offer not just actual printing, but the whole area of related services from design, artwork, printing and delivery. This is because high margins can only be achieved by providing some ancillary service and additional benefits such as 'customisation' and flexibility of response. This means that successful printing firms in future will be those that do not provide just a product (ink on substrate) but a broader service to customers of which the product forms a part. It includes the opportunity to work more closely with customers, to shape their views and to provide integrated solutions to customer problems. Therefore, to be competitive printing firms will need to be proactive in exploiting new opportunities presented by a rapidly changing market and to become more systematic in preparing and implementing marketing and business plans. It involves determining what markets they want to be serving and with what products, what resources are available and how will they learn from and adapt to changing circumstances (BPIF, 1997).

In most clothing companies in the UK, marketing strategy and the relationship with its main customers is that of 'strategic sub-contract' with the manufacturers providing a quality cut make and trim (CMT) service at the right price (Fletcher and Hardill, 1995). Raffa (1992) describes CMT contracts as having a very high mutual interdependence and strict collaborative relations with daily communications, which sometimes help with the provision of equipment, training and quality levels. However, in the UK clothing firms, Fletcher and Hardill (1995) indicates that manufacturers are being 'tied' to one (or a small number) of large retailers. Relationships are more 'asymmetrical' in that information flows are not a two-way process, and there is an unequal distribution of power which leads to high degrees of dependency amongst sub-contractors and a measure of ill-feeling towards customers.

3.5.3 Networking/Customer relationship

Developments in electronic communications technology have had a considerable impact on the links between customers and suppliers, with an estimated 70% of all printing

information now conveyed in digital form (CEEDR, 1997). In addition to faster data transmission it allows greater interaction with customers, an extended market place ('globalisation'), and reduced duplication of equipment between multiple sites (BPIF, 1997). One of the consequences of these developments is that printing firms must, in order to take advantage of this type of business, be able to manage customer's internal printing operations and stockholding of all its business forms requirements. This also means the ability of owner-managers to manage customers' text and graphics based on in-depth understanding of their marketing and strategic plans. This emphasizes the need for greater customer service/care and calls for pre-press staffs who are increasingly dealing directly with customers to acquire such skills.

Apart from customer-supplier relationships, digitisation also fosters vertical links between different stages in the supply chain (e.g. between origination and printing). The problem in practice is that technological change is contributing to a transformation of the relationship between different stages of production within the printing sector resulting in a tendency towards increasing convergence (CEEDR, 1997). This means that firms engaged in pre-print activities are able to undertake much of what used to be done only by printing firms. Thus, digital technology allows non-print related organisations such as advertising agencies and publishers to take up printing activity. Networking strategies in the clothing sector included sub-contracting networks derived from co-operative inter-firm links, often described as 'moral contracts' (Fletcher and Hardill, 1995).

Given the established link between investment and financing decisions, and between investment decision-making and other decisions in the firm, the next section discusses the main sources of investment finance for small firms, as well as the difficulties of raising such finance. The advantages and the disadvantages of the various sources of investment finance available to small firms are also discussed in the next section.

3.6 SOURCES OF INVESTMENT FINANCE

Little is known about the financial decision-making of small firms (Deakins et al 2000) mainly because the mainstream financial management literature concentrates on the pricing of shares on stock markets rather than how firms use finance and the conditions under which it is offered (Binks and Ennew, 1996). Keasey and Watson (1993) suggest that a number of issues need to be considered if progress is to be made in understanding the small firm financing. Firstly, it is necessary to understand how finance is provided and used, given imperfect information and highly uncertain environment of the small enterprises. Secondly, there is the need to analyse how finance is managed in conditions of undiversified portfolios in terms of products, customers and assets. Consequently, in small firms the provision of finance might well depend on factors such as how much the entrepreneur is prepared to invest, personal and family commitments, whether the owner-manager's house is used as collateral for the loan, etc. In the absence of perfect capital markets, finance and investment decisions are closely linked as already discussed in section 3.4 above. Thirdly, there is the need to consider how the contractual parties in a small firm (e.g. the banks) protect themselves against possible breach or default by owner-managers, given the conflicts of interest in terms of business and personal objectives and the information asymmetries and highly uncertain environment.

Ever since the Macmillan Committee (1931) first raised the issue of a 'finance gap' a number of studies have indicated that an important constraint facing small firms is the difficulty of obtaining finance and the resulting inadequate capitalisation (e.g. Deakins, 1996; Van Auken and Holman, 1996). Although investment analysis may be feasible and attractive, financing must be obtained in order for the project to go forward (Brophy and Shulman, 1993). Van Auken and Holman (1996) also pointed out that small firms have fewer available sources of funds, a higher cost of capital, and increased transaction costs than large firms. Gaskill et al (1993) identify under-capitalisation as one of the most important operational factors leading to financial distress and failure of small firms. These studies also indicate that a good number of owner-managers are reluctant to seek external finance (Poutziouris et al 1999).

The literature (e.g. Binks and Ennew, 1996) has identified various sources of finance available to small firms, namely, internal and external equity, bank finance, leasing/hire purchase and government grants. This section discusses some of the diversity in these sources and provision of finance to small firms, paying particular attention to some of the problems, which may confront these businesses.

3.6.1 Internal Equity

In a narrow sense, internal equity can be defined as money provided to the firm by the owner-managers themselves (Barkham et al, 1996; Binks and Ennew, 1996). In most cases, this is the way an owner of a small firm provides capital for his or her business, retaining all the shares of the company (Keasey and Watson, 1993). There are two reasons for this. Firstly, it is generally difficult for owner-managers to sell shares to members of the public due to the riskiness of the small firm (Barkham et al, 1996). It is not, generally, possible to reduce these risks by careful scrutiny of the firm because the costs of this process are high relative to the level of funds required (Keasey and Watson, 1993). Therefore, external equity in small firms is rare and will only be undertaken by third parties with special knowledge or interest such as owner-managers' family and friends since the need for information is reduced due to the personal knowledge of the capabilities of the owner-manager. Thus, internal equity may come from the personal savings of the owner-managers themselves as well as from friends or relatives (Binks and Ennew, 1996). Secondly, small firms retain all the shares of the company because owner-managers are, generally, not willing to part with ownership or share control of their companies (Bank of England, 1998).

In a broader sense, internal equity can be defined to include retained profits of the company (Barkham et al, 1996; Binks and Ennew, 1996). The most important source of finance in small firms is retained profits (Poutziouris et al, 1999). Generally, retained profits provide a good source of investment finance but profits in small firms take time to accumulate and may not be available in sufficient amount at the right time for investment

decisions to take advantage of market opportunity (Barkham et al 1996). The Bank of England (1998) reports that the majority of small businesses still rely on internal funds as their primary source of finance, with 79% of small firms using retained profits and 72% using cash flow to fund their activities over the last five years. Similarly, the Bank of England (1999) indicates that that small firms have a higher dependence on internal sources of finance and appear to be more appropriately financed than in the early 1990s. This is because they have in recent years become "markedly less reliant on external finance" (Bank of England 2001, p.1). Keasey and Watson (1992) find internal equity to be as important as bank finance in the sense that it contributes around 31% to firms financing structure. But its availability depends on the wealth of the owner-managers and the profitability of the business (Binks and Ennew, 1996). Therefore, small firms faced with a shortfall of funding from internal resources to meet investment plans will place reliance on debt such as bank finance, but the risk characteristics of small firms as a class and the relative lack of information about the quality of their owner-managers and their projects may influence their debt position relative to large quoted firms specifically (Cosh and Hughes, 1994).

3.6.2 Bank Finance

The most widely available source of investment finance for small firms is debt finance from high street and merchant banks. A number of studies have indicated that the vast majority of small businesses in the UK have depended on banks for short-term loans and overdrafts to finance their investment requirements (e.g. Hughes, 1992; Keasey and Watson, 1993; Binks and Ennew, 1996). Thus banks represent the main source of external finance. According to Keasey and Watson (1992) bank debt represents 31% of business liabilities. The Bank of England (1998) confirms that the main external source of finance used by small businesses is still banks, in the form of overdrafts and term loans. However, the Bank of England (1999) has shown some new trends. It indicates that the total bank lending to the small firm sector has declined from £39.5 billion in 1992 to £36 billion by mid 1998, thus reducing the proportion of finance accounted for by traditional bank lending and increased the proportion of asset-based finance. Nevertheless,

traditional bank finance remains the most important type of external finance for small firms, although its importance has declined in recent years as small businesses increasingly diversify their sources of finance (Bank of England 2000; 2001).

The Bank of England (1999; 2001) reports that bank lending has moved away from overdrafts towards more term finance. This reflects the realisation by banks of a need to diversify sources of finance for small firms. In recent years the relationship between banks and the small businesses has been under severe criticisms regarding their approach to lending, the short-term nature of the financial products, and the customer perceptions of service quality (Binks and Ennew, 1996). The criticism regarding the approach to lending concerns the high security ratios (Binks et al, 1993). Edwards (1987) criticise the short-termism in the UK bank practice as constituting a major constraint on economic development, whilst Binks (1987) provide evidence of the demand for longer-term, more flexible debt products. The service quality criticism is that the banks are lacking sympathy and understanding of the financial needs of small businesses and of using their monopoly position to impose onerous terms on small firms (Keasey and Watson, 1993). As a result of the perceived weaknesses and imperfections in service quality and also of a changing competitive environment the banks are under a great deal of pressure to change (Binks and Ennew, 1996).

Cosh and Hughes (1994) suggest that the main reason why small firms depend so much upon bank finance for external funding is that banks are probably best able to monitor cheaply, through the bank account, the ability of firms to service their debts. Thus, banks are in the best position to overcome the acute information asymmetries characteristics of small firms through their ability to monitor and enforce lending contracts at low cost. They argue that banks are also able to discourage owner-managers from undertaking too risky projects through the short-term nature of their loans which are secured on the business and/or personal assets of the owner-manager and which are frequently reviewed.

However, Deakins (1996) and Binks and Ennew (1996) argue that the information required by the bank to assess perfectly and to monitor risky projects is not costless to

obtain because when conditions of uncertainty combine with asymmetric information, two problems arise for the banks, namely, adverse selection and moral hazard. Adverse selection occurs "when either the bank provides finance for a venture that subsequently fails or refuses finance for a venture that would have been successful" (Deakins 1996, p.79). Whereas, moral hazard arises because "once an entrepreneur has raised the bank loan, there is no guarantee that they will act in the best interest of the bank" (Deakins 1996, p.79). Deakins argue that moral hazard is more difficult to control for the bank because it is a monitoring problem and for relatively small amounts of finance it is not economic for the bank to monitor performance closely.

It is as a result of this moral hazard problem that banks require security for their loans secured either on the business or personal assets (or both) of the owner-manager (Deakins 1996; Keasy and Watson, 1993). Justifying the requirement for security Keasey and Watson (1993, p.141) argue that:

> *"the ability of banks to secure their loans on the assets of the business and the owner may lead to an over-investment in safe, saleable assets. An excessive concern with personal solvency may result in the owner-manager making decisions which ensure that the asset mix of the business is sufficiently liquid to meet any immediate demands from the lenders even though this may not be optimal in business terms".*

Dempsey and Keasey (1993) in support of the securitisation selection process argue that it is the firm owners who are the best judges of their own projects and the banks only need to use mechanisms which ensure that only the good projects self-select themselves for bank finance. Cosh and Hughes (1994) also argue that borrowers know more about the expected riskiness of their projects than the lenders as there is likely to be less public information about their past performance on which lenders may base their decisions than in the case of large firms. If lenders try to use interest rate increases to allow for their perceptions of riskiness they are likely to drive out those who believe on the basis of their own private information that they are less risky than the bank does, and to attract those who believe they are more risky (Cosh and Hughes, 1994). The result for the bank will be a higher risk profile for its loans than it bargained for, which is likely to produce credit

rationing and insufficient credit available for all sound propositions (Stiglitz and Weiss, 1981). Cosh and Hughes conclude that in practice there is likely to be uncertainty about both expected means and expected riskiness, and therefore some uncertainty about the usefulness of interest rates as a screening device. The alternative to using interest rates to solve the risk problem is to seek collateral (Keasey and Watson, 1993). This helps elicit information about the borrowers' risk perception because they know more about the riskiness of their investment than the lenders (Cosh and Hughes, 1994). It ensures commitment and also provides a fail-safe method for the banks to recover losses in the case of adverse selection that involves selecting a business failure (Deakins, 1996). It also reduces the banks downside risk in the event of a borrower obtaining a loan and then pursuing higher risk/higher return projects than the one for which it was granted (Cosh and Hughes, 1994).

Deakins (1996) and Cosh and Hughes (1994) point out that the collateral route has disadvantages. It erodes the limited liability of the owner and raises problems for those with positive net present value projects, but who are not already blessed with assets to back their judgement (Cosh and Hughes, 1994). The consequence is that owners with good projects but with little or no personal collateral security may end up not being financed (Deakins, 1996). Deakins (1996) also considers valuation problems (e.g. depreciation and the necessity to re-value the collateral at intervals). Therefore, the more conservative the valuation of the collateral the higher the disincentives for small firms (Cosh and Hughes, 1994; Deakins 1996). Binks (1991) warns that this erosion of limited liability would naturally be expected to discourage investment in many cases. This is a disturbing situation since the banks are supposed to play a crucial role in the finance of small firms.

Other literature points to the fact that the banks are recently responding to the needs of the small firms by offering help in the form of 'small firm packages' which demonstrate how to present the anticipated needs of the firm in the best light. For example, the Bank of England (1998) indicates that the banks, recognising the importance of matching appropriate finance to the needs of small businesses, have become more proactive in

developing financing packages, shifting the emphasis away from collateral and towards business plans and cash flow projections as a base for making lending decisions. The Report also finds that the dependence on overdrafts has declined significantly over the past four years, as small businesses have made more use of term loan facilities, with a shift in the ratio of term loan to overdrafts standing at 66:34 as opposed to 44:56 in 1993.

Despite the banks' claim of a move in emphasis away from collateral towards lending decisions based on business plans and cash flow projections, research such as Deakins and Hussain (1994) has revealed that banks are concerned primarily with the personal financial position of owner-managers (security) and gearing in assessing business propositions. In a BCC (1997) survey 57% of businesses cited the banks' reluctance to accept business plans as a problem, and the lack of collateral as a major constraint on access to finance for small firms which may have a viable investment, but may not have the necessary collateral to back their proposals (ICAEW, 1997). The BCC survey also found that 45% of small firms believed that the banks' approach to lending was more stringent now than in the last recession.

Deakins (1996) argues that a finance gap arises because of mis-matches between supply and demand i.e. the demand from small firms is greater than the willingness of financial institutions to supply the finance at current market conditions. However, other researchers (e.g. Cowling et al, 1991) argue that it is the small firms owners themselves who seem to be most opposed to a type of financing that requires greater involvement in the business by outside investors. Keasey and Watson (1993, p.148) put it in these terms:

> *"indeed, it may be that the apparent finance gap exists precisely because small firm owners are unwilling to bind themselves to agreements that require them to share control and up-side gains with external equity suppliers. Since banks do not share in these benefits, it is not surprising that they are only willing to enter agreements which allow them to take actions ex post to ensure that their investments remain reasonably well secured and herein lies the primary cause of conflict".*

In the late 70s the Wilson Committee suggested that about 75% of small businesses would actively resist external participation (Wilson, 1979). More recent evidence from Cowling

et al (1991) found that 70% of their sample of small firm owners had never considered external equity from banks as a source of long-term finance, and furthermore, 61% said that they would object to banks having an equity stake in their firms. Amidst these claims and counter-claims, the confusion, suspicion and mistrust remain. However, from the above literature, it seems that the 'finance gap' which received so much prominence in the literature in the 1980s has still not been bridged. Some sort of 'capital gap' still exists as long as banks insist on collateral and/or personal guarantees from small firms owners, and as long as owner-managers are still unwilling to share, at least some control and some up-side gains with the external debt providers (BCC, 1997). Therefore, it seems that if banks should emphasise more on potential rather than excessive demand for collateral, then small firms will be encouraged to make more use of banks for external investment finance (ICAEW, 1997).

3.6.3 Leasing/Hire Purchase

Leasing is a contract under which the legal ownership of the asset remains with the lessor (Bank of England, 1998). There may be arrangements under which ownership transfers at the end of the lease period (Bank of England, 1999). There are essentially two types of lease, a finance lease and an operating lease (Bank of England, 2000). The Bank of England (2000) defines a finance lease as a long-term non-cancellable lease, generally requiring the lessee to pay all maintenance costs. An operating lease is one in which the period of contract is less than the life of the asset and the lessor pays all maintenance and servicing costs (Bank of England 2000). The report points out that small firms tend to make more use of operating leases, because of the increased flexibility regarding maintenance of the asset and future upgrades.

Hire purchase contracts on the other hand, result in the purchaser building up ownership of the asset over a pre-determined period (Bank of England, 2000). Both leasing and hire purchase agreements provide the business with access to 100% finance without reducing capital reserves or increasing gearing levels (Bank of England 1999). They also allow businesses to spread out payments over the life of the asset with payments structured to

accommodate the asset's expected pattern of income generation (Bank of England 2000). The flexibility to upgrade equipment in line with the growth of the business is also viewed as advantageous (Bank of England 2001). Leasing and hire purchase agreements are one area where the inseparability of financing and investment is most apparent (Keasey and Watson, 1993).

The Bank of England (1998) argues that operating leases and hire purchase continue to be the forms of asset-based finance most frequently used by small firms, accounting for 31% of all external finance. The report also indicated that leasing is size dependent, with smaller companies more likely to depend on leasing than their larger counterparts. It also stated that businesses of different sizes had different reasons for making use of leasing. Smaller businesses tended to use leasing to finance their survival and growth, whereas larger companies used leasing for tax advantages (Bank of England, 2000). The manufacturing sector gains a higher proportion of its external financing from this method (34.4%) than the service sector (Bank of England, 1997). These options provide the benefit of the ability to finance an asset without increasing the gearing ratio of the business (Bank of England, 1997) and also the considerable advantage of granting small firms, many of which experience great difficulties in obtaining finance from elsewhere, the possession and use of an asset without first having to find the full purchase price (Keasey and Watson, 1993).

The type of assets which should be financed in these ways are those which are highly durable with good second-hand value such as buildings, machinery, vehicles and office equipment since the second-hand value of the assets forms the main security to the providers of finance (Cooper, 1987). Cooper (1987) suggests that assets which require regular maintenance or updating due to technological advancement are best financed by a lease rather than hire purchase.

3.6.4 Factoring/Invoice Discounting

Factoring is a scheme where a factor advances up to 80% of the invoice value immediately, with the remainder (minus the service charge and interest) being paid when the transaction is completed (Bank of England 2000). The main attraction of the scheme is that it allows small businesses to concentrate on their business rather than chasing debts since a factor can dedicate more resources to credit management than the small firms (Cooper, 1987). Factoring has become increasingly important to small firms as a source of finance (Bank of England, 1998; 2000; 2001). The (1998) report also points out that during 1997, figures from the Factors and Discounters Association, which accounts for over 90% of the factoring industry, showed a 19% increase in funds provided by factors and discounters, and a 17% increase in the number of firms using their services. A survey by the British Chambers of Commerce also shows that there was a discernible move towards the use of factoring/invoice discounting through 1996, with 11% of respondents using receivables finance (BCC, 1997).

Invoice discounting is the purchase by the discounter and sale by a company of book debts on a continuing basis (occasionally selectively) for immediate cash (Bank of England, 2001). The Bank of England (2000) indicates that factoring and invoice discounting are particularly appropriate for small firms unable to draw on further overdraft facilities because they enhance access to cash flow and remove the problems incurred from late payments. However, the Bank of England (2001) points out that the majority of small firms prefer factoring to invoice discounting because it enables them to outsource their financial management controls, although some fear that this might reduce their contact with clients. The report also points out that invoice discounting is in any case typically available only to businesses with a turnover in excess of £1 million, because it is not generally possible to provide it on a small scale at a price that would be attractive.

3.6.5 Government Assisted Finance

The final and potentially very useful source of investment finance for small firms is government grant (Deakins, 1996). Grants are not necessarily 'free' money because they are often tied to specific objectives such as the purchase of capital equipment but they do represent finance for expansion at below market interest rates (Barkham et al, 1996). The problem with grants as a source of small firms investment finance are two fold: First, there is still some lack of awareness among businesses of the grants available and how to access them (Bank of England, 1998). Second, there has been something of a shift in emphasis away from direct financial assistance towards 'softer' forms of aids such as information, advice and training (Austin et al, 1995). However, small firms can still obtain financial assistance through the Loan Guarantee Scheme.

The Small Firm Loan Guarantee Scheme (SFLGS) was recommended by the Wilson Committee (1971) to assist the development of small businesses. The Report indicated that there were deficiencies in the availability of equity finance for small businesses, putting undesirable constraints on the rate of growth (Wilson, 1979). This heralded the introduction of the LGS which was announced by the Chancellor in the 1981 budget statement. Under the scheme, the government guarantees loans made to small firms by banks and other financial institutions under conditions which would make conventional lending impossible, through the absence of collateral security or track record on the part of the small firm (Bank of England, 2001). The Bank of England report indicates that the scheme guarantees 85% of loans of between £5000 and £250,000 over ten years in return for a premium of 2.5% on the guaranteed amount. The terms of the LGS have been revised several times since its inception and were significantly modified in 1996. The conditions of eligibility for a SFLGS loan is that the borrower must be fully committed to his business so as to have already offered all personal assets as security for previous finance arrangements (Bank of England, 2000).

An evaluation of the SFLGS has revealed that the impact of the scheme on business lending and economic activity has been significant, especially in supporting businesses

that lack a track record or collateral (Bank of England, 2001). Cowling and Mitchell (2000) also indicate that the scheme helps to meet genuine market gaps in the provision of finance to small businesses. However, Pieda (1992) throws up a significant number of instances in which the SFLGS appear to be abused by individual bankers, where borrowers are encouraged or required to use an SFLGS loan to pay off an overdraft or other loan; where banks use the scheme to consolidate existing loans; and where some borrowers conceal the existence of assets which could be used as security, and the existence of alternative sources of finance.

The scheme is criticised on two grounds. The first major criticism concerns the personal assets condition which has two conflicting objectives: that of improving additionality (which suggests that the personal assets condition be tightened up) and that of encouraging small firms development (which might be helped by reducing the risks faced by LGS applicants (NERA, 1990). The second criticism is that the scheme is not effectively marketed and promoted by the lenders (Pieda, 1992). It is believed that an effective marketing will help to eliminate the misunderstandings concerning the operation of the scheme, the most common being the belief that the guarantee means that a business has no liability for the guaranteed element of the loan in the event of a default.

Pieda (1992) suggests the following ways in which the operation of the scheme, and thus its effectiveness, could be improved:

[i] Shifting the premium from borrowers to lenders;

[ii] Requiring a minimum 'equity stake' from borrowers, at least 25% of the project cost;

[iii] Restricting the sectoral coverage of the scheme;

[iv] More effective marketing and promotion;

[v] Improving lender practices and procedures in relation to the quality of advice and support.

It must be pointed out that since the Pieda report the DTI has made several changes to the scheme such as the exclusion of agriculture and fisheries (including the processing and marketing of agricultural products), coal, shipbuilding, steel and transport sectors (with effect from 22 March 1996) and a reduction in the number of size definitions of small firms and increasing the maximum loan term to 10 years. Manufacturing remains at a maximum turnover of £3m a year while all other sectors will have a maximum turnover level of £1.5m (with effect from 1 September 1996). These changes have impacted on both the number of loans taken out and the total volume of lending under the scheme (Bank of England, 2000).

3.7 SUMMARY

This chapter has reviewed the existing, relevant financial management literature which shows that the small firm is significantly distinct from the large firm in many respects including the combination of management and control, limited sources of finance, risk and uncertainty of the operating environment and information asymmetry. The soundness of financial management in such an environment has emerged as the most critical influence on investment decisions as well as on survival and general financial well-being in small enterprises. The chapter has also revealed that the focus of the literature on investment decision-making has been directed only towards the quantitative criteria with very little on the process of investment decision-making. Therefore, "there is a definite need for more information on the methods used by small firms to accumulate and allocate their scarce working capital resources" (Chittenden et al, 1999, p.5).

Since the small firm is not a 'scaled-down' version of a large firm, it follows that studies relating to small firms must consider the motivations, constraints and uncertainties facing small firms and recognise that these differ from those facing large firms (Spence and Rutherfoord, 2001). More so, the majority of the studies reviewed use methodological approaches which fail to incorporate the actual motives of the subjects under study and do

not help to answer the basic questions relating to process (Gibb, 1997). These methods assume that every company, whether large or small, has a single objective of wealth maximisation, with other objectives seen as subsidiary. They also fail to recognise the high levels of uncertainty, information asymmetry, and the strictly limited sources of long- and medium-tern finance which makes the operating environment of small firms extremely unpredictable.

Managers have been trained to think that investment with a positive net present value or short payback period is a desirable investment which should be made without delay. This, of course, ignores the operating environment and the future state of the economy. Conversely, conventional appraisal wisdom implies that investment with negative net present value is to be avoided. This, in turn, ignores the possibility of circumstances changing for the better. As such, not only do the traditional yardsticks not help us, they may positively interfere with our intuitions about options because these techniques are based on assumptions of a static world (Busby and Pitts, 1998). Therefore, given the investment environment facing the small firms and the non-integration of the 'human elements' in the mainstream literature, it seems therefore that the application of the textbook/large firm appraisal techniques and the separation of financing and investment decisions are clearly inapplicable to the small firm investment decision-making.

CHAPTER 4
RESEARCH METHODOLOGY

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4.1 INTRODUCTION

The research involves a qualitative methodology, which draws theory inductively from the data. Since the study started from the premise that actors' motives for their actions needed to be fully understood, a case study approach was used.

In explaining the methodology and techniques employed in the collection, analysis and evaluation of the data, this chapter adopts the following structure. Section 4.2 discusses the methodological choice. Section 4.3 gives an insight into the development of the research method. The research approach and the data collection techniques used in this study are discussed in section 4.4. Section 4.5 examines the use of case study as a useful research strategy. Section 4.6 deals with the analysis of the data. This is followed in section 4.7 by a consideration of the sample firms. Section 4.8 examines the methodological limitations, whilst section 4.9 gives the summary and emphasises the usefulness of the methodology in the small firm research.

4.2 THE METHODOLOGICAL CHOICE

A qualitative method is defined as "an array of interpretative techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world" (Van Maanen, 1983, p.9). It explores in great depth the nature and origins of people's viewpoints, or the reasons for, and consequences of, the choice of corporate performance criteria (Easterby-Smith et al, 1991). Thus, it provides powerful tools for research in management and business administration (Gummesson, 1991).

It is widely acknowledged that in the study of entrepreneurship there is a need for grounded data collection (Stockport and Kakabadse, 1992). However, little research using this methodology has in fact been undertaken (Shaw, 1999). The emphasis of social science research, particularly in management, has been on quantitative methods for some

time (Holliday, 1992). This means that small firms research has remained positivist with the consequence that our understanding of small firms and the motivation of owner-managers has not advanced as far as it should over the past decade. Gibb (1997) argues that objective studies of business requirements using questionnaires and check-lists, and generally positivist-type approaches, do little to help answer the basic questions relating to process. Without answering these questions it is impossible to recommend how practices can become more effective.

Moreover, the social world cannot be understood in terms of simple causal relationships or by the categorisation of social events under universal laws because human actions are based upon intentions, motives, beliefs, rules, and values which are not caused in "a mechanical way", and not "amenable to the sort of causal analysis and manipulation of variables that are characteristic of the quantitative research inspired by positivism" (Hammersley and Atkinson, 1995, p.8). However, this is not an attempt to discount the importance of quantitative methods, or for that matter, any other methods. They should be used where they are appropriate. In fact, in some instances both quantitative and qualitative methods should be used as supplements and for mutual verification (Glaser and Strauss, 1967). But in a study of processes, behaviour and motivations qualitative methodology enables greater and better understanding since it provides access to the meanings that drive human actions (Deakins et al, 2000).

4.3 DEVELOPING THE RESEARCH METHOD

This study was therefore designed to collect qualitative data using 'insider accounts' in a case study approach. 'Insider accounts', as used by Hammersley and Atkinson (1995), is an ethnographic approach for listening and asking questions in the context of sociological and anthropological studies. However, the researcher feels that 'insider accounts' should be developed into a research method in its own right to overcome some of the pitfalls and the shortcomings of existing small firms research. The philosophy underpinning 'insider accounts' is that the 'objects' studied are in fact 'subjects', and they themselves should

produce accounts of their world (Hammersley and Atkinson, 1995). It is also underpinned by the view that if social reality is to be understood, the researcher cannot remain distant from and uninvolved in the social phenomenon in which they are interested (Shaw, 1999). Therefore, 'Insider accounts' provide greater understanding of the small firms and the motivation of owner-managers, thus helping to answer the basic questions relating to process. A crucial feature of this approach is its capacity to elicit descriptions, explanations, and evaluations of every aspect of owner-managers' actions. Thus, 'insider accounts' generate owner-manager's knowledge which can be tapped and treated as the basis of an alternative conception of appropriate techniques for smaller businesses (Jarvis et al, 1996). It is, perhaps, for this reason that Wyer (1990) advocates the adoption of methodology as an intricate and inter-linked part of knowledge-development because "there is a glove-tight relationship between advances in knowledge and the method of attaining those advances" (p.42).

Hammersley and Atkinson's use of insider accounts derives from an over-generalist view of ethnography. The researcher builds on this approach, modifies and models it on the 'Grounded Theory' approach of Glaser and Strauss (1967). It is modified into a longitudinal approach consisting of 'sensitising proposition', 'in-depth interviewing' and 'direct observation', all of which are discussed in sections 4.4.1 and 4.4.2 below. Thus, 'insiders accounts', although its origin is in ethnography, is neither purely 'ethnography' nor 'grounded theory'. It falls short of both approaches in the following respects:-

[i] Interviews are semi-structured and not completely unstructured;

[ii] The researcher does not 'live' in the research setting for an extended period of time, but is only present sporadically, mostly during interviews;

[iii] Whilst ethnography (and indeed the grounded theory) places more reliance on 'participant' observation (Hammersley and Atkinson, 1995), the approach advocated here places more reliance on in-depth interviews. Observation is limited to what the researcher can see when present for interviews.

In this respect, 'insider accounts' is very simple to use in the small firm context since it does not exhibit the complex features of ethnography and grounded theory. This simplicity is important on the following grounds: Firstly, the protracted presence of the researcher in the research setting is curtailed. The presence of a researcher in a small firm of less than 50 employees is very conspicuous and can constitute a nuisance for the owner-manager and the employees if present for an extended period of time (Rae, 1999). Secondly, for a researcher who is constrained by the pressing need to remain in full-time employment, such as this researcher, to maintain his career and to provide financial resources, then any research approach must be such that can be conducted within the bounds of part-time research status (Wyer, 1990). Given the time constraint of part-time research, this approach is supportive and 'user-friendly'. Thirdly, 'insider accounts' has a special characteristic of inductive generalisation which allows for literature interactiveness. That is, as the process of understanding deepens, a different kind of literature may be required as key interpretative tool (Glaser and Strauss, 1967).

An important advantage of the approach is that it attempts not only to overcome some of the limitations of positivism where hypotheses are drawn from existing theory and tested against quantitative data (Jarvis et al, 1996), it also attempts to overcome some of the problems of extreme naturalism such as bias which may be caused by 'going native' (Hammersley and Atkinson, 1995). Going native means that the researcher becomes a member of the organisation and embroils in the everyday lives of the subjects, thus internalising subjects' culture and becoming unable to take dispassionate view of events, unintentionally discarding the researcher elements of the field role (Gill and Johnson, 1997). Glaser and Strauss (1967) argue that although the field worker has had, in a profound sense, to live in his research organisation, he should retain enough detachment to think theoretically about what he has seen and lived through. This detachment serves "to protect him against 'going native' while still passing as a native to a large extent, when the people whom he is studying either have temporarily forgotten his outsider status or have never recognised it" (p.226). This approach provides such detachment.

It is the methodology which breaks a small firm researcher free from the positivist stranglehold (Holliday, 1992) and ensures that owner-managers' account of their motives for their actions can be tested for relevance (Jarvis et al, 1996), thus enhancing greater understanding of small firms and the motivations and emotions of the owner-managers. 'Insider accounts', of course, share the following general characteristics with ethnography as described by Atkinson and Hammersley (1994):

- a strong emphasis on exploring the nature of a particular phenomenon, instead of testing hypothesis;

- a tendency to work primarily with unstructured (and semi-structured) data;

- investigation of a small number of cases in detail; and

- analysis of data that involves explicit interpretation of the meanings and functions of human actions, the product of which mainly takes the form of verbal descriptions and explanations, with quantification and statistical analysis playing a subordinate role.

4.4 INSIDER ACCOUNTS: THE APPROACH

Twenty firms were contacted initially by letter together with a covering letter from the researcher's Director of Studies on the University letter-headed paper. They were asked whether they would be prepared to assist with the study. The intention was to select 8 companies for the case study. A few of these firms wrote back indicating either that they were unwilling to assist in the study or that they were in liquidation and therefore no longer trading. In the majority of cases no reply was received at all. Follow-up telephone calls were made. Again, whilst many firms declined to assist, a few welcomed the study (mostly through the help of a 'gate-keeper') and appointments were made for the exploratory interviews when the 8 firms in the case study were identified as discussed in section 4.7 below.

In view of the fact that "longitudinal research inside the organisation has been noticeable only by its absence in the small firm sector" (Deakins et al, 2000, p.213) this research was conducted longitudinally during which owner-managers were interviewed and observed three times at different stages over a period of one year and case material built up on each company. A good relationship was maintained with each business manager since contact was to continue at intervals over one year and for the data collected to be of high quality and also for confidential data to be shared without fear. This method, amongst other benefits, enabled the aims of the research to be more effectively achieved. It was this process of inductive generalisation, going through a process of 3 interviews with the companies which allowed for literature interactiveness (Glaser and Strauss, 1967). It was much more of an inter-relationship than a one-off visit so that as the process of understanding deepened, a different kind of literature was required to provide key interpretative tool. Justifying the use of longitudinal studies, Pettigrew (1985) points out that research data/ideas usually evolve in an incremental way through a continual process of negotiation with those, who may use, or be affected by, the results of the study.

4.4.1 Interviews

The first interview took the form of sensitising propositions generated through literature review and a brain storming exercise which were semi-structured and exploratory in nature (Jarvis et al, 1996). They established the initial boundaries for the research as well as providing details of the owner-managers' background and personal biographies such as age, education and training, and experience. They also focused on company origins, owner-manager's definition of their business objectives and their attitude to growth, and in particular the progress, plans and problems of the business. This helped to throw up the major issues of the research and was also useful in building rapport (Gill and Johnson, 1997). The interest in the background of owner-managers is in whether certain types of background/characteristics influence investment decision-making. The organisations to enter for detailed study were identified at this stage. Hammersley and Atkinson emphasise the importance of sensitising propositions:

> *"..it gives the user a general sense of reference and guidelines in approaching empirical instances... Sensitizing concepts are an important starting point; they are the germ of the analysis, and they can provide a focus for further data collection" (Hammersley and Atkinson, 1995, p.212).*

The second and third interviews were in-depth and focused on investment decision making, sources of investment finance and the difficulties in raising such finance, investment techniques and factors affecting choice of techniques. Although owner-managers were the prime focus of attention as the key personnel, other key informants such as key employees (where possible), business advisors and equipment suppliers for all eight case firms were also interviewed. This helped in checking and stabilising conflicting evidence (Stockport and Kakabadse, 1992). The interviews were semi-structured and followed a detailed interview plan which was designed to enable firstly, flexibility which enabled the topics to be covered but not necessarily in any prescribed order, and secondly, the opportunity to follow up issues raised during the course of the interviews (Holliday, 1992). Jones (1985) points out that in preparing for interviews researchers will have, and should have, some broad questions in mind, but argues that although they are to some extent tied to their frameworks they should not be tied up by them. Deviation from the sequence should be provided for so as to follow interesting lines of inquiry and to facilitate an unbroken discussion (Jones, 1985).

The interviews were allowed to flow as conversations with questions designed to elicit free flowing narratives (Jarvis et al, 1996) around investment decision making. Respondents were allowed freedom in their responses and were encouraged to elaborate on their comments through the use of non-directive probes (Stockport and Kakabadse, 1992). The aim was to facilitate a conversation, giving the interviewee a good deal of leeway to talk in their own terms (Spence and Rutherfoord, 2001; Gill and Johnson, 1997). Interviews lasted for about an hour, but the second and third interviews lasted considerably longer than this as matters were dealt with in detail. With the agreement of the owner-manager all the interviews were tape recorded, on the understanding that the material provided would be treated as confidential.

The importance of interviews is the opportunity for the researcher to probe deeply to "uncover new clues, open up new dimensions of a problem and to secure vivid, accurate inclusive accounts that are based on personal experience" (Burgess, 1982, p.107). Silverman (1993) sees interviews as a method which "highlights the advantages of qualitative research in offering an apparently 'deeper' picture than the variable-based correlation of quantitative studies" (p.15). Silverman also views interviews as being central to making sense of our lives, pointing to how much interviews are a central (and popular) feature of mass media products, from 'talk shows' to 'celebrity' interviews, and concludes that:

> *"Perhaps, we all live in what might be called an 'interview society' in which interviews seem central to making sense of our lives" (Silverman, 1993, p.19).*

Therefore, interviews provide an understanding of "how individuals construct the meaning and significance of their situations from the complex personal framework of beliefs and values, which they have developed over their lives in order to help explain and predict events in their world" (Easterby-Smith et al, 1991, p. 73). The social context of interview is intrinsic to understanding the data collected. This is why Hammersley and Atkinson consider interviews in ethnographic research as social events based on mutual participant observation:

> *"Interviews must be viewed as social events in which the interviewer (and for that matter the interviewee) is a participant observer"(Hammersley and Atkinson, 1995, p.156).*

4.4.2 Observation

Apart from asking questions, the researcher watched, listened and learned (Holliday, 1992). This is what the literature calls direct observation. It refers to observation carried out when the researcher is in the scene being studied (Silverman, 1993). Hammersley and Atkinson (1995) argue that not all insider accounts are produced by informants responding

to questions: they may be unsolicited. The presence of a researcher in the research setting creates the opportunity for direct observations of some relevant behaviours, and such observations serve as yet another source of evidence in a case study (Yin, 1994). Observation has its origins in ethnography, where the researcher would live among the subjects under study (Easterby-Smith et al, 1991; Rosen, 1991). It is regarded by Gummesson (1991) as a highly empirical and inductive method of data gathering. In the course of visits, observations were made through watching and listening and in-depth interviews documented not only in the form of notes but also tape recordings (Stockport and Kakabadse, 1992).

Observations were limited to what the researcher could see when present for interviews. They were carried out through what is known as 'interrupted involvement' (Easterby-Smith et al, 1991). This is observation where the researcher is present sporadically mostly during interviews, moving in and out of the organisation to deal with other work or to conduct interviews with, or observations of, different people across a number of different organisations (Easter-Smith et al, 1991). Observation allowed access to what owner-managers actually did in relation to what they said they did in the interview or what the theory and literature have suggested (Mintzberg, 1973; Holliday, 1992). For example, owner-managers were observed to liaise with key employees and or equipment suppliers in making investment decisions whilst they claimed in the interview that they based their decisions purely on gut feeling without liaising with anyone. Gummesson (1991) distinguishes between the way we claim we think and operate ('espoused theory') and the way we actually think and act ('theory-in-use'). Observation can enable the researcher to penetrate the various complex forms of "misinformation, fronts, evasions and lies that are considered endemic in most social settings, including business" (Gill and Johnson, 1997, p. 113).

During observation the researcher also looked out for the symbolic language, including body language. Non-verbal language is of equal importance as real feelings are constantly communicated, in addition to verbal language, in the language of behaviour (Hall, 1973).

This language included postures, gestures, facial expressions, etc. McCormack (1984) stresses the importance of 'silent language' in these terms:

> *"I will often fly great distances to meet someone face-to-face, even when I can say much of what needs to be said over the phone... I want to form impressions based on what I observe even more than what I hear. After all, the impressions you have from meeting someone in person are often quite different from that formed in speaking over the phone" (McCormack, 1984, p.23).*

The combination of interviews and observation used in this study is known as methodological data source triangulation (Hammersley and Atkinson, 1995) because it enabled the researcher to explore the differences between what owner-managers actually did and what they said they did, thus offering a degree of verification (Holliday, 1992). Used in navigation, survey, and civil engineering, The New Encyclopedia Britannica defines triangulation as "a technique for precise determination of distances and angles for location of a ship's or aircraft's position, and in such endeavours as road building, tunnel alignment and other construction". In the social sciences, triangulation is used for the application of two or more methods on the same research problem in order to increase the validity and reliability of the results (Gummesson, 1991). A combination of different methods eliminates any defects associated with any one method (Dalton, 1964), and the data from each can be used to illuminate the other (Hammersley and Atkinson, 1995). Schein (1969) considers a combination of interviews and direct observation to be an optimal approach for the study of process. The approach was conducted in a case study context discussed below.

4.5 CASE STUDY RESEARCH

A case study is defined as:

> *"an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p.13).*

Case study research is increasingly becoming widespread in management research, where a wide range of information gathering techniques, such as interviews and observation can be used (Gummesson, 1991). Its unique strength lies in its ability to deal with a full variety of evidence beyond that which might be available in the conventional historical study (Yin, 1994). It is a valuable research tool given its ability to measure and record behaviour (Chetty, 1996). Yin (1994) argues that case studies are the preferred strategy when 'how' or 'why' questions are being asked about a contemporary set of events over which the researcher has little or no control, whilst Gummesson (1991) views case study research as being a useful strategy for studying processes of decision making in companies. Schramm cites the topic of 'decisions' as being the major focus of case studies:

> *"the essence of a case study ... is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented..." (Schramm, quoted in Yin, 1994, p.12).*

Case studies are a good means of building concepts and theories in organisational research (Eisenhardt, 1989). They also provide the opportunity for a 'holistic view' of process. According to the holistic view the whole can only be understood by treating it as the central object of study and not by breaking it down in fragments in the reductionist belief that they can be fitted together, like a jigsaw puzzle, to form a whole picture:

> *"The detailed observations entailed in the case study method enables us to study many different aspects, examine them in relation to each other, view the process within its total environment and also utilise the researcher's capacity for [understanding]. Consequently, case study research provides us with a greater opportunity than other available methods to obtain a holistic view of a specific research project" (Valdelin; quoted in Gummesson, 1991, p.76).*

However, Yin (1994) argues that the holistic design is advantageous when no logical sub-units can be identified and when the relevant theory underlying the case study is itself of a holistic nature. He points out that there are potential problems when a global approach allows a researcher to avoid examining any specific phenomenon in operational detail.

Case study research also allows for a historical analysis of an organisation (Gummesson, 1991). However, Gummesson argues that the purpose of systematic historical analysis is not to derive some form of 'historical truth' but rather to reflect historical diversity as a stimulus to action; to create new knowledge by studying earlier processes of intellectual development; to develop new, special types of competence; to break a vicious circle; and seek to understand the roots of growth. Kjellen and Soderman put this in perspective:

> *"it is not possible to understand the actual state of an organisation without an insight into the company's history, i.e. the processes that have led up to the company's present condition. Moreover, it is inherent to the nature of organisations and other social systems that some of their principal characteristics cannot be readily observed at a surface level. It is difficult to arrive at any conclusions without studying their behaviour over a fairly long period of time" (Kjellen and Soderman; quoted in Gummesson, 1991, pp.87-88).*

Historical analysis can be a tool to create a vantage point for development since it enables studies of specific past policies, strategies or decisions to determine their relevance in the current contexts (Smith and Steadman, 1981). This approach therefore enabled the researcher to obtain details of the owner-managers' background, business objectives, their attitude to growth, progress, plans and problems of the business. These details enhanced the researcher's pre-understanding since "statistical and mathematical forecasting look for patterns and projects look for a trend" (Gummesson, 1991, p.91). However, in dealing with historical matters, Gummesson points out that analogy must not be assumed since for many new markets there are no analogies. The case study evidence was inductively analysed as discussed in the next section.

4.6 DATA ANALYSIS

Data analysis consists of examining, categorising, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin, 1994). Schatzman and Strauss (1973) point out that qualitative data are exceedingly complex, and not readily convertible into standard measurable units of objects seen and heard; they vary in level of

abstraction, in frequency of occurrence, in relevance to central questions in the research. They also vary in the source or ground from which they are collected. Therefore, analysing this type of data involves "thinking that is self-conscious, systematic, organised, and instrumental. It is thinking, objectified and operationalized..., an interactive process between the researcher and his experience or data..." (Schatzman and Strauss, 1973, p.109).

Yin (1994) also stresses the point that analysing case study evidence is especially difficult because the strategies and techniques have not yet been well developed. Consequently, there are no "formulas or cookbook recipes to advise on the 'correct' or 'best' way of inductively analysing qualitative data" (Shaw, 1999, p.65). The absence of "well-established, widely used techniques for qualitative analysis creates problems for researchers" (Curran and Blackburn, 2001, p.103), since it is much more difficult and time-consuming than in quantitative research. Cresswell (1994, p.153) concludes that in qualitative research:

> *"The process of data analysis is eclectic; there is no 'right way'... Data analysis requires that the researcher be comfortable with developing categories and making comparisons and contrasts".*

The data in this study were collected and analysed using an inductive process of recording, tabulation, coding, and constantly comparing emerging codes and categories with data until meaningful ideas emerged (Glaser and Strauss, 1967; Gill and Johnson, 1997). The process of analysing the data began as soon as the researcher started collecting data. It was ongoing and inductive as the researcher was trying to make sense of the data collected (Shaw, 1999). The data were tape-recorded for each respondent and verbatim transcripts made. This permitted detailed comparison between respondents' accounts and the identification of common features and practices, and allowed the analysis to be composed within the grammar and cognitive structures of the owner-manager (Atherton et al, 1999). The data being qualitative were convincing enough to allow a conceptual rather than descriptive analysis particularly focusing on how the respondents evaluated their actual

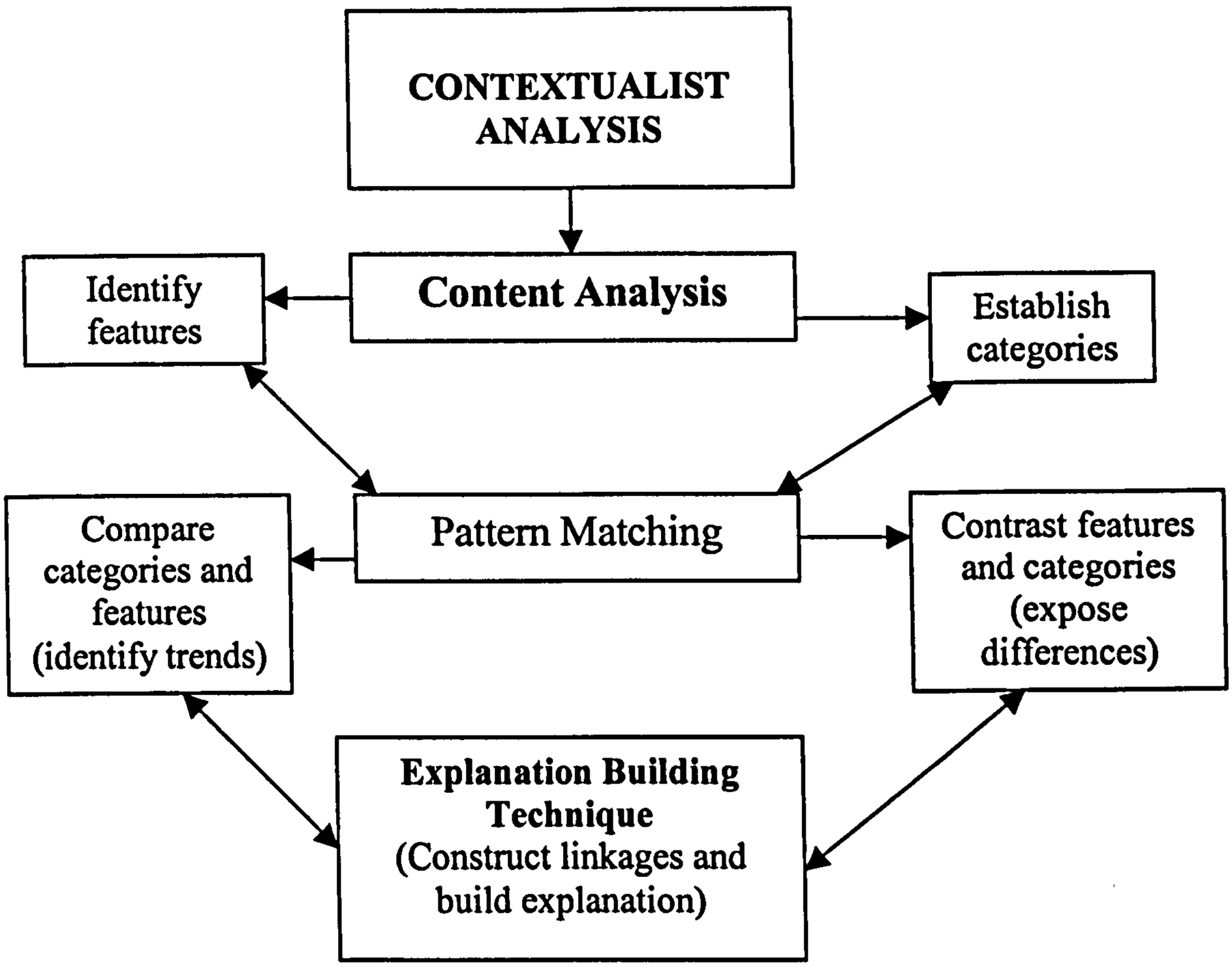
investment behaviour. This process is referred to as contextualist analysis (Pettigrew, 1985).

4.6.1 Contextualist Analysis

Contextualist analysis is an analytic tool which explores an organisation as a continuing system, taking into account the history and future of the organisation and relating them to the present (Pettigrew, 1985). Pettigrew emphasises that the key to contextualist analysis lies in positioning and establishing relationships between context, process and outcome. In this type of analysis, the process or processes under investigation are described, which, in this case, are processes of decision-making. Thus, contextualist analysis provides greater understanding of the behaviour of business owners and enables new knowledge to be created (Gummesson, 1991).

Contextualist analysis utilises a set of separate techniques, but which are theoretically and empirically interrelated (Wyer, 1990). The version of contextualist analysis employed in this study involves identifying features and creating a set of categories (content analysis, which is described in [i] below). The second aspect of contextualist analysis is the pattern-matching technique (as described in [ii] below) which compares features and categories, and exposes any differences and trends (Silverman, 1993). Having established the levels of analysis and categories in the context, the task of describing and analysing any variability across the contexts which the processes are unfolding is carried out. Trends and developments in the various contexts are also described and analysed through time. Pettigrew (1985) indicates that this is the crucial aspect of contextualist analysis, i.e. the way categories in the vertical (economic) analysis are linked to the processes under observation in the horizontal (industry) analysis. This is known as explanation-building technique described in [iii] below.

Fig. 2: The inter-relatedness of the techniques



[i] Content Analysis:

Content analysis is an accepted method of textual investigation which involves establishing categories and then counting the number of instances in which those categories are used in a particular item of text (Silverman, 1993). For example, categories of key elements of the investment process, techniques used and categories of key players in the decision-making process were established from taped interviews. Content analysis pays particular attention to the issue of the reliability of its measure and to the validity of its findings (Hammersley and Atkinson, 1995).

In this study, content analysis was limited to the first level of listening to and transcribing the tapes, reading the transcripts to list the features associated with the

investment behaviour of each owner-manager and establishing categories. It did not involve counting numbers of instances or frequency of occurrence. The initial categories were then developed into a systematic typology, which enabled clarification and modification of the categories already identified, as well as helping to identify other categories that were of importance (Hammersley and Atkinson, 1995).

[ii] Pattern-matching:

Individual owner-manager's definition of their business objectives, their attitude to growth, their background, and investment behaviour were collated in order to explore common features, variations and practices. In pattern-matching "one looks to see whether any interesting patterns can be identified; whether anything stands out as surprising or puzzling; how the data relate to what one might have expected on the basis of common-sense knowledge, official accounts, or previous theory; and whether there are any apparent inconsistencies or contradictions among the views of different group or individuals, or between people's expressed beliefs or attitudes and what they do" (Hammersley and Atkinson, 1995, p.210). The aim was to compare and relate what happened in different organisations in order to identify stable features (Shaw, 1999). As this process of systematic comparison developed, so the mutual relationships and internal structures of categories were more clearly displayed. Shaw (1997a) describes this process as comparative analysis. Yin (1994) suggests that for case study analysis, one of the most desirable strategies is to use a pattern-matching logic:

> *"Such a logic...compares an empirically based pattern with a predicted one (or with several alternative predictions). If the patterns coincide, the results can help a case study strengthen its internal validity. ...if the results fail to show the entire pattern as predicted...[the] initial proposition would have to be questioned" (Yin, 1994, pp. 106-107).*

[iii] Explanation-building technique:

Schatzman and Strauss (1973) argue that the most fundamental operation in the

analysis of qualitative data is that of discovering significant classes of things, persons and events and the properties which characterise them, and linking one with another, "at first with 'simple' statements (propositions) that express the linkages", and continuing "this process until [the] propositions fall into sets, in an ever-increasing density of linkages" (p.110).

A series of linkages were constructed to link the concepts to their characteristic behaviour, and to the implicit and explicit explanations supplied by each respondent. This is also akin to Yin's (1994) explanation-building technique, the goal of which is to analyse the case study data by building an explanation about the case through a set of causal links, which reflect some theoretically significant propositions. In a multiple-case study such as this study, the aim was to build a general explanation, based on cross-case analysis, that fits each of the individual cases, even though the cases vary in their details (Schatzman and Strauss, 1973).

Thus, contextualist analysis made it possible to develop a profile for the actual investment behaviour of each owner-manager in the case study, as well as to identify the patterns in order to produce compelling analytic conclusions and to rule out alternative interpretations (Yin, 1994). Clearly, patience, hard work and the ability to cope with ambiguity were required (Gill and Johnson, 1997). The inductive nature of the analysis and the complexity of the data involved meant that the number of firms in the case study must be carefully determined (Shaw, 1999). The composition of the case study firms is discussed below.

4.7 THE SAMPLE FIRMS

Given that the research was going to be inductive, involving longitudinal data collection over a 12-month period, a sample size of 8 firms was decided upon for the qualitative case study. The choice of 8 firms was influenced by Eisenhardt (1989, p.545) which argue that "...while there is no ideal number of cases to include in the sample, a number between 4

and 10 usually works well. With fewer than 4 cases it is often difficult to generate theory..., with more than 10 cases it quickly becomes difficult to cope with the complexity and volume of the data". The firms consisted of those with less than 50 employees. The firms were principally those based in London.

To be included in the study the firms had to be in existence for at least a year and firms of the same age were avoided. The firms also had to be independently owned since subsidiary companies may adopt investment decisions of parent companies which are not themselves small companies. The firms also had to be of as many different sizes of firms as possible up to 50 employees. Therefore, the sample was stratified into three employee groups of 1-9, 10-19, and 20-49 employees, with at least one firm selected in respect of each of the two industries from each group. Whatever the number and composition of sample firms, the adoption of any research method often involves trade-offs (Shaw, 1999), and in common with any research project, this study has its own methodological limitations which are discussed below.

4.8 METHODOLOGICAL PROBLEMS

4.8.1 Generalisation, Reliability and Validity

The qualitative method of sampling is not necessarily representative, but its strength lies in the more detailed focus and the commitment of the respondents, and provides rich data for the investigation of investment decision practices that are actually used by small firms. However, the aim of the study was not necessarily to seek representativeness but to gain insight into the actual behaviour of owner-managers with respect to investment decision making (Deakins et al, 2000). However, this study does not go as far as the 'grounded theory' approach of Glaser and Strauss (1967), who argue that studies based on a limited number of cases, using a qualitative method, can have some degree of general applicability:

> *"Since accurate evidence is not so crucial for generating theory, the kind of evidence, as well as the number of cases, is also not so crucial. A single case can indicate a general conceptual category or property; a few cases can confirm the indication" (Glaser and Strauss, 1967, p. 30).*

Normann (quoted in Gummesson, 1991, p.79), in support of Glaser and Strauss, argue that "the possibilities to generalise from one single case are founded in the comprehensiveness of the measurements which makes it possible to reach a fundamental understanding of the structure, process and driving forces rather than a superficial establishment of correlation or cause-effect relationships". In discussing the results of using his method Mintzberg (1973) reflects on the validity of such a small sample, but found that support for the choice of only five chief executives was provided in the high consistency of the data from all five cases. Yin (1994) argues that case studies (as with experiments) rely on analytical generalisation, as opposed to statistical generalisation. In analytical generalisation, the researcher is striving to generalise a particular set of results to some broader theory (Yin, 1994). By the same token, Gummesson (1991) points out that "there is a substantial risk that generalisations in a social context act as a prejudice that effectively blocks understanding rather than constituting supportive pre-understanding" (p.85). He concludes that:

> *"As long as you keep searching for new knowledge and do not believe you have found the ultimate truth - rather the best available for the moment - the traditional demand for generalisation becomes less urgent" (Gummesson, 1991, p. 86).*

Reliability refers to the possibility that another researcher would reach the same conclusions by replicating the original research using the same subjects and the same research design under the same conditions (Cresswell, 1994; Gill and Johnson, 1997). However, Bryman (1989) argues that replication studies are seldom carried out and therefore reliability based on replication is more assumed than real.

Validity is defined by Easterby-Smith et al (1991) as the extent to which we can be sure that a test or instrument measures the attribute which it is supposed to measure. Gill and Johnson (1997), however, distinguish between internal and external validity. External

validity refers to the ability to generalise beyond the immediate context of the study to other settings. In other words, the extent to which the findings of a study can be applied outside the immediate context and circumstances studied. This is further distinguished between 'population' validity and 'ecological' validity (Gill and Johnson, 1997). Population validity concerns the extent to which it is possible to generalise from the sample of people involved in the research to a wider population. Ecological validity concerns the extent to which it is possible to generalise from the actual social context in which the research has taken place to other contexts or settings. It is sometimes argued that since ethnography often entails an intensive study of a small number of cases its claims to population validity are limited. Whilst, this apparent limitation is thoroughly disputed by Mitchell (1983), the main strength of ethnography is considered to be ecological validity (Gill and Johnson, 1997). Internal validity, on the other hand, refers to the extent to which a causal relationship can be proved between stimulus and response factors. However, according to Easterby-Smith et al (1991) validity in "phenomenological studies" relates to the extent to which the researcher has gained full access to the knowledge and meanings of his/her informants/respondents and not necessarily the number of cases studied.

4.8.2 Access

Access is identified by Gummesson (1991) as the researcher's number one problem. Access refers to the ability to get close to the subjects of study, to really be able to find out what is happening (Hammersley and Atkinson, 1995). This problem looms large in qualitative studies of small firms because securing the consent of hard-pressed employers and getting access to small companies with a view to undertaking qualitative research over a long period of time is extremely difficult (Ram and Holliday, 1993; Curran and Blackburn, 2001).

In this study, access means direct access to the decision-making processes within the companies. It also means securing the support of the owner-manager (Ram and Holliday, 1993). Gaining entry into the companies used in this study was facilitated by the use of

contacts, which the literature refers to as 'gate-keepers' (Stockport and Kakabadse, 1992). Access was effectively negotiated with the organisations involved in return for preservation of anonymity and confidentiality, and a feedback on the study (Gill and Johnson, 1997).

4.8.3 Acceptance

Once access has been gained into an organisation, the next problem is to obtain co-operation and trust inside the organisation. Ram and Holliday (1993) argue that the negotiation of access is not a once-and-for-all agreement but a continuous process of winning people's trust. To obtain acceptance and trust it was necessary to develop and maintain a good rapport and relationship with the respondents (Stockport and Kakabadse, 1992). It was also necessary to show a great deal of understanding of, and sympathy for, the pressure the owner-managers were going through (Glaser and Strauss, 1967). Confidentiality of participant companies and informants was assured and maintained (Gill and Johnson, 1997; Hammersley and Atkinson, 1995; Stockport and Kakabase, 1992).

Glaser and Strauss (1967) argue that the researcher's display of understanding and sympathy for the mode of life of his subjects will permit sufficient trust in him so that "he is not cut off from seeing important events, hearing important conversations, and perhaps seeing important documents" (p.226). Easterby-Smith et al (1991) refer to acceptance as 'getting on' which is a function of the researcher's personality and skills:

> *"Getting on within an organisation is largely a function of the personality of the researcher, and whether he or she is genuinely curious to find out what is happening; it is also a function of the researcher's skills in dealing with what are sometimes very complex interpersonal relationships" (Easterby-Smith et al, 1991, p.62).*

4.8.4 Ethical Issues

Ethical issues arise from the type of relationship existing between the researcher and the organisation/subjects he or she is studying (Gill and Johnson, 1997). One of the

fundamental problems encountered with qualitative methodology is the ethics of covert research (Easterby-Smith et al, 1991). In this study, key informants such as major suppliers of equipment and business advisors were used. The ethical dilemma is whether information obtained from such sources constitute covert operation since participant small firm owners were not aware that such informants would be involved in the study (Holliday, 1992).

The eventual publication of the findings of a researcher's work can lead to a number of ethical problems if the identity of participant companies and informants are not protected (Morgan, 1972), or if they object to the publication of the work or any part of it, either because passages are found to be offensive or suggests a negative public image for the company (Whyte, 1984). In this research, assurances for confidentiality were given in the event of publication; no publication will enable the identity of the individual companies to be discovered.

4.8.5 Bias

Bias is another issue of concern in qualitative research (Stockport and Kakabadse, 1992). The mere presence of a researcher in the research setting may interfere with the research process in the sense that people may behave quite differently when they are aware that they are under observation (Gill and Johnson, 1997). It is also argued that overt research would only reveal (official) expectations i.e. what the subjects under study want you to know (Dalton, 1964). Sometimes they may even "put on a show" (Hargreaves, 1967, p. 197). There is also the issue of interviewer bias. This is a situation where the interviewer imposes his or her own reference frame on the interviewee, both when the questions are asked and as the answers are interpreted (Easterby-Smith et al, 1991). This type of bias can be avoided by distinguishing between unprompted and prompted responses when recording data, and by asking those observed for their own interpretation of events (Stockport and Kakabadse, 1992).

Hammersley and Atkinson (1995) suggest that to deal with the issue of bias a degree of reflexivity is necessary. Reflexivity means that researchers must come to terms with their own bias both within the research setting and afterwards when interpreting the findings since "researchers are part of the social world they study" (p.16) and "there is no way in which we can escape the social world in order to study it" (p.17). In this research the possibility of bias was minimised through the use of the research method advocated by the researcher and by being present sporadically within the organisations, thus avoiding 'going native'. Interview bias was also eliminated by avoiding leading probes, and asking those under observation to describe and provide their own interpretation of events.

4.9 SUMMARY

This chapter has presented and discussed the qualitative methodology used in this study. The chapter has shown how 'insider accounts' enabled a better understanding of processes, behaviour and motivations because it allowed access to the meanings that guide human actions. A case study approach was the preferred strategy since the underlying issues were not always clear, since 'how' and 'why' questions were being posed, and since the focus was on processes within some real-life context. Thus, the methodology provided a means of gathering better quality and rich data which enabled greater knowledge and understanding of the small firms and entrepreneurship and, it is hoped, will enhance better policy formulation and advancement.

This approach has many advantages but also some limitations such as gaining access, acceptance, bias, and, of course, some ethical issues. However, in this study steps had been taken to minimise the effects of these limitations. The combination of interviews and direct observation, of not only the owner-managers but also other key informants, enabled the researcher to get beyond a one-dimensional picture, and to develop a deeper understanding of the investment policies and procedures operated by the companies under

study. It is also believed that they have enhanced the validity of the research findings and the resulting conclusions.

In taking my research forward 8 companies were studied longitudinally over a period of 12 months and case materials built up in respect of each company. The companies were interviewed and observed 3 times over the 12 months period. The dates of the interviews and the length of time spent in each company in respect of the interviews are shown in appendix 10. Since an enormous amount of data was generated by the qualitative research method described in this chapter, the material from the case study, which demonstrates the substantive context of the research and how the research method was applied, is presented as appendix 1. The next chapter presents an analysis of the investment decision-making process in case study firms.

CHAPTER 5
RESULT 1: ANALYSIS OF INVESTMENT DECISION-MAKING PROCESSES IN CASE STUDY FIRMS - APPRAISAL

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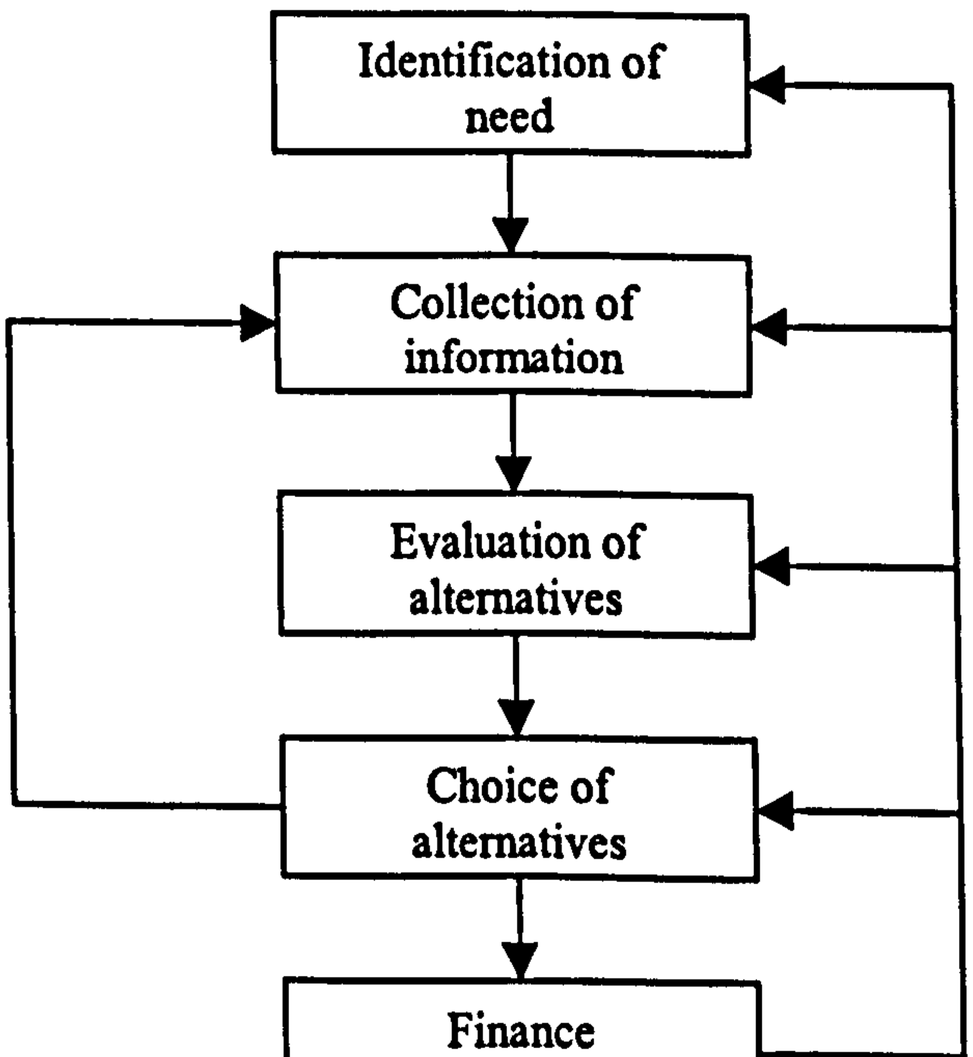
5.1 INTRODUCTION

The word 'process' is defined in the Oxford dictionary as "a series of actions or operations used in making, manufacturing, or achieving something". The term 'process' is used in this study to mean how and why decisions are made. It involves identifying key elements in decision-making and how they interrelate with each other. Therefore, the process of decision making is the way in which decisions are made, recognising the importance of resources, experience, the development and management of relationships, and the level of strategic awareness, as distinct and key entrepreneurial competencies. The starting point of this analysis is that small firms can be conceptualised as a bundle of processes which constitutes series of actions that are grouped because one causes or leads onto another (Atherton et al 1999). The diagram below represents a simple model of a decision-making process inductively derived from data collected initially from owner-managers before they were triangulated with data from other sources and with notes from direct observation.

Fig. 3: A simple model of the investment decision-making process



The key elements of the decision-making process and the nature of the inter-linkages between those elements are explored in the sections that follow. It is not suggested that owner-managers necessarily go through this sort of sequence and stages in a rational planning type of approach. Actually, towards the end of the process it becomes less clear with interconnections more complex than at the beginning (see Fig. 8 and 9). Also as shown in the diagram above, in a small firm, investment decision and financing decision can not be separated because the process of financing is inter-related or bound up with the actual decision itself, not least in the printing sector. However, using existing literature (e.g. Lumby, 1994; Pike and Neale, 1993) to provide a framework for data analysis and presentation, the thesis makes a distinction between appraisal and financing in this chapter and the next, although they are inter-linked as a process in practice.

This chapter is concerned with research objectives 1 and 2 and provides answers to research questions 1 to 4. Although one of the aims of this thesis is to distinguish between investment decision-making process and methods for different types of asset, it has not been possible to give equal space for all types of asset. This is because owner-managers approached decisions about car leasing, office equipment and the acquisition of premises as a routine process since they have made such decisions many times before. Therefore, most of the discussion is focused on production equipment mainly because owner-managers paid more attention to such assets due to the presence of greater uncertainty arising from the influence of the external environment. However, a summary of the decision-making process for different types of asset is provided in section 5.7. By using empirical data to describe the process of investment decisions in the case study firms, the findings presented in this chapter contribute not only towards the provision of insights and understanding of the investment decision-making process in small firms but also, to small firm financial management literature in general. The importance of each process varied according to the experience of the owner-manager and the nature of the equipment concerned i.e. whether it is a new digital technology or conventional equipment or whether it is for expansion or for replacement.

5.2 IDENTIFICATION OF NEEDS

The investment decision-making process in the eight case study firms began with the identification of investment needs. The Oxford Dictionary defines need as "the circumstances in which a thing or course of action is required". Surely need involves either:

(a) planned - replacement;

- expansion,

or

(b) unplanned -replacement (e.g. breakdown equipment, and inadequacy of existing equipment), and

-expansion (e.g. responding to new market opportunities).

It must also be mentioned that in some cases there was no real attempt to assess needs as such, being basically a response to some pressure or some suggestion from equipment suppliers or others (e.g. peers) that perhaps the machines need to be upgraded. This suggests that, in behavioural sense, the firms don't necessarily go through these different stages. The process of this stage is discussed in the next two sub-sections.

5.2.1 Circumstances in which firms invest

To determine the real investment motivation, the firms in this study explained in detail the circumstances in which they invest in capital equipment. This includes investment to increase capacity, to increase efficiency/cost effectiveness and to keep up with technology. The important features and categories of the rationale for investment, reflecting their implicit strategies were established and listed in Table 5.1 below using content analysis. The data were interpreted and grouped into the three categories using existing literature such as Smallbone et al (1997) as a key interpretative tool. This is referred to as 'inductive generalisation' in the methodology chapter.

Table 5.1: Rationale for investment

Printing

Company 1	Company 2	Company 3	Company 4
To increase capacity: "To get one step ahead of the game because you 've got to be able to offer something unique"; **To keep up with technology:** "Technology pulls us along basically. That's what happens. Since the Apple Mac had taken off everything else just follows suit, really".	**To keep up with technology:** "To remain in business, as simple as that. The printing industry is extremely competitive...and if you don't keep a competitive edge in price and service and products, then you know you 've got a problem. So that the reason for investment is to stay in business, to be there".	**To increase efficiency/cost effectiveness:** "To rationalise the production process, cutting down on a number of operations"; "To reduce the unit cost of production, reducing the amount of time spent on a particular job. This follows from the 'rationalisation' to a certain extent".	**To increase efficiency/cost effectiveness:** "To save taking on extra staff because you do it yourself. We can actually start typesetting our work, colour separation, scanning, cover everything to the final job, and it's just a few of us".

Clothing

Company 5	Company 6	Company 7	Company 8
To increase efficiency/cost effectiveness: "It's client driven. It's also for the reason of cost-effectiveness. We have to have the infrastructure and so therefore we have to continually invest in the infrastructure to be able to provide the service to the clients".	**To increase efficiency/cost effectiveness:** "To keep up with competitors. Our main competitors are abroad with cheap labour such as Morocco, Yugoslavia and Rumania";	**To increase efficiency:** "To facilitate production by providing the necessary equipment. Obviously, some are for updating our existing equipment. The more sophisticated a machine is the greater its manufacturing capacity".	**To increase capacity:** "To increase production and turnover. They are all standard machines and they are used for increased capacity".

[i] To increase capacity

The analysis of data collected from both owner-managers and key employees, whereby a comparison was made to identify any apparent inconsistencies or contradictions, found that Companies 1 and 2 invested in order to increase in-house production capacity in order to reduce the need to put out a certain type of work. This was mainly because these companies were the best performing printing firms in the study with turnover of £3 million and £2 million, respectively. This supports Smallbone et al (1997) which concluded that the best performing companies were far more likely to invest in equipment that represents a more fundamental upgrading of their production capacity (71% of 'high' and 'strong growth' firms compared with 19% of 'stable' and 'declining' firms). The idea of keeping work in-house was emphasised by the owner-manager of company 2. In identifying investment need they considered the amount of work that they are contracting out and whether they want to enter new markets. The Five-colour press recently purchased in this company is a typical example. They checked through everything they had done for the past twelve months and worked out all the work they had undertaken - from single colour to five colours. They worked out what they were sending out and what they could do in-house and decided that they were better off with a machine with quicker turnout, slightly cheaper price and cheaper plate. As most of their work was between two colours and five colours, the Five-colour machine was the ideal situation. The owner-manager explained it as follows:

> *"You look at the work you 've already got and see whether you can do it more economically with a new piece of equipment or you have found the market outside is telling you that you haven't got the equipment to do that specific job. How much of it you are sending out and whether you want to get into that market".*

The interpretation of this is that although the owner-manager of this company is motivated by the need to increase capacity he brings forward his experience of the industry and the trade to identify the investment need by examining whether there is demand for the product, the amount of work he has done in the past, either in-house or

contracted out, and deciding based on that experience. In other words, learning from his experience.

[ii] To increase efficiency/cost effectiveness

The analysis also revealed that, apart from Companies 1 and 2, the rest of the case study firms were typically investing to replace assets which had broken down and were no longer working efficiently or which were to meet the service needs of a particular customer, rather than as part of a planned process to replace assets with their modern equivalent. This meant investing to increase efficiency by improving labour productivity, using materials more efficiently, controlling cost and improving the quality of output. In Smallbone et al (1997) a narrower emphasis on investing to replace equipment, or simply to keep up with competitors, was much more dominant in the weaker performing companies (73% of 'stable' and 'declining' firms compared with 21% of 'high' and 'strong growth' companies). Being small firms, the possibility of raising prices was very remote so the tendency was to control cost in order to guard profit margin. In this regard, case firms were investing, among other reasons, for cost-effectiveness.

The concept of cost-effectiveness was expanded upon by the owner-manager of Company 3. For this company the main reason for investing in capital equipment was to "rationalise the production process", by cutting down on the number of operations. For example, if a single-colour machine is being used and most of the work is to print 3 colours, it makes sense to have a machine that prints 3 colours in one go rather than printing one colour at a time. It reduces 'make-ready' time but requires a higher initial outlay. In North et al (1997) the majority of manufacturing SMEs (70%) that had introduced some new type of production equipment claimed that it had reduced production time by increasing efficiency in the use of labour.

[iii] To keep up with technology

Rapid technological development had a significant impact on the printing case study firms, especially Companies 1, 2 and 3, and to a lesser extent on the clothing case study firms, and these firms needed to keep abreast with these changes. The reason is to do with customer expectation regarding speed of turnaround and quality of products. These were better performing companies investing in either new technology or computer controlled equipment, which facilitates faster make-ready times. Smallbone et al (1997) indicate that better performing firms invest to support strategies for product and market development and to expand, whereas weaker performing firms invest simply to survive. It is also about keeping up with competition, which was a response to competitors' purchase of advanced technology which was perceived to put them at competitive disadvantage (Smallbone et al, 1996). There was evidence that investment in printing companies was driven by the need to keep pace with these developments in order to stay in business. For example, the types of asset that Company 1 invested in to keep up with technological changes were high technology assets such as direct digital colour printers and computer to plate (CTP). The reason for these options is basically speed because they enable faster make ready times, thereby saving money. They also enable short-run jobs on demand. The owner-manager illustrated this as follows:

> *"It is just a natural progression for us to just go out and buy a new piece of kit like the CTP because a service we sell to the trade outside is to make plate quicker and you eliminate the film stage and you 're still making more money. If you eliminate the film it makes your work faster because when you run out of films you don't have to wait for someone to cut it down and you don't wait for someone to go and make the plate. You fix the job up, you send it to the CTP, it prints the plate for you. The job is done".*

This means that digital presses enable faster make-ready times and allow highly personalised work to be carried out. However, direct digital colour are subject to more down time for maintenance than conventional presses, restricted to short runs (currently

about 1000 sheets), B2 size and require special substrate paper or plastic to print on (Smallbone et al, 1999). Peripherals such as special paper and replacement ink cartridges are also expensive. Nevertheless, Smallbone et al predict that as the technology matures, run lengths will increase, print size will expand beyond B2, print quality will further improve, and peripherals will come down in price. In terms of sectors, it was printing firms that showed greater propensity to invest for reasons of increased capacity and to keep up with technology, whilst in clothing firms straight replacement to increase efficiency/cost effectiveness rationale was the case.

5.2.2 Extent of investment planning

The study of the investment decision-making process in the case study firms raises questions about the extent to which investment decisions were planned, how far ahead the plans were made and whether owner-managers adopted a systematic approach. Investment planning refers to the firms' comprehensive estimates of future requirements not only for capital expenditure, but also for sources of finance for the purpose including retained profits, use of financial assets and the amounts of outside finance that are to be obtained. It can be long term, typically for a period of 2 - 5 years, in which case it is referred to as capital expenditure forecast. However, planning that extends beyond forecasting and operational planning should be distinguished from strategic planning. Smallbone and Wyer (1997) argue that within the context of the small business there is a low level of take up of strategic planning in small firms and also "evidence that such techniques are to a considerable extent inappropriate for the smaller business with its unique constraints and problem-types" (p.7). In this study, through comparative analysis of the data collected from owner-managers a typology of investment decision-making was identified based on the degree of planning, namely, explicit planning, implicit planning, and no evidence of planning.

[i] Explicit planning

Explicit planning is normally used to refer to written form of planning. Examining the patterns of behaviour in case firms and how the data relate to what one might have expected on the basis of common-sense knowledge and official accounts, it was found that there was some degree of planning in Companies 1, 2, 3 and 5. This involved the identification of investment needs, the costs, and where the money was going to come from (Companies 1, 2 and 3). It also involved estimating the return on capital in Company 1. The estimate was done through budgets and forecasts, which involved assessing the benefits from the equipment and how long it will take to pay for it. Specifically, consideration was given to what products are being sold, how much the products are worth, and how much they can actually be sold for (Companies 1, 2 and 3). Other issues, considered in the planning exercise, included determining the time it will take for the equipment to be up and running and working at full capacity in Company 1. They also consider in Company 3 whether they "should go for it" and if so, how they could afford it in terms of the source of finance. Where the new business was going to come from was also an issue considered in Companies 2 and 3 in the planning process.

In Company 5, planning took the form of Board meetings, which consisted of a team of directors and the head of departments. The board, in effect, would consider where the company is at that point in time and what position they are aiming to be in or where they see themselves in a year's time depending on the type of project. Further analysis revealed that much of the planning was operational planning as opposed to strategic. For example, the warehouse extension in Company 5 was planned for a year before the work actually started. According to the owner-manager, this helped to reduce the duration of the work by half.

[ii] Implicit planning

The second degree of planning also identified in Companies 1,2,3 and 5 was implicit planning. This is planning where there is systematic forward thinking, but with no written plans. This is causally linked, through explanation-building technique, to Gibb and Scott's (1985) concept of strategic awareness where the 'experience base' of the business is brought forward as the collective embodiment of learning. It is a 'quasi' or 'hybrid' planning involving a 'thinking through' process. The 'thinking through' process was apparent, as pointed out by some of the owner-managers of the companies mentioned above. For example, once they have identified the need for a machine, they would look around to see what fits the criteria they expect by attending demonstrations, inspecting the use of the machines in ideal environments and asking the operators of their opinions about the machine. Any decision taken was constantly under review until the decision was finally executed, bearing in mind the changing nature of the operating environment and market needs. The logical 'thinking through' process was evident in the following extracts from the owner-manager of Company 3:

> *"They are not planned that in a year's time we are going to or we want to buy a printer. We would not do that. ...We won't dogmatically say in a year's time we will buy it. If we did that, in a year's time, the way we work, we would say: do we really still need it? It is a sort of hybrid of planning, not planning - very reactive".*

This clearly demonstrates how owner-managers adapt as they adjust to their operating environment. They also adjust to their learning experience and they change as they learn from dealing with uncertainty. It must be emphasised that explicit and implicit levels of planning was identified in assets of high level of expenditure or high technology assets (Companies 1, 2, 3 and 5) as opposed to small value assets for replacement purposes where there was no planning.

[iii] No planning

The third degree of planning was no planning at all which was identified in Companies 4, 6, 7, and 8 by comparing owner managers' expressed beliefs or attitudes and what they do. They were simply adapting to situations and 'fire-fighting' from one crisis to another (Wyer, 1990). In those circumstances, investment decisions were rather reactive - aimed at mitigating the consequences of events as expressed by the owner-manager of Company 8:

> *"...We don't plan as such, being a small company. You adapt to situations rather than plan so far ahead".*

Here, the owner-manager is referring to adapting to situations or 'fire-fighting' which illustrates trial and error learning process or cyclical learning (Hawkins, 1995) whereby owner-managers take right actions, not by aiming for it, but by avoiding taking wrong actions. In other words, their adaptability was set within certain parameters defined by previous experience. The evidence was that where investment was planned at all, it was not on long-term basis in the study firms. Investment planning, where it was possible, as well as other areas of planning was done on a yearly basis because the industry was changing rapidly due to technological changes. Secondly, in the printing sector the life cycle of new technology is becoming so short that a company has to get a return in a very short space of time before a new model is launched which puts the company at a competitive disadvantage. This point was explained by the owner-manager of Company 3 as follows:

> *"...I suppose the biggest reason...is probably the life-cycle of the technology. It's becoming too short. Before it is out of date you have to get a return in such a short space of time. You 've really got to be sure of what you are doing. You could end up buying a machine that is right at the end of its life-cycle, what you are paying the full price for. Next week a new model comes out, does the job twice as quickly but half the price. You are at a competitive disadvantage which you never, never recover from. That worries me about these things".*

The owner-manager is referring here to digital technology such as direct digital colour and CTP whose average shelf-life is 4-5 years and getting shorter. The arguments put forward by the owners of all the case study firms were that because of the risks and uncertainty of economic activity resulting in lack of sales, fluctuating or diminishing orders, investment planning was very difficult and, in some cases, virtually impossible. Uncertainty was emphasised as the main reason for not being able to plan for investment in the following terms:

> *"It depends on external influence, such as changes in market needs. We might decide that we want to buy a new Two Colour printing machine at a certain time but we might see the market is going in a different direction. So we might stop thinking about that and start thinking about something else. It is very, very subjective. It is not a constructive planning process as such" [Owner-manager - Company 3].*

It can be argued that the above quote reflects their lack of proactive marketing and illustrates experiential learning process in the sense of adapting in an evolutionary way to the discovery of information (Deakins, 1998). They are constantly learning and adjusting to their environment from dealing with uncertainty. Thus, the major source of risks and uncertainty for all the companies in the study was sales. If sales are slow then the business is slow. According to the owner-manager of Company 8 "you are only as good as the orders you get in". The uncertainty of sales in the clothing firms was triggered off by some other factors such as bad weather as in the case of Company 5, a clothing firm. For example, in 1998 there was no summer and the company therefore had no work. The factory had still turned out summer and autumn wear in an anticipation that the weather would change and customers would start buying them, but it did not change and as a result the company ended up with about 300,000 garments stacked in the warehouse for 6 months. The second factor that triggered off the uncertainty of sales in the clothing firms was a change in fashion and styles which is particularly acute with ladies wear.

The inability to plan was not surprising given the unpredictable nature of the small firm operating environment and the lack of management skills to forecast the uncertain future. Planning involves the assessment of the business environment and how this might change with time (Smallbone and Wyer, 1997). The environment is made up of economic, political, social and technological conditions, and these are totally outside the control of small firms. The small firms in the study were therefore responding in a reactive manner to environmental change, be it technological change or a change in fashion, in order to mitigate the consequences of that change. The owner of Company 2 who actually planned for investment in his firm, albeit for one year, confirmed the difficulty of planning and described it as "a little bit like looking into a crystal ball". Each occasion of capital spending was tackled as the need arose, guided by past experience since these firms were not in a position to control or shape the external environment, and future investment planning, even for 12 months, was extremely difficult. A business consultant emphasised the need for owner managers to think through logically especially to ensure that the asset fits into the business. For example, he narrated that there is a long established company that bought a new press but did not really work out what they were going to do with it. They spent "probably the best part of a million pounds on the press" but could not do any work on it and it nearly brought the company down because the equipment could not fit in.

The need for a particular type of equipment was identified through experience and judgement as discussed below.

5.2.3 Identification of need through Experience

Reliance on past experience was found to be a vital tool which owner-managers brought into the decision-making process to identify the need for investment that would help solve the problems. The following account from the owner-manager of Company 4 provides an insight into this:

"You weigh up the pros and cons. Again, it is experience. You have to

follow what's going on, what equipment does what. We are guided by experience, yes...".

Forbes (1999) argues that the value of experience is a vital ingredient for the making of the entrepreneur. The reliance on past experience by the owner-managers of the case study firms in their investment decision-making process is characterised in this study as a learning process. This means learning from decisions, mistakes, experience and networks in general (Deakins and Freel, 1998) or learning by doing (Cope and Watts, 1999) stimulated by specific critical incidents (Deakins and Freel, 1998; Burgoyne and Hodgson, 1983). Critical incidents are 'events' or 'discontinuities' or 'critical experiences faced by entrepreneurs, who often endure prolonged, difficult and highly emotional critical periods or episodes' (Cope and Watts, 1999, pp. 5 & 7).

Learning by experience can be characterised as 'closed-loop' learning or 'open-loop' learning. The concept of closed and open loop learning in this study is the idea of informal procedures that are transferred from one situation to another. Although open loop learning does not necessarily involve informal procedures, in Companies 1 and 2 it involved learning from industry-wide norms, which were not explicitly rational. Closed-loop learning arises from a situation which is similar to what one has dealt with in the past, whilst open-loop learning takes place when the situation is distinctively different from what one has experienced before. Boussouara and Deakins (1999a) highlight the distinction between explicit or formal knowledge, which is codified and tacit knowledge or implicit knowledge which is not codified and emphasise the importance of tacit knowledge in individual learning. Moreover, they suggest that individual experience and intuition is paramount in generating knowledge.

(i) Closed-loop learning

In printing firms, for example, closed-loop learning was mostly applied when replacing a press with another piece of equipment of similar technology. This means a decision process that owner-managers are familiar with. For example, the owner-manager of

Company 2 emphasised in the first interview that he is:

> *"Heidelberg born and bred... I normally buy Heidelberg from Germany because they are the best piece of equipment you can buy, and they hold value... I have been in this trade since I was 11 and my first employer had a Heidelberg machine and I loved it. I have used other pieces of equipment and they are never as good as Heidelberg".*

The above quote illustrates satisficing behaviour i.e. the owner-manager continues with existing supplier as long as he is satisfied with it. He only looks for change when he is faced with a critical event e.g. a particularly bad experience. The interpretation of the above extract, based on direct observation and inductive analysis, is that this company has been with one particular equipment supplier for a long period of time and the owner-manager has used this particular type of equipment for the 33 years he has been running his business. He has also had knowledge of the industry since the age of 11, using Heidelberg. Therefore, he has had a long period of experience with this equipment and is prepared to stick with Heidelberg machines to bring forward this experience each time he is making investment decisions because the machines are good technically and have good residual value. It is also because he is familiar with the mechanism of this equipment in terms of maintenance and repairs. It is almost a duplication and routine process. Of particular interest is that this stands in contrast to Marsick and Watkins' (1990, p.15) assertions that 'learning is often...non-routine...". Through this process he has learned that if he moved away from his normal equipment supplier that he would run into problem with maintenance and the time it would take for people to learn how to repair different machines. So, when the machines need renewal, he basically just gets in touch with Heidelberg salesman who comes around and talks about the latest model, what it does and the time it saves. He finds that these machines have worked well in the past and therefore there is an assumption that they will continue to work well. The experience here is that he sticks with the supplying company, the salesman and the finance package because they work out well.

The duplication and the routine process means continuing with what is known until

such a time as there is good reason to change, i.e. behaviour is repeated until dissatisfaction causes change. In order words, there is not a regular search for better alternatives. In this context, closed-loop learning relates to 'expressive rationality', which is not concerned with necessarily the best way of achieving given objectives, but with deciding on, creating, or exploring, the non-economic ends pursued (Hargreaves Heap, 1989; Curran et al 1997).

Closed-loop learning was much easier in the clothing sector than in the printing sector because production equipment was more basic and less automated, although it also depended on any changes in products and markets. An example of the transfer of experience through closed-loop learning in the clothing sector is shown in the box below. The box also illustrates the inductive process and the longitudinal element of the study such as verification, deepening the investigation and being closer to actions and decisions.

Box A

Company 8 – Example of Closed-loop learning

In the first interview of 6/4/98 the company was considering having a new floor built in the next few weeks which would enable them to buy new equipment in the autumn. During the third interview on 30/3/99 (11 months later), the researcher observed that they had actually purchased 4 second hand machines (2 Flat bed Sewing machines and 2 Overlockers). These were additional machines to increase capacity and exactly the same brand and type as their previous ones which some were 30 years old and others were 10 years old. The company had owned the additional machines for about 5 months before the third interview. The owner-manager emphasised "As I said to you before we keep the same brand, the same type of machines, basic equipment really". This is mainly because it saves the time it takes for staff to learn new things and how to repair different machines. It also means that because products and markets have not sufficiently developed they require simple production methods.

This is a typical example of closed-loop learning. The learning experience here is that at one point the firm had invested in a machine from a different manufacturer but had actually found inefficiencies in terms of maintenance schedule and lack of spare parts. So, the owner-manager had actually learned the hard way that it is much better to stick to what he definitely knows than move to a different type of equipment that he does not know.

Since these machines are additional machines then buying more of the same is not just about learning experience, it also has very tangible benefits in terms of maintenance and being able to switch parts between different machines, particularly as they buy second hand machines. The owner-manager stressed: "It's easier for the mechanic of the parts. When we want parts it will fit any of the machines. If we 've got different makes and models they won't fit the spare parts". By sticking to what they know and what they have got already, it is easier for them to repair and maintain because they are familiar with the equipment.

Box A demonstrates the influence of learning by experience over time, but it also reflects a lack of product innovation. It is an example of where going back to the company on three occasions actually offers some insight into process than going on only one occasion, having actually identified issues in the earlier interviews. Thus, the longitudinal dimension offers a degree of verification because it allowed the researcher to look in more detail at actual actions of owner-managers. For example, during the third interview the researcher was able to pay close attention to the role of the external environment in the decision-making process such as the nature of the industry and the changing macro-economic environment which are potentially important in terms of the timing of investment. In the clothing industry there was more tendency for owner-managers to stick with what they have known in the past and to learn in a closed-loop situation than the printing industry. This is because the external environment of the clothing sector is different to that of the printing sector not only in terms of resisting the introduction of new technology but also in terms of human resources management, marketing strategy and networking. The way in which each characteristic of the external environment of the clothing sector affected the decision-making process is discussed below.

An old fashioned industry

Fletcher and Hardill (1995) argue that clothing companies appear to still find it more productive to shift production to low wage-cost regions, than invest in the possibility of automated garment assembly. In this study, Company 5, for example, shifted some of their design to their factories in Bulgaria and Turkey. Nevertheless, the owner-manager of Company 8 pointed out that his company's production process was not affected by computers or IT as "it is still a very old fashioned industry".

In the clothing case study firms there is still resistance to the introduction of computers in the production process. Automated cutting and pressing machines have been developed, but changes to the sewing process have been minor with products involving short run lengths and relatively simple production methods (Fletcher and Hardill,

1995). It seems that firm size as well as industry sector had played a part in the use of information technology in the clothing firms. The owner-manager of Company 8 with only 11 employees explained his non-use of new technology as follows:

> *"We don't use them. If you go to the big companies, they do. They use computerised laying table, cutting table, laser cutting pattern etc. We don't use them. We are very basic. We do our design by hand".*

This is a good illustration of the link between products and process development. Whilst Company 5 had 50 employees, the rest of the case study clothing firms were significantly smaller in terms of number of employees. North et al (1997) stress a strong positive relationship between a firm's propensity to use advanced technology and firm size within the 1-100 employment size band. The lack of significant technological advancement in this industry means that the process of investment decision-making was based on past experience as equipment was mainly conventional and basic. Owner-managers were familiar with this type of decisions and it became a routine process. Being an old fashion industry and craft-based, these firms were using very low wage labour with cheap overheads, which impacted on the way investment decisions were made as a routine process.

Marketing strategy

The clothing industry is divided between companies who produce and market 100 per cent its own label products and the sub-contractors usually referred to as Cut Make and Trim (CMT) companies. Companies 5 and 8 in the study design their own products and own the fabric and stock, while Companies 6 and 7 were CMT firms. The owner-manager of company 6 explained:

> *"Of course we are not manufacturing for ourselves, we are CMT, manufacturing for big retailers in the West-end. You see, they give orders and we deliver them".*

The role of the buyer in the investment decision-making process is discussed in section 5.5.4. As CMT firms they require very little capital and machinery being simple and easy to lease or acquire second hand. They use traditional production methods. The consequent low barriers to entry and the lack of economies of scale mean that the industry is extremely fragmented (Leigh et al, 1983). This is in turn a further barrier to investment in new technology since these firms do not have the capital or the willingness to borrow to make substantial investment.

In the absence of significant technological advances, increases in productivity in the industry have been achieved through the addition of small production aids, improving the scheduling of work and a very high use of payment by results. Increases in productivity in volume terms have thus been very low, due to depressed prices resulting from competition from imports. In the clothing case study firms, off-shore competition mainly from the Eastern world was cited by owner-manager of Company 7 as being their major concern and motivating factor for investment. The owner-manager of Company 6 also observed:

> *"Our main competitors are abroad with cheap labour such as Morocco, Yugoslavia and Rumania".*

The problem of off-shore competition with cheap labour has forced Company 6 to cut output capacity and has forced Company 5 to open factories in Bulgaria and Turkey, as mentioned earlier, where some of the designs and garments are made "to keep the production costs to an absolute minimum" (Owner-manager-Company 5). This means investment in basic conventional production equipment relying on past experience more than codified knowledge because of the routine process of replacing equipment with the same or similar type.

The most important elements of the strategy adopted by the study firms can be divided into two groups: (i) an active strategy aimed at increasing output and profitability, and (ii) an essentially conservative or passive strategy. Companies 5 and 8 adopted the

active strategy of diversification which was to alter the type or range of garments produced in response to changing demand conditions and increasing competition or by changing the quality of goods made or reducing labour costs. For example, Company 5's purchase of the steam tunnel meant that "the process is speeded up and a better finish is achieved". The investment in the steam tunnel involved a "continuous assessment of the need", according to the owner-manager. The company had invested in 3 steam tunnels in the last 3 years of the interview as replacements for the reason of cost-effectiveness and also for increased capacity. Each of the steam tunnels cost £60,000. Similarly, Company 8 attempted to strengthen their share of the home market and also pursued the growth potential of export:

> *"Well, for us, we have got all our literature in foreign languages trying to get the foreign markets. So, we expand the market we are trading in. So, instead of supplying one country we supply several. All our video promotional stuff is translated in to four foreign languages. We are spreading sales so that when one part of the market is quiet, the other one is busy.*

This illustrates the inter-relationship between investment decision and other aspects of business decision such as marketing strategy. These two clothing firms managed to diversify without investing in new processes; this illustrates the homogeneity of production methods and the flexibility of fixed capital within this industry. In contrast, Companies 6 and 7 were adopting a conservative or passive strategy of not seeking growth in output because of constraints prescribed by the owner-managers themselves such as the survival objective of Company 6. Similarly, the owner-manager of Company 7, when asked about the way he was dealing with cash flow problems caused by "fluctuating orders or lack of orders", replied:

> *"What can you do? Very little you can do. Try to alleviate the problem by trying to find orders. The problem is getting more and more serious".*

The constraints on Companies 6 and 7, while in an immediate sense self-imposed, are closely related to the characteristics of the external environment in the industry. These

two firms were also constrained by their position in the industry in that they were small sub-contractors (or CMT). Consequently, they were dependent on the "big retailers in the West-end" to supply them with work.

Networking/customer relationship

In the case of the case study firms networking was evident in the sense of manufacturers being able to make use of personal relationships, sub contracting networks and inter-firm links. The owner-manager of Company 7, stressing the importance of networking, explained:

> *"The clothing industry is very much a 'networking' - who you know type of situation. We are quite widely known through networking and that's really the only sort of sales marketing that we can actually do".*

This means that in the clothing industry, maintaining good contacts with the people the owner-manager knows is crucial to the number of orders received. This type of sectoral networking often leads to the establishment of strategic alliances, which can give a strategic advantage (Fletcher and Hardill, 1995).

Past experience was used to identify needs, but it was also constantly drawn upon right the way through the decision-making process at different stages. In the cases of Companies 2 and 8, being guided by experience means sticking with what is known. This means sticking to the same type of equipment that they have known or had in the past until there is some major reason to change it. Similarly, the owner-manager of Company 8 explained that following problems that followed an earlier decision to change equipment supplier (see Box A above), they stick with the same brand of equipment because it is easier for them to switch parts from one machine to the other.

(ii) Open-loop learning

By contrast, open loop learning applied in the printing industry when scrapping existing conventional presses and replacing them with digital technology or computer to plate (CTP). This represents a quantum leap, taking the owner-manager into an unknown area that he has not actually experienced before not simply in terms of production but also in terms of markets, technical problems, high level of uncertainty and skills implications. Open-loop learning is comparable to Argyris and Schon's (1978) 'double-loop' learning, which involves assimilating something that is transferable from the present situation to another and from one person to another. Burgoyne and Hodgson (1983) describe this learning process as "gradually eroding one belief and build another with a gradual accumulation of evidence and experience" (p.398). An example of open-loop learning is the case of Company 1 presented in the Box B below.

Box B

Company 1 – Example of Open-loop learning

During the first interview of 31/3/98 the owner-manager told the researcher that the company does not use any formal investment appraisal technique for their investment decisions apart from judgement, experience and gut-feeling, and that he does not liaise with anyone with respect to these decisions. At the time of this interview the owner-manager was contemplating the purchase of their first CTP press (costing £325,000) in 6 months' time, due to increased sales and customers.

However, during the second interview of 5/10/98 (which was deliberately arranged to coincide with the final date of decision, purchase and delivery of this equipment) the researcher was able to observe the decision-making behaviour of the owner-manager with respect to this particular investment. It was slightly different from what he claimed in the first interview with respect to liaising with others. The owner-manager was observed to have series of discussions with the equipment supplier on the phone, asking him many questions about the equipment, including specifications, and whether or not it will require a long period of training for the existing staff. The owner-manager informed the researcher that the questions were designed to help him reach a final decision and to clarify certain matters arising from their previous attendance at a demonstration to compare specifications and speed of the equipment. The researcher was also told that they had previously inspected the machine in an ideal working condition to determine whether or not it will be suitable for their requirements.

The owner-manager was also observed to liaise frequently with his co-director and the production manager, going over matters that they had discussed many times before, such as whether or not the equipment will fit in with everybody and where in the building they hoped to install the machine. The owner-manager also telephoned his colleague who, as he informed the researcher, had more experience of the equipment because he had owned one for some six months. Although this company had previously invested in high technology equipment such as Xeikon digital printers costing £450,000, the CTP was clearly an investment, which the company was not familiar with, which meant that existing knowledge and experience was an insufficient basis for decision-making.

This is a typical example of an open-loop learning where the owner-manager, before the final decision is taken, draws from the experiences of a wide range of people such as equipment suppliers, key employees and peers to ensure that the equipment does work as he did not want to make a mistake because being their first CTP purchase it takes the company into a totally different world in terms of the markets which can be targeted by this technology i.e. short-run colour, personalised work and print on demand, with a very high level of uncertainty and skills implications as explained in the text.

In this case the situation is more radically different and subsequent visits revealed evidence of how they were learning and how they were coping with the situations, which they had not experienced before. In such a situation the owner-managers in the study learned from the stakeholders i.e. equipment suppliers and key employees, as well as peers. This is an interactive learning approach in the sense that owner-managers and key employees were learning from the experiences of each other and from equipment suppliers and peers, which improves entrepreneurial ability and performance (Deakins, 1998). Open-loop learning can also be interpreted in the light of 'procedural rationality' concept (Hargreaves Heap, 1989; Jarvis et al, 1996). Here, the investment decision-making process was strongly influenced by industry-wide norms, which are shared expectations among those operating in the industry. Such norms provide explanations for behaviour, which does not fall within the calculation of costs and benefits of particular causes of action of owner-managers. The rationale for following the action of others is that owner-managers learn from the practice of others either because it is accepted practice within the industry or because the decision they are facing is fundamentally different from what has been experienced before, but not because such practice or behaviour is instrumentally rational in terms of cost-effectiveness.

Box B is one of the examples where going back to the companies on three occasions actually revealed that what the owner-managers claimed to be doing in the first place was not completely borne out by their actions. In other words, when the researcher went back to observe their actions there were some discrepancies with what he was informed on the previous occasion. For example, the owner-manager of Company 1 claimed that he does not liaise with anyone with respect to investment decisions, but was observed to liase frequently with others such as equipment supplier, co-director, the production manager and peers and their opinions were taken into consideration in making the final decision. Thus, another justification of the longitudinal approach is that the decision-making was investigated as it happened or very recently happened, rather than retrospectively. It was also observed in this study that owner-managers were

learning better and quicker in times of crisis, when they needed to react or adapt to such crisis the best they could. Hawkins (1994) indicates that learning is often at its most intense at times of crisis and transformation because "crisis creates the heat in which new learning is forged" (p.21).

There is the need to distinguish between knowledge and information because firms get 'bombarded' with information. Wyer and Mason (1998) argue that the brain does not receive actual information but rather has an openness with regard to stimuli, or signals (not information). Thus, owner-managers as individuals pick up signals from the environment and create information by assigning meaning to the signals, by relating them to previous information and experience. In this respect, owner-managers learn through a closed-loop system by applying internally-generated norms and distinctions, and also through open-loop system by registering signals from the environment. For Company 1, as demonstrated in the case study above, investment in digital technology and CTP represents a different 'ball game' for the company stimulated by new working practices in the industry.

New working practices

Printing technology has changed rapidly during the last 15-20 years and continues to do so (CEEDR, 1997). This has resulted in significant changes in practices in the industry, reducing the craft dimensions of the activity to a substantial degree and arguably turning it into just another manufacturing activity (PBIF, 1997). The owner-manager of company 4 pointed out that:

> *"within the last 15 years IT has turned the industry around automatically. To keep in front you need computers especially on the repro side. I like using computers. I have been in it for 8 or 9 years. Within the 8 or 9 years I have followed the trend to see how it has changed. The biggest thing on the IT side is the Internet".*

New technology has made it possible to meet orders globally, either in part or whole,

especially in pre-press, via ISDN link which is nine times faster than conventional modem links. Modern technology has also facilitated a growth of short-run colour printing, as well as making possible what is known as 'print on demand' (Smallbone et al, 2000). This means that jobs are required to be completed within a few hours rather than the two or three days they took under conventional working practices. The greatest impact is that customers are aware of it and they know that they can get digital work immediately without waiting till the following day. The owner-manager of Company 2 commented:

> *"Everything is speeded up. If a customer wants copies of leaflets ready by 10 o'clock tomorrow morning, with digital you can do it but conventionally you can't... ISDN, e-mail and the rest of it, are ways of getting messages quickly and faster which also means you can't tell a customer you haven't printed it yet".*

Another aspect of the changing working practices is that pre-press staff are increasingly expected to be multi-skilled. This means that they are expected to be able to take up the entire range of manual pre-press activities such as scanning, typesetting, page make-up and image setting. Consequently, the demarcation of tasks is gradually disappearing leading not only to a merging of pre-press operations, but also to the extension of pre-press responsibilities to printing and finishing (Smallbone et al, 2000).

The significance of this in terms of investment decision-making is that the rapid technological changes and new working practices in the industry has given rise to high level of uncertainty because there is not yet a completely common standard in the technology (Smallbone et al, 1999). Therefore, there is uncertainty in the minds of business owners in the printing industry about which is the equipment to go for, because there are alternative systems that are offered by different equipment suppliers. This explains why the owner-manager of Company 1 could not rely on his past experience (or closed-loop learning) for the investment decision-making. Instead he needed to engage in open-loop learning since the investment represents a quantum leap for the company. This was not just in terms of the firm's technological development but

also in terms of the whole business development such as human resources management, marketing strategy and networking/customer relations. The effect of each of these on the investment decision-making process is discussed below.

Human resources management

The firms in the study took staff skills into consideration in the investment decision-making process. Owner-managers of Company 1, 2 and 3 indicated that they would not buy equipment unless they had an existing staff to operate it. The training facilities in these companies are still induction courses delivered at the workplace. The owner-manager of Company 2 described it as "sitting by the side at the moment" and pointed out that "in the old days you used to sit on the bench and watch and watch until you can do it". Therefore, account was taken of existing staff and their ability to respond to training, whether the existing workforce is capable of using new technology, and whether they will respond to training to use more modern equipment. The owner-manager of Company 3 explained:

> *"We have to take into account the existing workforce. Are they capable of doing what you are going to ask them to do in relation to technology? That's an issue we face in the last two years. We train and with a bit of luck some people respond to the training".*

The above quote does not mean that the owner-manager did not see recruitment as a means of acquiring new skills, rather it is a concern about how the workforce will cope with the change, and more importantly, how the owner-manager himself will cope with the change. It is a concern about the owner-manager loosing his 'hands-on' position because of his inadequate knowledge of new technology. Therefore, arguments about keeping existing workforce are only excuses by owner-managers for not investing in modern technology. Lack of skills was mostly an issue for consideration where the investment involved was in new technology such as direct digital colour presses and CTP. Staff skills were not a major consideration for investment in conventional equipment, because it requires traditional craft skills such as typesetting, scanning, page

make-up, imagesetting and platemaking. Therefore, lack of skilled labour affected the printing case study firms more than the clothing firms. The adoption of new technology especially in the printing industry has had serious training implications as the traditional craft skills have become digitised. As the amount of work provided in digital form rises, staffs are obliged to be skilled in handling digital submissions and in dealing with the range of problems that can arise with such files. These implications relate to staff recruitment and training and the need to recognise the strategic importance of human resources to a firm's ability to compete (Smallbone et al, 2000).

The implication for skills in the case study firms is that owner-managers did not want to introduce equipment, which the staff that they have would find difficult to cope with, for the reason given above. For example, owner-managers of Companies 2 and 3 were not in a position to train up their staff to be able to handle new technology. In Company 1, although they train their staff to be able to use new technology they were not prepared to spend too long in training. The owner-manager emphasised:

> *"You don't want to spend too long in training people up. You do have to train people up to do it but then if you've got experienced staff and good operators they take to it just like that, because at the end of the day it's only another output device".*

This means that the rapid pace of technical change requires regular retraining and therefore puts an even greater premium on flexible staff with a good grounding in basic principles.

Marketing strategy

Other factors taken into account in the investment decision-making process of the case study firms were risks and uncertainty of sales. The owner-manager of Company 2 stressed this point; when pressed how this was done, he referred to the 'week-end meeting' where they did "a proper sales forecast for a year". The owner-manager of Company 3 explained the use of budgets and forecasts to incorporate the uncertainty of

sales into their investment evaluation as follows:

> *"We have got to look at how we can sell what we are producing. If we can't sell it deprives the company to a certain extent. If the market is saying that there is demand which is higher than the net cost of installing the equipment it shows that there is a good demand there. You have a good chance of exploring the market because there is an enormous demand for the supply. It is gut-feeling to a certain extent but it is mainly market led".*

The meaning of the term 'market led' was specifically probed because according to Jarvis et al (1996) it is only when the use of these terms is examined within their specific user contexts that an adequate interpretation of their meanings be established. The term 'market led' means whether the customers are asking for the products and whether the market is there for the products. If the order book is good, investment is considered. If, on the other hand, the order book is not looking good, then investment is not considered. This means that to make good use of the technology, the company really needs to develop customer lines and markets. This is a short-term, reactive approach rather than a more proactive approach to investment. Basically, if owner-managers in the study were making profits and were therefore confident then they would invest the money. The owner-manager of Company 4 explained that:

> *"It's lack of confidence... I 'd probably spend £50-100,000 on more equipment which I would use but it would take, may be, 6 months to a year to fill up the order book. You can't get enough work. Lack of confidence, I suppose".*

Market needs were assessed through gut feeling. They were also assessed by keeping a close watch at the sales or whether the company is getting enquiries about a particular kind of work or whether the companies think they can do something better. They were also assessed through the use informal market research:

> *"It is not a written down sort of thing. It is really a bit of gut feeling, to be honest. You see your sales, you feel you 're getting inquiries about a particular kind of work or again you feel you can do something better. This is where market research comes in although we don't do*

any formal market research" [Owner-manager - Company3].

By "market research" the owner-manager was referring to the use of his knowledge and experience of the industry, as well as feedback from the customers and trade journals to determine whether or not there is demand for the product or whether the product quality should be improved. It illustrates the importance of interaction and learning from the exchange process in the close knit network. In view of the competitive nature of the market the firms are trading in, especially the printing sector, where technological development forces down prices and squeezes profit margins, a proactive marketing strategy is the key to success. However, apart from Company 1, Companies 2, 3 and 4 in the study were responding to technological developments at the moment by outsourcing some of their work. The owner-manager of Company 2 acknowledged the impact of digital technology as an opportunity to get the job done quickly and faster with good quality and to explore new markets, but with the threat of European competition. However, owner-managers of Companies 1 and 2 were increasingly seeking the advice of peers and equipment suppliers, with general interaction and networking on the investment decision-making process.

Networking/customer relationship

The development of digital technology in the printing industry has made it difficult for Companies 2, 3 and 4 whose technological option was still the conventional press to compete, since they cannot offer just-in-time printing of short-run nature and they cannot undertake black and white work or highly personalised work. For example, Company 3 responded to these developments by taking on digital work where they could and contracting it out. However, the company has "lost some of the short run work because sometimes we cannot outsource it at a competitive price" (Owner-manager-Company 3). This means that it is increasingly difficult for owner-managers in the printing case-firms without digital printing technology to satisfy customers needs and to be flexible in terms of service and provision of solutions to customer problems. Only Company 1 in the study has gone for the digital option, which has taken the

company into a different territory, thus making its investment decision-making process an open-loop learning process. Crucial to the conceptualisation in this study is the way in which the owner-manager in the case study framed his relationship with the external environment. This was necessarily receptive to the forces of the environment, thus operating in a reactive and adaptive management mode (Wyer et al, 1999).

The above two cases (Boxes A and B) demonstrate that the 'critical incident' is a complex phenomenon that does not occur independently of the entrepreneur but in many cases is a change in perception and awareness that stimulates the entrepreneur into action (Cope and Watts, 1999). It is also apparent from this study that critical incidents are not discrete, isolated events as the term may suggest, which means it is often difficult to define the chronological and perceptual boundaries of these events. For example, in Box B it was difficult to identify what the actual critical incident was. It seems that the rapid technological change in the printing industry (explained earlier) was more critical to this company, which triggered the decision to purchase the new CTP and the direct digital presses.

It is evident from a theoretical standpoint that the critical incidents outlined in above cases were powerful events in the investment decision-making process of the companies and stimulated fundamental and transformational learning for the owner-managers concerned. The two cases richly demonstrate the open and closed loop learning and other learning theories such as Argyris and Schon (1978). They demonstrate that owner-managers were adopting, from the learning behaviour, the method that worked or was practical for them rather than the 'best' method. These firms were learning better by experience, bringing knowledge, skills, values, and attitudes together to interact upon the learning process. This process means learning by doing; learning by copying; learning by experience; learning by problem solving and opportunity taking; and learning from making mistakes (Gibb, 1991). It also means learning by trial and error, which is a process that gives them the greatest rewards or payoffs, retaining "satisfactory responses" and deleting "unsatisfactory responses" (Golledge, quoted in Lloyd and Dicken, 1972, p. 146).

5.2.4 Identification of need through Judgement

Comparative analysis revealed that owner-managers in the study also used judgement to identify investment needs. Although the use of judgement was important to identify needs, it was also present to some extent in all stages of the decision-making process. For example, the owner-manager of Company 1's explanation that:

> *"we don't use any formal technique apart from judgement, experience and gut-feeling"*

is indicative of owner-managers' responses. The owner-manager of Company 3 explained the process as an "approach, which evolves from my own judgement and not from what other people are doing". In dealing with the judgemental process of decision-making the literature distinguishes between 'hard judgement' and 'soft judgement' (Garratt, 1994). Hard judgement is the rational, logical evaluation of the facts as presented. Soft judgement, on the other hand, relies much more on the emotional weighting of values which could be viewed as essentially binary - 'right or wrong', 'good or bad' based on a 'satisficing' benchmarking threshold. Conventional approaches rest firmly on the foundation that only the hard judgement is the 'right' one for a 'good' manager. It is also assumed in these approaches that all managers are unemotional, fact-oriented, ingenious stereo-type. Whereas, in small firms soft judgement is more important as it determines those ideas and actions to which the owner-managers will commit themselves. This study has shown so far that owner-managers do not always behave rationally, unemotionally and in a fact-oriented manner. Instead their behaviour is often driven by emotions, motives, beliefs and values, and often times without the benefit of adequate and sufficient information.

Applying the explanation-building technique, this finding draws a causal link to Jarvis et al's (1996) 'expressive rationality' concept which is not concerned with the 'best way' of achieving given objectives, but with notions of judgement and the capacity to

consider worthy courses of actions. This approach "undermines the notion of fixed 'ends' assumed necessary for instrumental calculation" (Jarvis et al, 1996, p.9). Smallbone and Wyer (1997) also argue that managerial decisions which may lead to a change in the balance of activity within the small firm are unlikely to result entirely from rational, informed managerial considerations and actions. They distinguish three types of approach to the analysis of decision-making. First, there is the rational-analytical decision-making, which is associated with a rational view of strategy formulation whereby the organisation proceeds through a progressive series of steps: objective setting, analysis of external environment, evaluation of alternative opportunities, strategy choice, implementation and control and review.

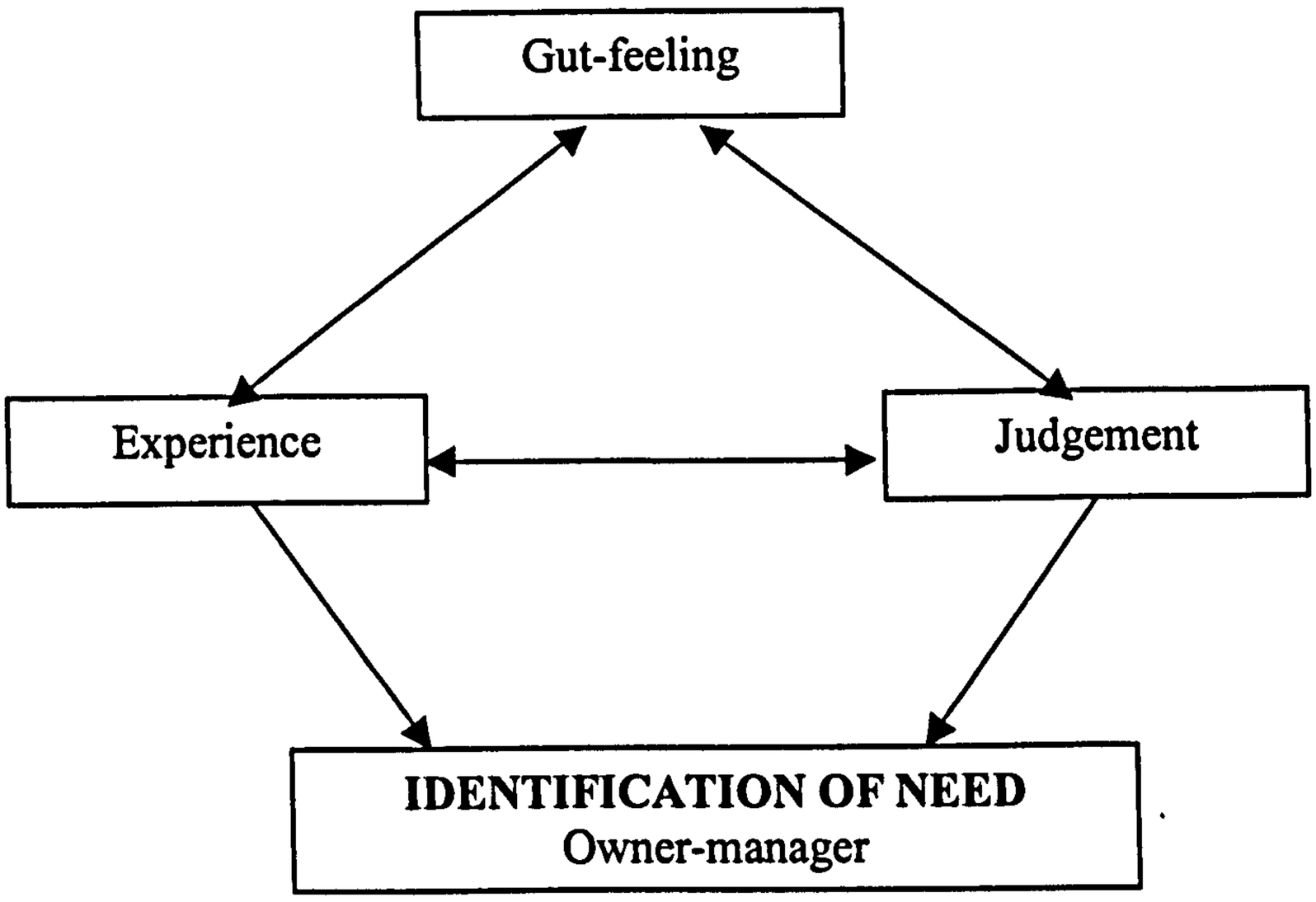
Second, there is the intuitive decision-maker who prefers habit or experience, gut feeling, instinct or reflective thinking. In this approach judgement is viewed as a provider of better decisions than 'optimising' techniques. The third and final approach is the political-behavioural decision-making where pressure from individuals and groups around the decision-maker dictates outcomes. Smallbone and Wyer suggest that it is the second and the third of these approaches that are more relevant in the small firm context. There is a causal link between the evidence in this study and these approaches in the sense that investment decisions were based mainly on experience, judgement and gut-feeling. The evidence, as discussed in the subsequent sections, also shows that key stakeholders such as equipment suppliers, key employees and customers have an important role in investment decision making process and often influence the outcomes. Thus, it adds value to the typology advanced by Smallbone and Wyer (1997).

The use of experience and judgement by the case study firms is consistent with Japanese investment practices, which do not make use of formal appraisal techniques (Pike and Neale, 1993). In analysing an investment proposal, the Japanese managers, who are less 'number-driven' than their British counterparts, assess a project's return based on cash flow projections that include imputed interest charges on the project. They consider the implications of different input prices, competitors' response, government interference, future scenarios, but do not resort to complex quantitative

analysis. The consideration of these matters enables project risks to be identified and, where possible, reduced because they are flexible in terms of resource allocation.

The diagram below summarises a model showing the key techniques used in this study by owner-managers to identify investment need.

Fig 4: A model of the investment identification process



5.3 COLLECTION OF INFORMATION

Once the investment needs have been identified the next element of the investment decision-making process was for the owner-manager to search for the asset that would satisfy these needs. This involved collecting information from a number of sources such as equipment suppliers and trade journals as discussed below.

5.3.1 From equipment suppliers

The input of the equipment suppliers in the investment decision-making process of the study firms was subtle through all the different elements of the process. However, equipment suppliers played a direct role in the investment decision-making process in two different stages. One was as a provider of information for decision-making, and the other was as an active participant in the decision-making process in terms of influencing the choice. This second role is discussed in section 5.5 below.

During the first and second interviews the owner-managers were adamant that the role of equipment suppliers in the decision making process was limited only to bringing information about equipment to the attention of the companies through leaflets and information packages. Collecting information about the equipment involved approaching several equipment suppliers to find out the specifications of the various machines such as the size, the weight, the cost, and how it works and also to ensure that they were not paying a higher premium simply because it was "Heidelberg as against somebody else's" (Owner-manager - Company 2). The owner-manager of Company 7 indicated the role of equipment suppliers, among others, as being the provision of information on the different models available and their prices:

> *"They have input in the decision making in so far as showing the different models they do. I may not be up-to-date on the latest model. So, when I want to buy a sewing machine, for example, I will phone them and they will come to see me. They will show me what is available at that time and the prices and I make my decision then based on the information which they give me".*

White (1999) indicates that collecting information is part of the entrepreneur's lifestyle because the foundation of creativity and finding new solutions is the information input. The number of equipment suppliers approached differed in each company. Whilst information was collected from as many as 5 suppliers in Company 3, in others it was collected from just 3 or 4 suppliers. White (1999) further observes that owner-managers

must be aware of their weakness and find sources to make the business performance better. This means collecting information and a high level of social competence, ability to communicate the business idea and to utilise business support from the 'surroundings' – equipment suppliers and other people in the industry. This is learning through interaction and sharing (Gibb, 1997). Sharing is a matter of 'give and take' characterised by open mind, respect and trust to and between all parties involved (White, 1999). The owner-manager needs to understand the value of differences in experience and skills and to have the ability to utilise it in a business supporting way. Having supportive friends is extremely important in developing mind-set, skills and knowledge and encouraging entrepreneurial attitudes (Forbes, 1999).

There were sectoral differences in the amount of information collected from equipment suppliers. In the printing firms, owner-managers were found to liaise more with equipment suppliers than in the clothing firms in terms of seeking information and assurances. This was mainly because of the rapid technological development in the printing industry, which made the equipment less familiar and the associated technical problems. Similarly, more information was required in buying new equipment than in buying second-hand equipment. This was mainly because new equipment (e.g. new technology) was unfamiliar to owner-managers, had a shorter shelf life and required special skills for repairs and maintenance, unlike second hand conventional equipment with which owner-managers were already familiar and therefore able to carry out repairs themselves.

5.3.2 Reading trade journals

Information was also collected through business publication and trade journals. The owner-manager of Company 5 relied on the use of business publications to give him

"an idea of what is available on the market, where the market is going and what the average cost of things are going to be".

This means reading about the latest equipment, specifications and prices in trade journals. The owner-manager of Company 1 also read the trade press to get ideas not only about equipment but also about new products and what customers would like, in order to decide whether or not they can go into such markets. The production manager of this company emphasised:

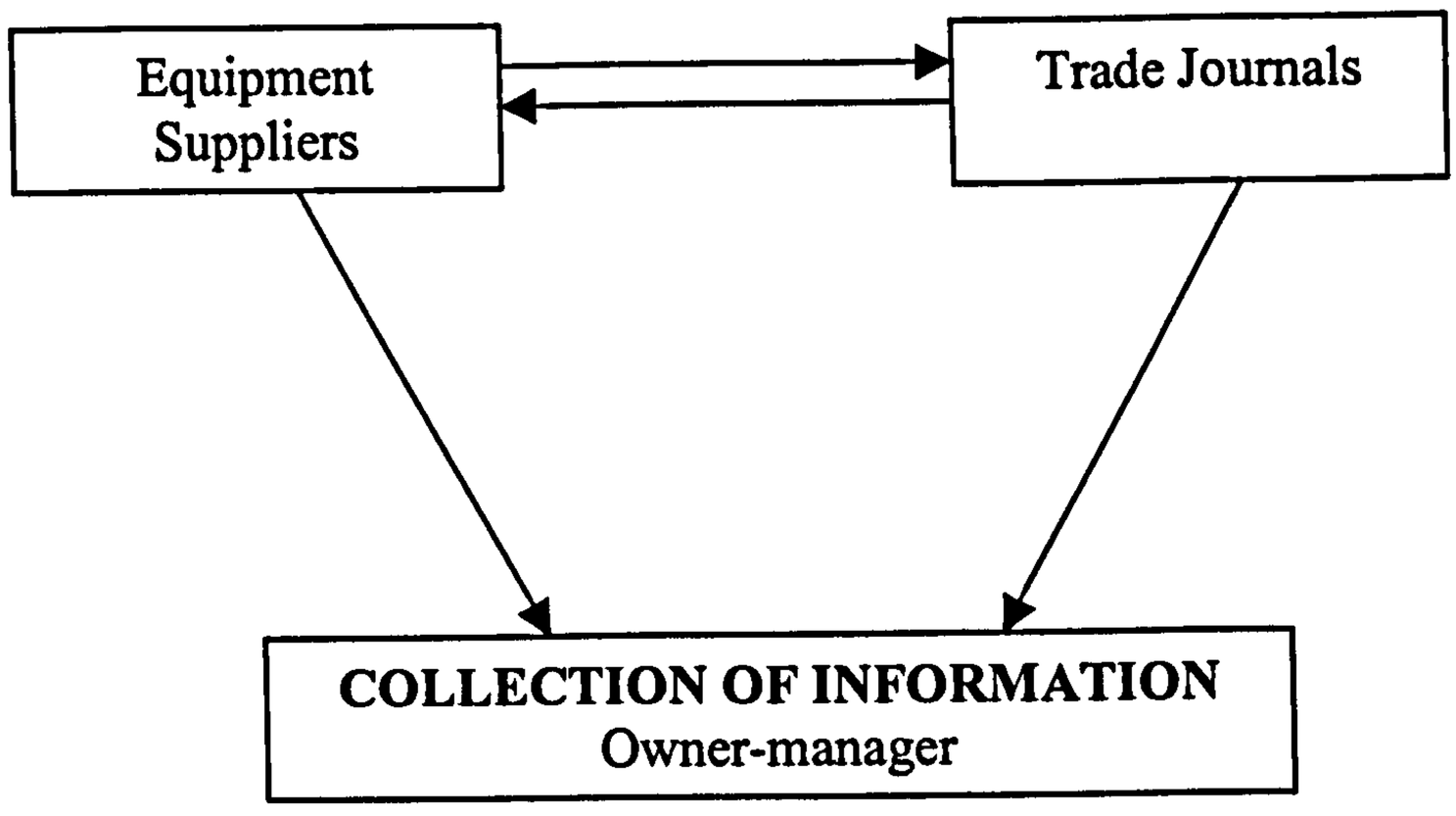
> *"you can tell whether it's going to be right or wrong for you by just reading about it".*

Reading trade and business journals involved following what is going on and keeping abreast of modern developments. Providing an insight into this process, the owner-manager of Company 4 observed:

> *"...and following what is going on, reading about the latest equipment, waiting for new developments coming up. You have to follow what the trends are".*

The above quote provides a good example of the empirical data in which this finding is grounded. "Following what is going on and reading about the latest equipment" means collecting information from the industry and the environment in order to build on competence. The main sources of investment information used by owner-managers at the information collection stage of the process can be represented as a simple model below.

Fig. 5: A model of collecting investment information



5.4 EVALUATION OF ALTERNATIVES

Having collected the necessary information the owner-managers then evaluated the different alternatives in order to choose the best course of action. White (1999) points out that the owner-manager must listen/take in the 'inputs' and evaluate it. Evaluating alternatives involved comparing and ranking, on a chart, the specifications of all the machines involved, as well as the resale value of the machines and their relationship to the overall strategy of the business. If an alternative was rejected as unsuitable further information was collected (Lloyd and Dicken, 1972) until a suitable asset with "a good name", a good resale value and a suitable price was found. The owner-manager of Company 3 provided an insight into this process:

"You compare it against others. You have to compare it against others that do similar things. You have to compare it with several specifications, find out what they do and what they don't".

The process of evaluation of alternatives was carried out through attending demonstrations (Companies 1, 2 and 3), the tendering process (Companies 1, 2 and 5), and through budgets and forecasts (Companies 1, 2, 3, 5 and 8) as discussed below.

5.4.1 Attending demonstrations

Attendance at demonstrations enabled owner-managers in the study to check out equipment specifications in order to ascertain what services might be required by the machines and to match them with the prices quoted by the suppliers. It also involved inspecting the equipment in action in an ideal or working environment to determine whether or not it is suitable for their requirements. The following extract taken from the interview with the owner-manager of Company 1 helps to illustrate the process:

> *"You go and see some demos and look at different pieces of kits, you go and see the machine in action in ideal surroundings and you think, well, will it work for us? If it will, then you go and see another site where it is actually working in a working environment rather than a demonstration environment".*

This demonstrates that owner-managers interact with and learn from their close knit network and their operating environment. In so doing they adapt, adjust and change behaviour, which results in specialisation and distinctive competence (Levinthal, 1996). Having got the specifications and prices the owner-managers assessed them and, if satisfied, called in the supplier to attempt to negotiate a better price. Comparative analysis made it apparent that attendance at demonstrations is an important aspect of the decision-making process as it provided not only an opportunity to see the specifications and prices of equipment but also, to talk to other people in the industry and to learn from their experience. This is captured by the owner-manager of Company 2's description of the investment decision-making process of his company:

> *"We attend demonstrations and talk to other people in the industry to know what they have got and what problems they have had".*

This analysis also established that demonstrations also provide the opportunity for a 'trial run' of the work the machine would be used for. An extract from a tape-recorded interview with the owner-manager of Company 3 provides an insight into this process:

> *"At demonstrations we take what we consider to be the most difficult job and ask them to do it on the press for me and the operator to see how it works and how the various components work. If it looks okay and does what we consider to be a difficult job easily that goes to prove that it is a good machine"*

Therefore, from the above quotes it can be seen that investment evaluation in the case study firms was based more on the technical reliability of the equipment rather than the cost-benefit analysis suggested in the literature. This is mainly because, for a small business owner, equipment must be technically reliable, easy to maintain and capable of producing good quality products. In order words, the informality is appropriate to needs and encourages flexibility. It not only seems to work, but it is effective and based on learning by doing rather than something which is formally taught.

The usefulness of attending demonstrations is illustrated by the following comments from the owner-manager of Company 3 during the third interview:

> *"You learn a lot from demonstrations, from the experience of the suppliers. The ability to stand back to see what the machine can do is very important and very useful".*

This owner-manager believes that the underpinning knowledge gained in taking part in demonstrations has been critical when faced with 'real life' incidents and, importantly, believes that it enables him to reflect and intellectualise any learning that took place.

5.4.2 The tendering process

The tendering process is an investment decision-making technique adopted by the owner-manager of Company 5. In the tendering process, after the need for the asset had

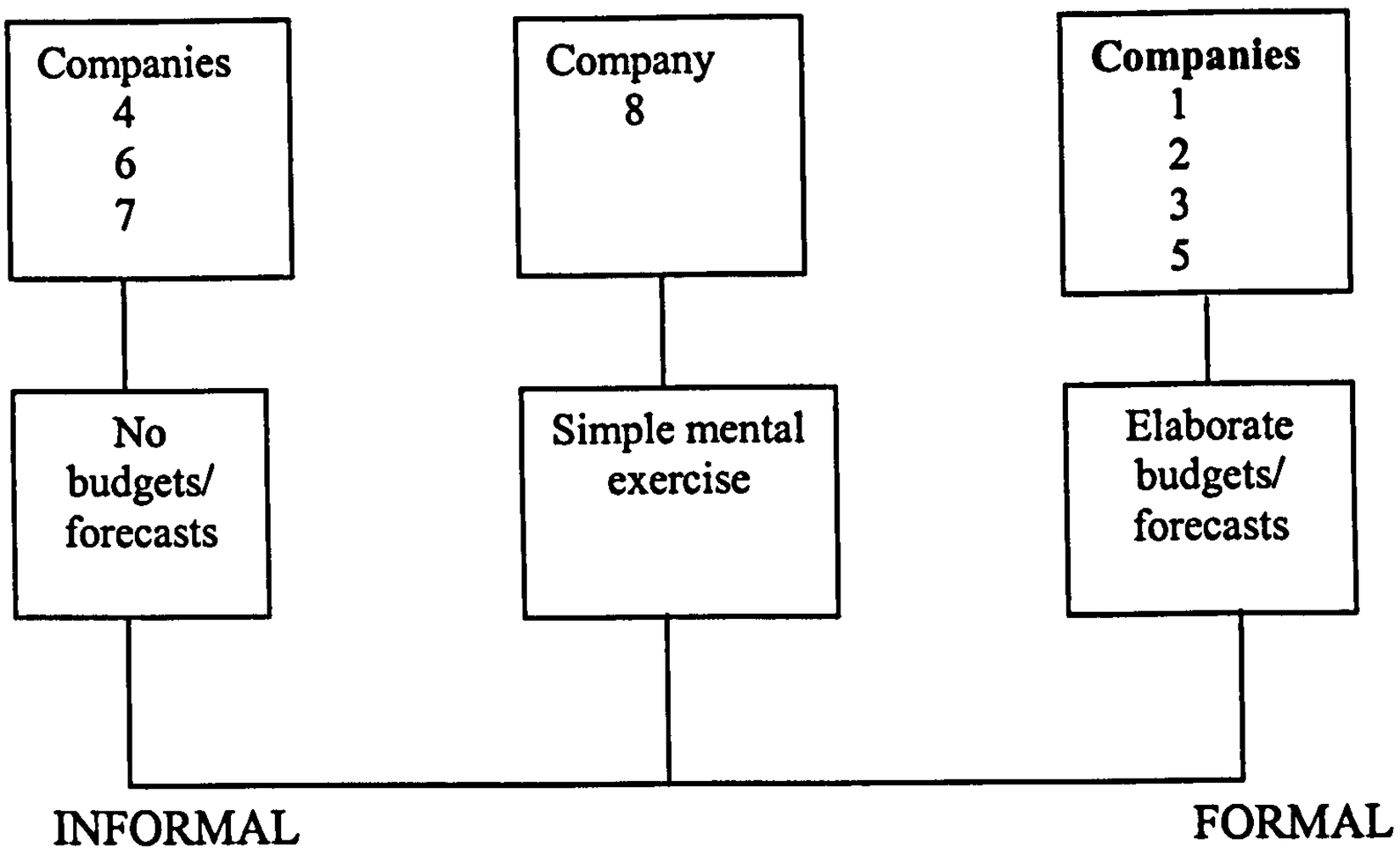
been identified a minimum of 3-4 suppliers was invited to tender. When the tenders had been received their method, which was reasonably accepted across the board was to "eliminate the most expensive ones because they are charging too much and then to considered what is left". A typical example of a tender brief and how it was prepared can be seen in the case study of Company 5 in Appendix 1.

Comparative analysis of the data collected indicated that owner-managers of Companies 1 and 2 were also employing this process. Where the tenders were received by a key employee such as the facilities manager or the production manager, he had to come up with a recommendation to the owner-manager or the Board of Directors, giving reasons for his recommendation and being able to explain it in full. The tendering process was used in both industrial sectors and for assets of both high and low technology.

5.4.3 Budget and forecasts

Comparative analysis of data collected from owner-managers found that companies 1, 2, 3, 5 and 8 were using some form of budgets and forecasts to assess the benefits from investment. Some of these forecasts were formal whilst others were informal, involving just a simple mental calculation as described latter. However, the use of budgets and forecasts represented a greater degree of formality than other techniques used. The figure below represents the gradation of investment decision-making techniques on a scale of formality.

Fig. 6: Gradation of use of budgets/forecasts



Depending on the amount of expenditure involved, budgets and forecasts were used as a kind of 'safety net' to back up initial judgement, which was used to identify investment need without a formalised procedure such as a planning cycle. In other words, it could be a rational process in some cases i.e. go with initial judgement if it is supported with budgets and forecasts. However, in the main, the benefits were assessed by working out the costs of production and setting these costs against the selling price of the products. These costs included operating costs such as capital repayments, interest payments, maintenance, wages of operators, cost of materials and other consumable such as telephone, lighting and heating, sales and administration costs, etc. For example, in Company 3 budgets and forecasts were used to estimate the operating cost of the equipment and to compare this cost with the revenue the equipment was going to generate. The owner-manager indicated:

"We work out what the operating cost is going to be for the machine, including capital repayments, interest payments, staffing, maintenance, everything else, over the period of time in which we are financing the machine. Then we look at the market, what are the prices we can get

for the kind of work we will be producing on that machine? If we can get significantly more than what we pay for the machine then obviously it is the right thing to do. If it is marginal, then it is not worth doing".

The operating cost consisted of not only capital repayments, interest payments and maintenance cost of the equipment, it also consisted of general overhead costs such as telephone, lighting and heating, sales and administration costs apportioned to the equipment. The difference between the operating cost and the revenue generated by the equipment must be significant otherwise it will not be purchased. These costs were apportioned to departments on a floor area (sq.ft) basis or to the machines, and on top of the sum total of these costs an appropriate margin was added. If it was marginal then the investment would not be undertaken. The use of budget and forecasts was observed in Company 1 by the researcher during the second interview as discussed in the box below.

Box C

Company 1 – Example of the use of budgets and forecasts/team learning

During the purchase and delivery of their first computer to plate (CTP) equipment the owner-manager was observed to hold a meeting with his co-director and the production manager. At this meeting, which was also attended by the researcher (at his request) as an observer only, the management team was observed to cross-check matters dealing with budgets and forecasts. For example, they referred to past financial statements and records and cross-checked estimates of the price of the products and forecasts of the production costs on a monthly basis. The costs included monthly repayments for the machine, material costs, costs of labour (wages), and other consumables, such as electricity etc. Since the monthly turnover more than covered the cost of production, the equipment was certainly going to be acquired. Data collected while observing participants during the meeting contradicted the characterisation of the firm's investment behaviour portrayed in the first interview of relying purely on gut-feeling. However, it may be that the use of budgets is mainly to confirm the initial judgement.

After the meeting the researcher asked the owner-manager why it was necessary for them to carry out the budget and forecasts exercise at that stage of the decision-making process. The owner-manager emphasised: "with all the machines that we have bought, we look at it [the budget] to buy one piece of kit costing about £0.25 million per year". The time the researcher spent with the management during this meeting revealed that the company does not have a formalised procedure to identify needs apart from gut-feeling.

The researcher observed that the meeting also provided an opportunity for the management team to explore their investment decision-making process through 'collective meaning and knowing' in the form of shared understandings (Wyer and Mason, 1998) of the budgetary process. This is a typical example of team learning process because when asked during the third interview the owner-manager commented that "having a good management team is extremely important in developing mind-set. Without a supportive management team this type of decisions would be impossible for me". Clearly, the researcher was able to explore the difference between what the owner-manager did and what he said he did at the first interview.

The box demonstrates the importance of the longitudinal element of the study in terms of verification, deepening the investigation and the learning process. For example, during the first interview the owner-manager said that he uses only his experience, judgement and gut feeling for investment decision making, but the researcher observed during the second interview that they were actually using budgets and forecasts as a 'safety net' to back up judgement and gut feeling. The company probably used gut feeling to identify investment needs because they knew that they were going to make a series of checks in terms of budgets and forecasts. In other words, investment needs were identified by judgement (i.e. when the owner-manager judged that it was actually worth investing) rather than by formal planning cycle. Therefore, the return visit presented an opportunity for the researcher to take the characterisation of the owner-manager's investment behaviour (as portrayed during the first interview) into the second interview to try to test out and see how robust it was. In other words, what the researcher observed one month later did not confirm the characterisation he made in the first interview. It appeared to be contradictory. In this way, the longitudinal approach provides a more reliable view of the decision-making process. There was also an opportunity for team learning and to explore their investment decision-making process in the form of shared understanding of the budgetary process.

Benefits were also assessed in respect of cost savings. For example, using the CTP press, Company 1 would be able to offer services of a set of B1 metal and 6 wet proofs for £350. Conventionally, a set of films would cost £280, the plates £120, and wet proofs would cost £23 a colour, making a total of £423. Using the CTP press, the company would be able to save £73 on cost. Depending on the amount work done per week/month/year, this can translate into a considerable saving. In the case of the steam tunnel in Company 5, the company worked their garments through the old steam tunnel at the rate of about 1000 garments an hour. With the new steam tunnel they increase it to 2,200 garments an hour. It also produced a higher quality finish which means that the firm did not need so many staff to run it, they did not need to do so much hand finishing. So, they were able to lay off a third of the workforce based on the purchase of that machine, which reduced costs and made the whole business more cost-effective.

The facilities manager emphasised: "it doesn't matter what I'm trying to justify, I must, must show an ultimate cost saving".

The investment decision-making process based on budget and forecasts did not involve detailed financial analysis. This means it relied on informal methods in all eight case study companies. In Company 8 it was based purely on simple mental calculation and "a quick scribble on the back of an envelope". This involved ascertaining how many garments were produced per machine. For example, if 10 garments were produced a day on one machine, then two machines would produce 20 garments a day. If an increase in production was desired, then more machines would be purchased. They also used a 'mental budget' to work out whether they could finance the extra work the machine would do. For example, if the company is buying a laying machine, the owner-manager would consider the fact that if they can lay a hundred garments per hour by hand compared with 500 garments an hour by a computerised machine, they would also have to consider whether they have got the money to buy the extra fabric, employ extra machinists and cover other additional costs. The use of budgets and forecasts to assess cash flows or the benefits of an investment was not an easy exercise for the owner-managers due to fluctuation in orders and the uncertainty of the industry's operating environment:

> *"We try and forecast it but you never can because this trade is so erratic, one minute you are up, you are up to your rafters with work, and the next minute you are down, down on the floor. So, there is no constant flow or constant cycle in this trade any more" [Company 1 Owner-manager].*

The above response demonstrates the owner-manager's lack of planning. However, owner-managers in the study tried to incorporate risks and uncertainty into their budgets and forecasts but with extreme difficulty. Therefore, they dealt with it through risk minimisation as the dominant strategy by relying their on experiences, developing and maintaining relationships which can provide them with access to unique low cost and valuable resources and by moving these resources from one investment to another

in the process of continuous adaptation. The sales manager of Company 2, who was also interviewed to discover his input into the decision-making process, likened this process to looking into a crystal ball because of the uncertainty of sales and economic environment:

> *"We do a proper sales forecast for a year, and its not an easy thing to do, you know. It's like looking into a crystal ball".*

In Company 1 the owner-manager examined the last few years' books to forecast future benefits from a new piece of equipment. This is the most formal approach to budgets and forecasts used by the study firms. However, this is not without difficulty due to rapid changes in the environment. The owner-manager likened it to buying a brand new car whose value drops as soon as it leaves the showroom. Examining the "last few years books to forecast future cash flows" implies learning from experience which means bringing knowledge and skills together to interact upon the learning process (Gibb, 1997). Adapting and adjusting to the rapid changes in the environment, albeit with difficulty, resulted in specialisation and distinctive competence (Levinthal, 1996). Budgets and forecasts were used more in the printing case study firms than in the clothing firms because investment involved either a high technology asset or a high level of expenditure such as direct digital colour presses, CTP and Five-colour presses. They were not used for investment involving non-production equipment such as motor vehicles and computers for administrative purposes.

The principle of budget and forecasts suggests that owner-managers of the case study firms were using very similar principles to what are used in more formalised, conventional 'payback' method. For example, in conventional methods, budgets and forecasts are used to isolate future cash flows of projects. In addition, the phrase 'payback' was used by the firms in this study to refer variously to how quickly they think they can pay back the finance companies for the hire purchase (Company 1); what extra sales the investment would create and therefore what extra profit and whether they can pay for that investment by increased business (Company 2); and whether the

equipment can pay for itself (Company 3). The common picture here is that they were using the principle of payback method. When probed deeper, it became obvious that the phrase 'payback' did not possess the same financial analysis and technical calculations described in the financial management literature. However, it did possess a similar thought process culminating in 'bench-marking' process of measuring the length of time taken to recoup the original investment.

This was demonstrated, firstly, by the fact that Companies 1, 2, 3, 5 and 8 in this study were using budgets and forecasts, albeit informally, to assess the benefits that they were going to derive from investment and they assessed from experience how quickly they were going to pay back the money to the finance companies without actually using the financial analysis involved in the pay back method. They only made references to 'pay back' but from what they were actually doing and the approach adopted one draws the link to pay back method. For example, the owner-manager of Company 1 emphasised that the most important thing to them about investment was "how much money it is going to make us and how quickly we think we can pay it back". Secondly, in a formal approach the period of pay back would be identified in advance as 2, 3, or 5 years, but in the case of the firms in the study, behavioural characteristics arising from the combination of ownership and management can be noted. This refers to the preferences and the behavioural traits of the owner can lead to them wanting to payback as quickly as possible, because of their attitude to debt and a reluctance to incur more debt than was actually necessary. This in turn impacted on the form the method took. For example, the owner-manager of Company 1 indicated that:

> *"The idea is to pay these machines off within 3 years and then they become yours and whatever work you are putting through them after those 3 years you are making money on. Because, in effect, you are only paying the guys' wages and consumable costs and the electricity to keep it running".*

There are various reasons for not using any formal method of investment appraisal, including the fact that sometimes investment was made out of necessity:

"If you need to use it, then you buy it. If you are not going to use it then you don't buy it because we don't have so much money to spend for nothing. You haven't got enough time to think about it. If fashion changes and we 've got a docket and we need a certain machine, we haven't got the time to think. We just have to get it because every docket we have is a contract that has got to finish by a certain date and those dates we have got to meet" [Company 7 Owner-manager].

The word 'docket' refers to clothing sub-contractors (e.g. Companies 6 and 7), but this level of dependence does not apply to all firms. However, comparative analysis of data collected from owner-managers found that they identified necessity to be instrumental in the decision-making process. The impact which necessity had upon the decision-making process is also captured by the owner-manager of Company 6's description of his investment process:

"If you need something you 've got to buy it. For instance, that pen you are writing with [pointing with his finger], you need that pen, you 've got to buy it. If you don't buy a Parker Pen then you buy a cheaper pen for the time being, that sort of thing. You get benefits on the longer period. You can't assess the benefits. You see, because these are essential machines that you have to get, it doesn't matter whether you use them once a month or once in six months".

The above quote demonstrates a 'satisficing' solution, which is a concept of the minimum requirement that will fit the purpose. The owner-manager of Company 2 concurred that the main reason for investment is "to remain in business". The work of Keasey and Watson (1993) supports the finding that small firms see their investment as necessary to staying in their line of business, with no alternatives facing them. The owner-managers in the study had "neither the time to carry out any financial analysis nor the ability to assess future cash flows" due partly to the fact that investment was driven by necessity and partly because of uncertainty arising from fluctuating and uncertain orders as explained by the owner-manager of this clothing company:

"You get these dockets from companies. It specifies the completion date. You must have it ready by then. If you don't have them ready,

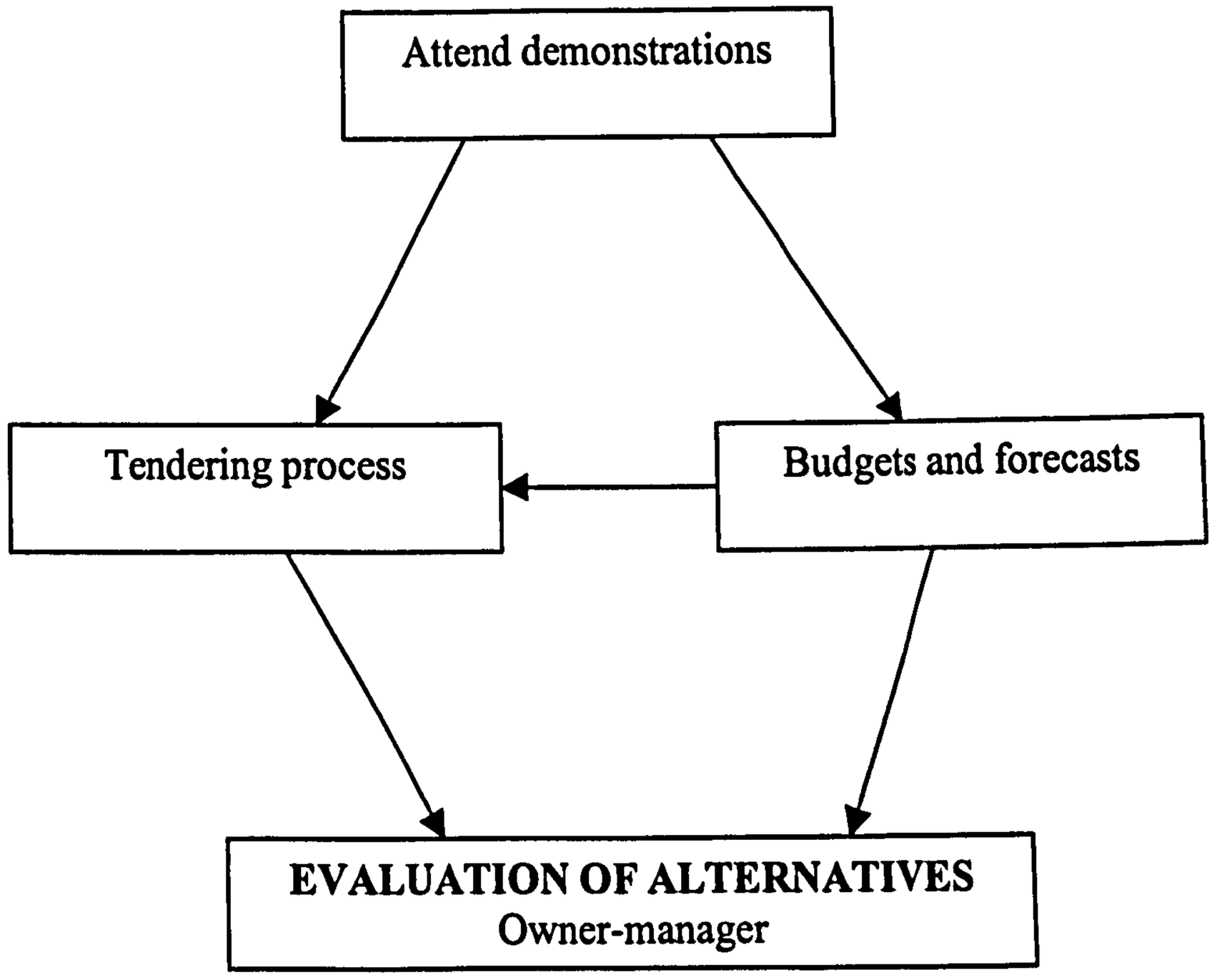
they speak to buyers and they turn round and say 'Oh! well, you are late, you haven't kept your promise. You have to give me 30%, 35% or 38% discount, otherwise I don't buy them'. What do you do? You have to work day and night to finish the order" [Company 6 Owner-manager].

The above quote demonstrates the sort of pressure under which owner-managers of CMT clothing firms (e.g. Companies 6 and 7) find themselves. Here, the owner-manager is referring to just one of such dockets they receive from their numerous clients/customers and they have to work hard in order to meet datelines. This leaves them with no time to carry out any financial analysis even if they had the skills. Other reasons were that Companies 4, 6, 7 and 8 were smaller companies with no hierarchical organisational structure to justify the use of a formal method, and the lack of hierarchical organisational structure means that they have no other person to whom to justify the expenditure. Nayak and Greenfield (1994, p.217) argue that "the lack of formal paper analysis appeared to be more a function of not having to justify the expenditure to anyone else than a lack of analytical thought". The owner-manager of Company 8 explained:

"We don't have a big chain of command, being a small company. It's necessity. It's either you need it, you buy it or you don't. If you can get by with what you 've got, you stay as you are" [First Interview - 6/4/98].

This means that this is a small company with no person to report to other than the owner-manager himself, which does not justify the use of formal method, thus adding value to Nayak and Greenfield (1994). The key techniques used by the owner-managers in the study at the evaluation stage of the process can be represented diagrammatically in Fig 7.

Fig. 7: A model of Evaluating Alternatives



5.5 CHOICE OF ALTERNATIVES

The final element of the decision-making process was choosing between alternatives. For non-routine investment decisions, owner-managers relied on technical advice from equipment suppliers, machine operators and peers, and a feed back from customers. Attention was also given to the role of the external environment such as technological changes, markets, quality of production and skills implications as discussed previously. The respondents cited examples of how they had learned skills and insights from the stakeholders. Rae and Carswell (2001) argue that social relationships are fundamental in learning the living theory and business practice of entrepreneurship from other people. The nature of the advice received, and what was learned, from each of stakeholder group is discussed below.

5.5.1 The role of equipment suppliers

As previously discussed, the actual role of equipment suppliers in the investment decision-making process was difficult to appreciate until the third interview. For example, the owner-manager of Company 1 initially denied receiving advice from equipment supplier until in the third interview when he 'opened up' and revealed that equipment suppliers have a lot of influence on the investment decision-making process in his company. The following extract from the third interview with the owner-manager of Company 1 provides an insight into the nature of the influence:

> *"Generally, what you find is that if you go to one supplier, what they do some times is 'if you spend X amount of money with us and buy all our stuff we will give you X for nothing', which is happening more and more now. The suppliers have a lot of influence on investment decisions. Some times it's like the old cow and donkey trick, really. Because ultimately that's where they make their money".*

The above comments from the owner-manager mean that it was not only advice received from equipment suppliers that affected investment decision-making, but the influence of the total package. This was mainly the case in the printing sector because of the increasing sophistication of technology in the industry. Equipment suppliers know that a lot of companies, especially the smaller, less sophisticated ones are craving to satisfy their customers, so they use their marketing skills and expertise, offering not only after-sales service but also helping them to sell their products and find new markets and to expand in them. Moreover, many equipment suppliers are now providing on site training as part of their sales package (Harrison, 1997; Smallbone et al, 2000). For example, with high technology assets such as CTP and direct digital colour presses the owner-manager of Company 1 was found to liaise more with the equipment supplier in terms of seeking information and assurances, than with conventional equipment because they were not familiar with digital technology. This liaison is conceptualised in this study as a learning process where the owner-manager draws from the experiences of others because he is not familiar with the situation.

Equipment suppliers are much larger companies than their customers and therefore are able to invest in research as digital technology is still being refined (Smallbone et al, 1999).

The owner-manager of Company 6, providing an insight into this process, explained that he seeks advice from equipment suppliers, and asks for their recommendations because "they know what is good". The owner-manager of Company 7 explained:

> *"I then speak to my machine suppliers to see what machines are available which can help".*

This means that the owner-manager of this company uses the help of equipment suppliers to find a solution to the problem. Hensman et al (1999) observe that owner-managers are interested in finding solutions and it is in the solution-finding process that learning takes place.

The extent to which the advice received from equipment suppliers was useful was revealed by owner-manager of Company 1 after the purchase of the CTP. He revealed during the third interview that he had not only learned from the experience of the equipment suppliers, but that their advice actually fed into the choice of alternatives. The owner-manager explained:

> *"They helped tremendously not only by providing us with advice about the CTP but also by providing technical support and training. They 'll probably continue to offer us with the benefit of their experience for a long time".*

This illustrates a continuous learning process. The ability to learn on a continuous basis is viewed as a key determinant of competitive success (Sullivan, 1999). When asked specifically about what was learned from the equipment suppliers the owner-manager emphasised:

> *"The advice and support gave us more confidence when we were going*

to buy our B2 Xeikon digital press. Our heavy dependence on them (equipment suppliers) has lessened as we now feel more able to cope with the technology ourselves. I now feel more confident to make these decisions myself".

This owner-manager believes that the skills and knowledge gained in taking advice from equipment suppliers during the purchase of the CTP have been critical when faced with the purchase of the B2 Xeikon digital press. He believes that the advice enabled him to dissect, reflect, learn and act on the critical incident, thus leading to a change in behaviour. The role of the equipment supplier is then one of facilitator that enables the owner-manager to change behaviour and attitude, and to modify future actions as a result (Sullivan, 1999). The evidence suggests that the role of equipment suppliers is rather subtle. To come to an assessment of the role of equipment suppliers it was necessary to know about how often these firms had contact with equipment suppliers, how often the salesman phoned up, and how many equipment suppliers they were exposed to. For example, the owner-manager of Company 2 was on his 6th Heidelberg machine, had known the particular salesman for over 20 years and there was a level of trust built up between them, based on reliable, low depreciating equipment, resulting in a strong loyalty to the particular type of equipment. The salesman would phone up once every 2 to 3 months, which suggests that the equipment supplier was driving the agenda in terms of investment decisions by that company.

A BPIF informant from whom Company 1 was receiving business advice confirmed that investment in the company was "driven by suppliers". In other words, the equipment supplier would sit down with the owner-manager to discuss not only the technical details of the equipment but also the production options, thus offering the benefit of their experience. Although the owner-manager of company 3 claimed in the second interview of 7/10/98 that his company did not use the services of an equipment supplier, this issue was probed deeper in the third interview of 7/4/99 and there was evidence that the bigger the names of the equipment suppliers the more the company was predisposed to consider their advice because "they have been in business for a long time and have got a good name in the trade" (Owner-manager – Company 3).

An equipment supplier interviewed for this study, which specialises in printing equipment and supplied equipment to Company 1 illuminated the evidence by stressing that there is a very high level of participation in the decision making of their customers. When pressed on his role in the decision making process of his customers, he pointed out that when they are selling presses for printing they would actively consider the current year's product range and would be willing to discuss with customers the production options that are available. Equipment suppliers also advise on certain colour effects and how to produce them. Similarly, the customer may be undecided on the equipment he is buying and he may consider whether he wants a six-colour press or a four-colour press, which may require putting work through twice. If the customer has a relatively small production volume the second option may be the better choice. In this regard, equipment suppliers would work with customers to decide what equipment would be most economic to buy. They would sit down and find out what the customer's aspirations are and talk through with them why one would be better or why the other would be better. This is an example of a learning process through interaction between the equipment supplier and the owner-manager through sharing of ideas and meaning. However, as Lloyd and Dicken (1972) argue, owner-managers' aspirations are difficult to measure as they are not only a composite of multiple variables related to age, personality, socio-economic status, attitude to risk, etc, but they are also a dynamic phenomenon that change over time for a given individual in accordance with experience, i.e. learning.

Similarly, Company 6's equipment supplier who also supplied equipment to Company 7 indicated the degree of his involvement in the decision-making process as follows:

"First of all, we bring different models of equipment to the attention of business owners through our brochures and through demonstrations. We would go through the price and specifications of different equipment. We would sit down with them to decide which equipment would be suitable for them. We also service the machines for them, so there is an on-going relationship".

This means that the equipment supplier actually has an interest in the buyer making the right choice. Therefore, he takes long-term view because he is in a market where he believes that it is basically in his long-term interest for the customer to make the right choice. He also explained that occasionally the customer would say that he prefers equipment from 'A' rather than from 'B', but most of the time the owner-manager would say, 'if that is what you recommend, your job is to supply a machine that will satisfy me', and this throws the responsibility back on the supplier that the equipment has to be suitable for the purpose. The equipment supplier stressed that owner-managers who think they know what they want and would not take advice are often the ones who make bad investment decisions because they base their decisions on what existed in the past. In this sense, an equipment supplier can be of real help to the customer i.e. owner-managers and the customers who get the best value are the ones the machine dealers "talk to" most.

As discussed in the next chapter, finance came as a package in most cases with the equipment that was being purchased. A financial package means that equipment suppliers always had people who were going to supply investment finance with respect to hire purchase and leasing, if they did not own the finance house themselves. This is because many HP companies and finance houses are actually owned by equipment suppliers. For this reason they are in a position to offer an attractive financial package, comprising lower repayments over a long period of time. The owner-manager of Company 1 explained: "you get finance houses climbing all over you to make a deal..., and so we play on that and get good deals". This is actually in the interest of equipment suppliers because it results in substantial profits through interest payments. Since the finance houses are owned by equipment suppliers they tend to specialise in printing and in financing printing equipment, and because of this knowledge of the industry they tend to support the printing companies which basically helps to sell the equipment.

Relationships

Owner-managers in the study were able to build personal knowledge and good

relationship with equipment suppliers and the finance houses because they tended to use the same equipment supplier and finance house that they have used in the past unless they are dissatisfied with their services. The following extract from the interview with the owner-manager of Company 2 illustrates this point:

> *"We will go to a finance house. We tend to stay with the same finance houses that we have used in the past. Also, they tend to be finance houses that specialise in printing and supporting printing companies".*

This is clearly a demonstration of the satisficing behaviour referred to earlier and how owner-managers interact and learn from the resource providers who have a 'subjective' contextual knowledge of the industry. Expert knowledge of the industry is important for the firms because it creates an effective and efficient level playing field and a true empathy between firms and equipment suppliers. Thus, owner-managers would not be asked too many questions because they already know the trade and the activities of the firms. They have also seen the equipment before in similar set ups and they know whether or not it is going to be worthwhile before financing it. They can therefore make a decision quickly. A good relationship with the financiers is also necessary because they can build up trust and interdependency with them by turning intermittent business relationships into on-going relationships, thus enhancing understanding and respect. For example, the owner-manager of Company 7 emphasised:

> *"We have certain equipment suppliers that we use for replacing our machines, and those suppliers also service the machines. So, there is an on-going relationship".*

The phrase 'on-going relationship' in the quote demonstrates the potential for the firm to build, and learn from, such networks (in an open-loop learning process) by turning key transactional relationships into social relationships, converting intermittent relationships with the equipment supplier and the finance house into ongoing relationships and using a personal relationship to build wider organisational contacts (Gibb, 1997). The influence of equipment suppliers in the investment financing process demonstrates the application of agency theory which is described in small firms as the

relationship between stakeholders such as fund providers and the entrepreneur (Deakins, 1996). Company 1's equipment supplier intimated that equipment suppliers have a significant influence on which finance houses are being used. Apart from the finance houses actually owned by equipment suppliers, they recommend finance houses that they are confident will provide their money as soon as possible:

> *"We do suggest a couple of finance houses on many occasions, but we have as little as possible to do with it. We try to steer them towards the finance houses that we know will keep us waiting the least long because all the finance houses are very provident the way they deal with machine dealers".*

This demonstrates how small business owners build relationships with persons who have themselves influential effective networks (e.g. equipment suppliers and the finance houses). It also emphasises the effective use of networks in the learning process. The role of equipment suppliers depended, to a greater extent, on the type of assets. If the assets involved are high technology assets then the influence of equipment suppliers is quite pronounced because owner-managers are less familiar with them than with conventional assets due to risks and uncertainties associated with such assets. Interpreting the above evidence of the role of equipment suppliers in the light of the learning process and pattern-matching analysis, it seems fair to argue that the owner-managers may seek advice from equipment suppliers as part of the business network that they learn from, especially if the asset involves new technology. The evidence illustrates the impact of interaction between the equipment supplier and the owner-manager in the learning process, whether it is the provision of information on the different types of equipment available and the prices or whether it is active participation in the decision-making process.

Good relationship with equipment suppliers was considered to be important in Companies 1, 2, 3, 6 and 7. Typically relationships are an intangible and a tacit resource (Harris et al, 1999). The degree of influence that the relationships had over the investment decision-making process of the organisations varied, as was the degree of

formality or informality of the advice offered. As such, the relationships were seen to be of great importance as a resource linked directly to the investment decision-making process, and useful because of its role within it. Perhaps the most important issue about relationship as a resource was the length of time some relationships had lasted. For example, the owner-manager of Company 2 had a 33-year relationship with his equipment supplier.

5.5.2 The role of key employees

There were varying degrees of involvement of key employees in the investment decision-making process. The role of key employees was prominent in two different stages of the decision-making process. One was at the evaluation stage, which involved attending demonstrations with owner-managers to check out equipment specifications and prices. They also inspected equipment in action in an ideal working environment with owner-managers to determine their technical reliability. The second role fed into the choice of alternatives.

The nature of the input of key employees in choosing between alternatives in Companies 1 and 2 was in the form of technical advice from machine operators. The owner-manager of Company 2 provided an insight into this process:

> *"...And then you basically ask the guy that operates it what he thinks of it"*

This is so because if the owner-manager is away from the 'sharp end' the employees that are operating some of the equipment have much more up-to-date technical knowledge than he does. They are acquired technical experts in terms of technology. This means that the investment decision-making process was not an appraisal in the sense of an evaluation involving cost v. benefits. It was simply appraising whether or not it can do the job that it is supposed to do. In other words, the process was a technical appraisal rather than financial appraisal. For example, a machine operator

was not going to have an opinion on whether or not equipment was cost-effective but on technical reliability and product quality, which is part of a production-led mentality in small manufacturing firms. Therefore, a machine operator gives his opinion as to whether or not the equipment does a good job technically and whether it is easy to use. He passes opinion about its likely maintenance and reliability. This is a bench-marking threshold providing 'satisficing' solutions, some way below what is optimising solution. In this respect, the finding adds value to Jarvis et al (1996) who argue that, in practice, people often adopt a 'good enough' approach, that is, a decision that meets some minimum set of acceptable standards determined by shared rules or norms rather than attempting to achieve some optimal decision. The bench-marking threshold offers a variant on conventional, formal methods of investment decision-making which assume the objective of simple profit maximisation. Conventional models of financial management take actors' desires as given without exploring their origins, thus understating the influence of the external environment and ignoring differences between skills and competencies (Jarvis et al, 1996). The finding also makes a valuable empirical contribution into a neglected area of small firms' investment decision-making process.

Whilst the management style of owner-managers generally tend to be autocratic and underpinned by a reluctance to delegate decision-making (Burns, 1996), key employees in Companies 1, 2 and 3 in the printing industry and Company 5 in the clothing sector were substantially involved in the investment decision-making process. However, the owner-manager of Company 3 indicated that he may ask for their opinion, but may totally ignore it. On the other hand, the owner-manager of Company 1 indicated that he, together with the production manager, inspected equipment in an ideal or working environment. This is what the owner-manager said during the first interview:

> *"We [the owner-manager and the production manager] go and see some demos and look at different pieces of kits...and think, well, will it work for us?" [Owner-manager - Company 1]*

The above claim was actually verified using the triangulation process by talking to the

production manager in a separate interview. The validity and reliability of the claim of the role of key employees in the investment decision-making process of that company was increased when the production manager provided the initial clue of his involvement by attending demonstrations with the directors to determine the best price and to ensure that they have the best value they can get from the equipment:

> *"We [the production manager and the owner-manager] go and look at different pieces of kits and then we say which one will slot in the easiest into the way we work already, and how much time is it going to take us to get us up and running on it and working a 100%" [The production manager - Company 1].*

This demonstrates the importance of the role of technical staff in investment decision-making. The above extract from the interview with the production manager illustrates the nature of the feedback process and the extent to which his opinion and assessment was actually taken into account. The use of the word "we" by both the owner-manager and the production manager in the above quotes suggests a form of 'collective understanding' (Wyer and Mason, 1998). The extent to which the opinion of the production manager was taken into account was apparent when the owner-manager revealed of a "major incident" that took place a couple of years back where he, contrary to the advice of the production manager, purchased a fully computerised Dainippon Camera for £18,000 which is hardly ever used. The owner-manager recalled that at that time he had the problem of recognising and trusting the ability of key employees. The result was that the owner-manager not only made a bad investment decision, but the business suffered because of the tension, confusion and the internal conflict that the situation created. The owner-manager reflected on the situation and how he has learned from it:

> *"I have learned to trust him basically and to recognise that he is a huge asset to the company. I don't ignore him any more. I have come to respect his views and opinions, I have completely changed".*

This owner-manager has actually learned from his mistakes and has changed. He has

now learned to delegate and to trust his key employees for their technical expertise. In this case it seems that the behaviour of the owner-manager displayed during this time, and his reflection on his actions, has fundamentally changed his self-awareness and his resulting outlook on how he conducts the business. The most significant learning that the owner-manager experienced was a result of his subsequent actions once he was aware of the crisis, although he also recognises that he learned about his own weaknesses from the initial mistakes he made. Objectively, one can argue that the mistake itself was critical because of the tension and conflict it caused in this company. It is this ability to learn from mistakes that makes successful entrepreneurs (Sullivan, 1999).

White (1999) argues that gaps in knowledge/competence have to be recognised and filled because "what you cannot do yourself others can do, be they employees, partners, networks, ..." (p.5). This finding contradicts Burgoyne and Hodgson's (1983) finding that higher-level learning is associated with cumulative experiential learning as opposed to a sudden realisation. Wille (1992) argues that delegation and trust are the essence in leaning through the job. Whilst Boussouara and Deakins (1999b) posit that members of firm involved in a significant learning process are likely to increase their levels of trust. This means trusting that "others can carry out their tasks as well as we can carry out ours" (Massari et al, 1999, p.109).

The role of key employees also took the form of a team approach to decision-making. The analysis of the data collected from the sales manager of Company 2 also revealed the involvement of key employees in the decision-making process of that company. The sales manager's account provides an insight into the extent of the involvement of key employees in the decision-making process when he referred to "a week-end away" after Christmas, during which they locked themselves in a hotel for the week-end sharing knowledge, ideas and opinions. The following extract from the interview with the sales manager provides an insight into the process:

"...It's really the team, the directors, the owners and the managers

sitting down and planning...After Christmas we all went away for a week-end and locked ourselves in a hotel for the week-end and just plan for the year ahead...not just for investment, but everything for the business".

The significance of the 'week-end away' and the role of the key employees in relation to the investment decision-making process are demonstrated in the following remarks from the sales manager:

"We learned a lot during the 'away-days' through interaction, sharing knowledge, ideas and opinions. We all have different talents and abilities, you know, which came out in a team spirit during the 'away-days'"

Although it is difficult to see how the transfer of learning actually took place in such circumstances, the above quote demonstrates the role of key employees and team development in Company 2. In this instance team learning takes place through sharing knowledge, opinions and ideas of how things work in the organisation and its operating environment (Massari et al, 1999). Learning is often an unconscious, informal process (Marsick and Watkins, 1990). This brings with it important benefits such as bringing together the talents and abilities of team members. Even though much of the learning undergone during such a period may be tacit and as such difficult to formalise and communicate (Nonaka, 1994), Hawkins (1994, p.10) argues that "some organisations would take their teams off by themselves for 'wood meetings' or 'away-days', for the team to explore their process and learn how to function better". From a dialogical perspective, Hawkins also observes that the learning of the team does not just reside within the team, but also in the relationships of the team to those stake-holders, customers, suppliers, etc. with whom their work is inextricably linked. However, a team approach to decision-making can be criticised on the grounds that it is contingent upon the willingness of individuals to make their personal knowledge available given their inherent self-interest. It is also contingent upon the ability of the owner-manager to tap that personal knowledge (Wyer and Mason, 1998).

Nevertheless, it seems fair to argue that in Companies 1, 2, 3 and 5 there is some degree of collective sharing of knowledge, ideas and meanings. Although decisions may be made by one person (i.e. the owner-manager), he or she interacts with people within the organisation, collects information. This may involve seeking the views and technical advice of machine operators even though at the end of the day they may choose to ignore them and basically make their own decision. For example, in Company 3 the owner-manager had a discussion with key employees to determine whether or not the investment "fits in with everybody" even though the final decision was his. 'Fitting in with everybody' means employees need to feel comfortable with it. It also means fitting in with the whole objective of the organisation without upsetting it or causing friction. The owner-manager of Company 1 explained it as follows:

> *"It's got to be anything that can go into the building quite easily and fit in without upsetting the whole situation. Basically, it's got to fit into the working environment without too much hassle".*

In Company 5 the role of the facilities manager in the decision-making process was to assess the viability of an investment and to make recommendation to the Board of Directors. The owner-manager of Company 5 emphasised that they would not invest "without asking the facilities manager what he thinks of the investment or whether it is a good investment". The facilities manager, giving validity to the owner-manager's account stressed that:

> *"...The Board will listen to us, takes it on board and they are likely to give us the go ahead to start planning. In my case, I will normally be liasing with either the managing director or the chairman and we will be meeting on a regular basis making decisions, making purchases or whatever..."*

'Listening, 'taking it on board' and 'meeting on a regular basis' indicate active participation in the decision-making process of that company by the facilities manager. The facilities manager, an acquired technical expert, would carry out "an assessment" and would come up with a recommendation to the directors, giving reasons for his

recommendation. He would also have to be able to "justify it and explain it in full". To justify the investment, the facilities manager does not only have to show the need for the investment, he also has to show the benefits in terms of cost savings. If the managing director "likes the idea he would call in the supplier and negotiate for a better price". A causal link is established here, through the explanation-building technique, between the case study data on the role of employees in investment decision making and the on-going argument about the role of stakeholders, and the role of employees in particular, in decision-making. For example, Wyer and Mason (1998) propound a conceptualisation which posits the small firm as capable of developing 'collective meaning and knowing' in the form of shared understandings of how things work in the firm based on the experience of the organisation members even though the nature and extent of that 'collective meaning' will vary from business to business, given the political nature of the organisation.

In this study, the concept of 'collective meaning and sharing was stronger in Companies 1, 2, and 5 than in Company 3, and virtually non-existing in Companies 4, 6, 7 and 8. Companies 1, 2 and 5 were larger companies in terms of the number of employees than the rest of the case study firms and were stronger performing firms in terms of turnover. It also depended on the types of investment decision-making involved and the sector (new technology in Company 1 and computer controlled, fully automated equipment in Companies 2, all in the printing sector). White (1999) indicates that when developing the business idea in a team, differences can mean tension and conflicts but when sharing and managing these differences in an open way, there is a great development of the business concept and the team members receive a high level of motivation and commitment.

5.5.3 Advice from peers

Apart from the owner-manager of Company 1 citing examples of how he had learned skills and insights from peers, the role of peers in the investment decision-making process was actually observed in this company during the third interview by the

researcher as previously discussed in Box B. Asked about the usefulness of such advice, the owner-manager revealed that the advice received from his colleague was very helpful in terms of learning from his experience. Asked specifically what he learned, he reflected:

> *"I think the main thing I learned was to have confidence. I learned that you've got to be decisive and forward looking. This confidence showed up when we bought our next kit - a B2 Xeikon digital press. We had no fears whatsoever".*

Although the above quote implies that he was looking for support for his decision, in this case study learning was noted to have taken place because of the cognitive and behavioural change in how the owner-manager made the subsequent investment decision. The skills and expertise learned during the purchase of the CTP was replicated in the subsequent purchase of the B2 Xeikon digital press without intervention from his colleague. This transfer of learning in other areas is evidence of their sustainable use thereafter (Hensman et al, 1999). Hensman et al describe this type of learning process as an intervention that provides the support needed for the owner-manager to learn how to manage the innovation of their business in the way he wants to. Inherent in this process is the facilitation of the owner-manager to develop the confidence and commitment necessary to make a difference. As White (1999) argues, the owner-manager needs to own his ideas and arrive at his own solutions, but he can benefit immensely from having a confidant to turn to for advice and guidance. This means someone he trusts and respects, whose experience, skills (and perhaps wisdom) he can look up to. The peer's role is not to provide solutions to the owner-manager's problems rather it is to enable the owner-manager to identify for himself where he is and where he wants to be. In this respect, the role of peers is similar to the role of a mentor, which has been previously described.

This is an example of open-loop learning, which was mostly applied in the printing industry and for assets of high technology. Learning from peers is a form of interactive learning, which encourages dialogue. Dialogue is the hallmark of the learning

organisation (Hawkins, 1994). The word 'dialogue' expresses the idea of meaning passing between people. In dialogue individuals have access to a larger pool of common meaning than is possible personally. The owner-manager learns from the process and applies his learning to resolve future problems. The peer acts as a 'devil's advocate', questioning the owner-manager's ideas, acting as a sounding board, offering him the opportunity to see his ideas from different perspectives and in new ways. This also means that the role of the peer was not only restricted to choosing the best alternative, it also helped in the evaluation stage of the decision-making process.

5.5.4 The role of customers

The role of customers in the investment decision-making process was significant both in the printing firms as well as the clothing firms. Two types of customer relationship can be distinguished in the two sectors. Firstly, in the printing sector, it was individual customers having a specific role in the decision-making process. The ability to respond speedily to customer demands in Companies 1 and 2 (both printing firms) who increasingly wanted just-in-time printing required the acquisition of high technology equipment involving a very high level of expenditure such as direct digital colour, CTP, and five-colour presses, and ISDN, whereas in the clothing firms equipment cost much less. To emphasise the role of customers' involvement in the decision-making process, the owner-manager of Company 1 commented that "without customers we wouldn't be working and without customers we wouldn't be making money". Therefore, investment enables the firms to respond swiftly to customer demands. There was also investment designed to enable the firm to meet the needs specific customers (e.g. the order for casual wear which required the use of Twin-Needle machines in Company 6, described in Box D below).

The role of customers means that owner-managers learn from customers as part of a network and use them to scan the wider business environment and to define, meet and bring forward their future needs. For example, Company 5 ascertained the standard of quality of their product, which in turn determines the need for their investment, through

a continuous feedback process between the customers and sales team and the rest of the management. For instance, if the number of returns goes up the company then knows that they are not reaching quality control standard. They can predict it, to a large degree, because the sales team which includes the sales director, the chairman and the production manager, are always dealing with customers. If they express dissatisfaction with the quality of the product or would like some improvements in certain areas then the company knows that they have a problem and seeks ways of resolving them.

Secondly, there was subcontract relationship mainly in the CMT clothing firms in which subcontracting is a feature of production. The role of customers in the investment decision-making process in clothing firms was mainly in the form of changing requirements of a major customer, affecting long-term bulk contracts or obtaining orders or contracts from a new customer such as the orders received by Company 6. Although the customer was indeed a 'new market' for this company, there was no indication that investment was driven by a desire to enter a new market but rather a reaction to an opportunity. In other words, this was an application of an existing production process to a new opportunity (Smallbone et al, 1997). Other evidence of the role of customers in the process of investment decision making was actually observed by the researcher whilst he was in Company 6 for the follow-up (second) interview. The details of the observation are highlighted in the box below.

Box D

Company 6 – Example of the role of customers in investment decision-making process and evidence of closed-loop experiential learning.

In the first interview on 1/4/98 the owner-manager stated that the company did not use any formal evaluation method to appraise investment decisions. However, he said that he considers the price and the reliability of the equipment. He also claimed that the company seeks advice from equipment suppliers and from "maintenance engineers", asking for their recommendations regarding the reliability of the equipment because they (the advisers) know what is good. The 'maintenance engineers' were both equipment suppliers and machine operators.

But during the second interview of 15/10/98 the owner-manager received an order for casual wear which required the use of Twin-Needle machines which the company did not own. The owner-manager sat in silence for brief moment, then thinking aloud, wondered how he was going to deal with such a demand. As he sat there pondering over this matter, an equipment supplier came to see him, and the owner-manager, temporarily suspending the interview, seized the opportunity to arrange for the purchase of one Twin-needle machine and the leasing of 3 of them. This was clearly a situation where a change in the requirement of a single customer had a significant impact on the firm.

This observation simply confirms how some investment decisions were made as a reaction to an event i.e. opportunistic rather than planned. It shows that the owner-manager was adapting to a situation – albeit a response to customer demand - without enough time for proper planning, otherwise he would lose the custom of an important customer. This demonstrates reactive rather than proactive management, mainly because the firm is engaged in CMT and also because of the fragmented nature of, and off-shore competition in, in the industry. The observation gives validity to the claim during the interview that the owner-manager had neither the time nor the ability to assess the future cash flows and to carry out financial analysis of the investment. Nevertheless, it contrasts with the claim that he would consider the price of the equipment and the reliability of the equipment, as well as seek advice from equipment suppliers and from "maintenance engineers" and ask for their recommendations.

The finding also demonstrates that the owner-manager of this company was using his experience to take a calculated risk. The owner-manager knows the industry well and knows, perhaps, that he is getting those machines at a rock-bottom price. He has been in business in this particular company since 1993 but before then he had been working in the industry for 20 years. He brings forward his experience from which he knows that there is very little risk, since he is not going to have a major problem in getting a return for his investment.

The longitudinal element of the research provided the opportunity for the observation of the investment behaviour of the owner-manager and for his claims during the first interview to be tested. Otherwise, this vital evidence would have been missed and the researcher would have based his assessment of the evidence on what the owner-manager claimed he was doing in the first interview. The above case also demonstrates a closed-loop experiential learning. Experience helps to define the parameters within which the owner-manager is prepared to operate in his decision-making. He has accumulated many years of experience in the trade and knows what the machine can do. He can see that simply by the value of the contract he is actually going to pay for these machines. He knows that by the scale of business in the last year or two, he is not going to have any difficulty in the machines paying for themselves. His experience probably tells him that within certain parameters/limits he can make that kind of judgement and that he is on pretty safe ground (i.e. little risk). However, if a more sophisticated equipment was required, or if the owner-manager was faced with a slightly different version of the same thing, he may have approached it differently because that may have taken him outside these parameters or outside his comfort zone. The relationship between the experience accumulated by owner-managers and the way in which they actually define those parameters is discussed below.

5.5.5 Experience of Owner-managers

The extent to which the background and management competencies of the owner-managers impacted on the experiences and learning behaviour of owner-managers was explored in this study. The owner-managers certainly did not have the same background and were not coming to investment decisions from the same starting point. They had different skills and different competencies. It was therefore, to that extent, not a level playing field. Using content analysis the features associated with owner-managers' background and competencies were listed. The table below summarises the background and the management competencies of the owner-managers in terms of what they were doing before and how long they have been in the company. It also summarises how this experience affects their approach to decision-making. Clearly, the

owner-managers had a variety of experience, which included not just how long they had been in the company but what they were doing before and their experience in the company. In the case of Companies 4, 6 and 8 they had been in the company for a short period of time but their experience outside the company was equally valuable. The various experiences of the owner-manager whether gained within the company or outside the company had significant impact on choice of alternative equipment as illustrated in table 5.2 below.

Table 5.2: Owner-managers background and management competencies

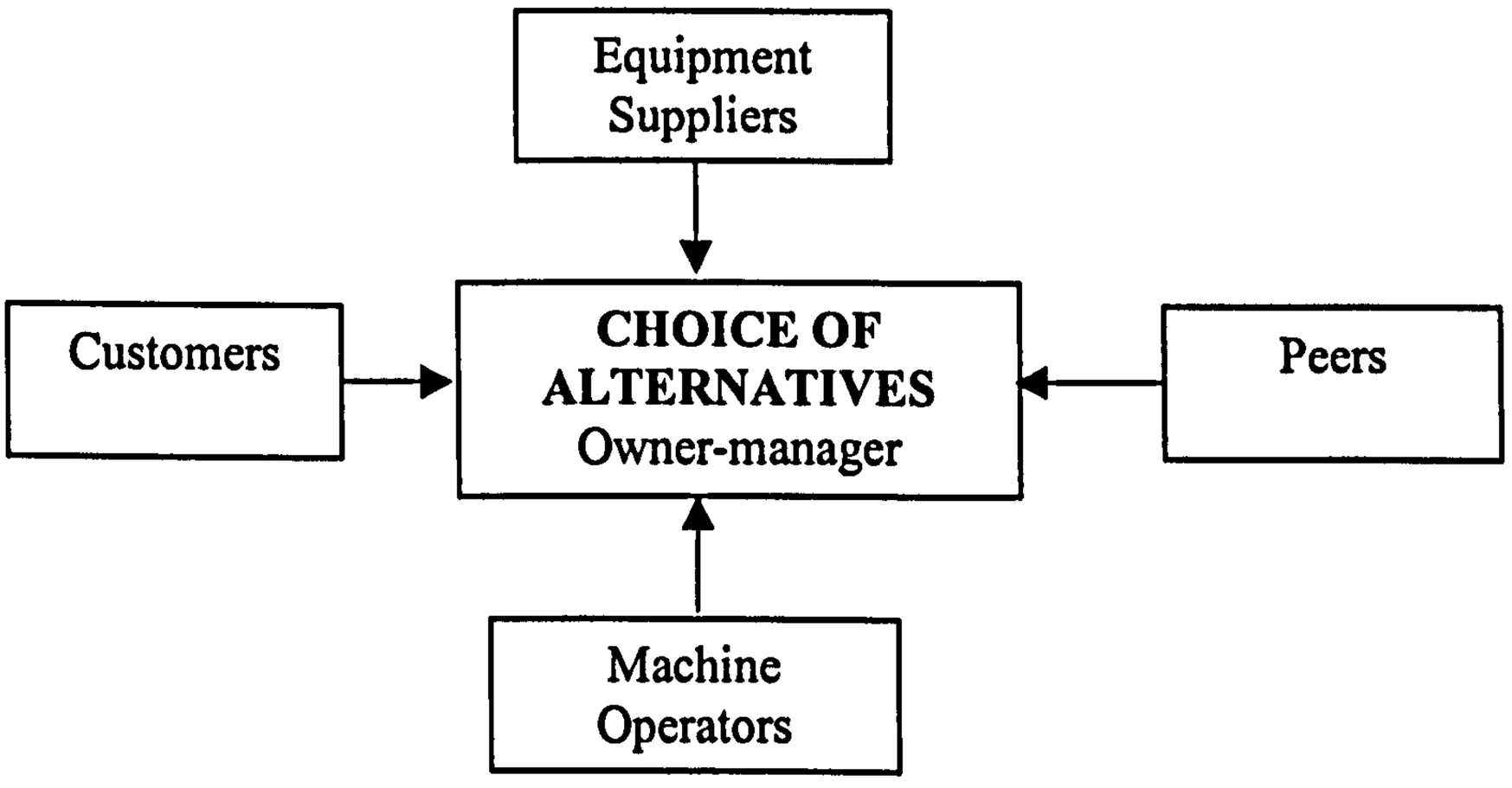
Firm	Qualifications	No. of years in company	Experience before starting own business	Transfer of experience and the impact on decision-making	Core Competencies
1	'O' Level	17	Worked for a number of years in the sales and administration of brother-in-law's printing business; No background in production other than what has been learned since starting own business.	Has bought equipment for only 2 to 3 years having learned from the experience of peers. Draws from the experiences of key stakeholders (i.e. equipment supplier and the production manager.	Ability to draw from rich deep understanding and experiences of peers as well as shared knowledge such as specific knowledge of the production manager; an appreciation of how the firm's technology provides solutions to customers problems (Chaston & Mangles, 2002); relying on those with extensive experience with markets and technologies e.g. equipment suppliers; giving an experienced middle manager (e.g. the production manager) the 'space' to ply his trade. (Barney , 1991; Leonard-Barton, 1992); continually finding new ways of improving their products and process technologies (Chaston & Mangles, 2002).
2	'O' Level	33	Has been in printing since 11 years of age working for an employer up to the age of 20; No management skills before starting own business.	Now conservative about borrowing having learned a lesson from "two nasty experiences" during the last recession. Learned by experience that buying Heidelberg machines works in terms of reliability and value and so there is an assumption that it is going to continue to work.	Developing ability grounded in practice, experience and in doing (Nonaka, 1994); ability to discern how a certain brand of equipment (Heidelberg) is right for his company, its reliability and value; working in team through the process (e.g. 'week-end away') : and the richness of shared knowledge (Friol, 1991; (Chaston & Mangles, 2002).
3	'A'Levels, HND, DMS	15	Has a background in electrical engineering and printing and joined the family business after college education.	Insists on buying equipment with "a good name and a good resale value" ("a fall back position") having learned from the mistake of 1993 when the company purchased a two-colour machine for £88,000 which was made by a manufacturer not perceived to be reputable and therefore had no resale value.	Use of resources of good brand names (Henderson & Cockburn, 1994); tacit knowledge regarding the process of investment decisions (Dougherty, 1995).

4	'O' Levels, City &Guilds (Printing)	8	Has a background in printing. Had worked in the printing industry for a long time as a director of a publishing company before starting own business.	Past experience with the bank, when the owner-manager came close to losing his £400,000 home due to excessive borrowing, has affected his choice of finance. He avoids using bank loans for investment purposes: "We are very careful. We don't want to buy equipment and can't get enough work to generate more turnover".	Use of practical experience (Nonaka, 1994); emphasis on low cost equipment and second-hand equipment but high quality solutions.
5	BSc (Air-craft Engineering) (Facilities manager)	17	Has been in fashion industry for a very long time and knows the business "inside out, back to front"; Started business as a modelling agency but branched out into the production side. The modelling agency went burst but the manufacturing side continued.	Learns by experience that investing for the sake of it without having a clear picture of what that investment is going to generate in terms of additional business and cost savings can produce "the busy fools syndrome" where they were forced to chase businesses through price cutting. This illustrates the need for product/market development.	Applying creativity to specific but real needs; developing insights into customer needs (Chaston & Mangles, 2002); working in a team (e.g. Board meetings); giving the facilities manager opportunity to be involved in the decision-making process (Sayles, 1993; Chaston & Mangles, 2002).
6	OND (Finance)	6	Worked for several years in a similar clothing factory before starting own business.	Although only 6 years in own business the owner-manager had worked in the industry for 20 years. He knows the industry well and therefore brings forward this experience which enables him to make investment decisions instantly in order to service a particular client.	Emphasis on low cost equipment to minimise risks; deep knowledge of the industry and hands-on practice and experience of equipment purchase (Nonaka, 1994).

7	BSc (Economics)	10	Worked for a number of years in a large firm of Chartered Accountants before taking over the family business.	The owner-manager does not have any personal bad experience but learns from the experience of other people in the industry during the last recession where they had their "fingers burned" through excessive borrowing. Therefore, if "we can self-finance investment through retained profits we go ahead, if not we don't". This means that the company uses only retained profits to finance investment, thus avoiding all forms of loans including HP and leasing.	Use of rich tacit understanding and industry specific knowledge of the owner-manager; emphasis on low cost resources.
8	No qualifications	8	Has a background in the clothing industry where he worked for father for 3 years after leaving school.	Sticks to the same type of equipment that he knows and have got already, rather than move to an unknown types. This make it easier for owner-manager in terms of repairs and maintenance because they are familiar with the equipment and can do their own repairs by switching parts between different machines. This demonstrates the role of experience which means sticking to what is known or what one has until there is some major reason to change it.	Use of specific knowledge of asset and brand names (Barney, 1991); relying on tacit knowledge of the industry; emphasis on low cost assets (e.g. buying second-hand instead of new).

Lack of competence in terms of education and training is often used in the literature (e.g. Poutziouris et al, 1999) to explain why owner-managers are not using the more formalised models. In this study, educational qualifications did not seem to have any effect on the decision-making process. Owner-managers of Companies 3, 5, 7 who had degrees or degree equivalent qualifications were not using formalised methods because they were not appropriate and because they actually reduced their flexibility; it was better for them to adopt methods based on past experience. This contrasts with Poutziouris et al (1999) who indicate that owner-managers' educational qualifications have an effect on businesses' capital structure. They found that companies run by owner-managers with a university degree or higher level qualifications exhibited gearing ratios that were higher than those of companies run by less formally educated owners. Key players at the choice stage, whose opinions actually feed into the decision-making process are shown in the diagram below.

Fig.8: Key players in making investment choices



5.6 CONCEPTUALISING THE PROCESS

The existing literature in the area of investment decisions (such as Hankinson, 1983; Austin et al, 1994; and Wilson and Peel, 1996) has failed to address the key question of investment decision-making process in small firms. In view of the inadequacy of the available literature on the investment decision-making process of small firms, a different kind of literature is used to help to interpret the process of decision-making in the study firms. The core methods used in the study firms in terms of decision-making is perhaps best conceptualised as 'bootstrapping' methods. 'Bootstrapping' represents an approach to decision making that is grounded in previous experience of key decision makers and their organisations and the largely informal routines that they develop from this. Therefore, 'bootstrapping' techniques are benchmarking approaches to investment appraisal without using the conventional appraisal methods recommended in the mainstream financial management literature (e.g. Pike and Neale, 1993; Lumby, 1994; Peel and Wilson, 1996). Under the 'bootstrapping' approach, the owner-manager brings forward his experience from which he assesses the risks involved in the project and from which he is confident that he will obtain a return from his investment.

The concept of 'bootstrapping' was developed by Winborg and Landstrom (1997) to include 'financial bootstrapping'. It represents measures used by small business owners to meet the need for resources, without using external long term capital from banks and other traditional sources. The Winborg and Landstrom study focuses on the 'creation' of resources needed in the business, which from the owner-manager's point of view, is important rather than capital per se, suggesting that the definition of finance should be extended to include those that can be realistically modified. This study adapts the concept to include 'investment bootstrapping' in order to provide insights into how small firms actually behave in relation to investment decision-making.

The concept is modified and tied into learning behaviour since owner-managers were finding their own solutions to a problem in a kind of 'making do' approach or patching

things together. Anderson et al (2001) emphasise that management learning in SMEs frequently occurs in an informal and often unplanned way, through a process of interaction within social and business networks. In this context, bootstrapping is compatible with learning behaviour and can be explained as 'learning by doing' (Cope and Watts, 1999) or experiential learning, which bring knowledge, skills, value and attitude together (Gibb, 1997). It provides owner-managers with an opportunity to evaluate outcomes associated with a course of action before deciding upon a future course of action (Chakravarty, 1982).

In methodological terms, the concept of bootstrapping is an output from the study, in the sense that the study did not start with the idea of bootstrapping and therefore not covered in the literature review. It is an idea that emerged from the data. In other words, once the decision-making process was identified (i.e. what the firms were actually doing) a different literature was searched for in order to interpret the data. Although the approach adopted in this study is not a completely grounded theory approach, in Glazer and Strauss (1967) there is no place for a formal literature review because the process of literature review and the collecting of data from companies go hand in hand in a dynamic relationship.

Bootstrapping can also be explained in terms of 'substantive rationality' (Weber 1968). Substantive rationality refers to actions, which are influenced by values, principles, habits, customs and emotions of the decision maker. In other words, it refers to decisions based on informal techniques and procedures. Substantive rationality is further categorised into 'procedural' and 'expressive' rationality (Hargreaves Heap, 1989; Jarvis et al, 1996), as previously explained. Substantive rationality can be distinguished from 'formal (or 'instrumental') rationality' which refers to actions which can be understood because they can be interpreted in terms of some calculated model, such as the discounted cash flow approach to investment appraisal often argued by proponents to maximise the value of the firm (Weber, 1968). Jarvis et al (1996) argue that to interpret all economic actions as based on instrumental rationality is intellectually questionable in that it seeks to explain complex human actions

monocausally, which is not only intellectually suspect but also highly patronising.

Thus, given an inherently risky environment of small enterprises, investment decisions based on informal procedures and experiences of the owner-manager enhance his flexibility. It allows him to assess and control the risks associated with investment more easily by moving resources from one investment to another with changes in technology or economic conditions. The lack of hierarchical structure actually facilitates this type of decision-making in terms of flexibility because small firms are said to be more flexible than large organisations. In general, flexibility in terms of resource allocation and easy decision-making is one of the characteristics of small firms. In this context, flexibility in the way in which investment decisions are being made in these companies is a strength rather than a weakness. It is argued in this study that learning from experience and bootstrapping is part and parcel of small firms' flexibility, although not all learning is positive, e.g. the owner-manager of Company 6 who obtained an order first before looking around for a suitable equipment to do the work. It may have worked for him, but it is not a positive learning experience.

5.7 THE DECISION-MAKING PROCESS FOR DIFFERENT TYPES OF ASSET

5.7.1 Main processes for different assets

The process used for **plant and machinery** was to speak to equipment suppliers to see what was available after the identification of investment needs by either increased work-load or through gut-feeling. The next step was to compare specifications, the reliability of the equipment, and prices to ensure that they were not paying a higher premium simply because it was "Heidelberg as against somebody else's" [Owner-manager–Company 2], and to consider whether or not they can afford it. With conventional equipment owner-managers were very familiar with such decisions as they have made them many times before and therefore they approached it as a routine

process. This approach is characterised in this study as a closed-loop learning process. An interesting finding is that there was a tendency for conventional equipment to be purchased second-hand in some of the companies in the study. The main rationale for buying the printing presses second-hand was that they are cheaper for the firm compared to the price of new machines rather than as a policy. For example, the owner-manager of Company 4 pointed out, by way of an example, that a new single-colour Heidelberg machine, which is not advanced technology, costs between £50-70,000 whereas the second-hand one costs between £10-20,000. He emphasised that there was a vast difference in cost. When the cost of repairing and updating a second-hand machine was put to him he dismissed it as irrelevant mainly because they have expert knowledge of these machines and can carry out the repairs and maintenance themselves, switching parts between machines and because they are industrial machines they tend to last for many years.

Comparative analysis of data collected from both owner-managers and key employees established that in the investment decision-making process of conventional equipment owner-managers took into consideration the ability to get out of the investment if it was not going to pay for itself after a period of time. This was referred to as the resale or the residual value. The owner-manager of Company 3 referred to it as a "fall back position" or "a comfort factor". Therefore, participant firms were not considering only the price of the equipment/assets, they were also considering the resale value, and which in the case of machines were enhanced by the reputation of the manufacturers. For example, if a company spent £0.5 million on a machine from a good reputable manufacturer, the machine would be worth almost the same amount a year later. The confidence factor lies in the goodwill, which comes with a good manufacturer and a reputable name. The owner-manager of Company 3 explained that:

> *"As far as the fall back position is concerned, well, that is a comfort factor really, because you don't want to spend £0.5 million on a machine, it's got a wrong name on it, it's made by a manufacturer which is not perceived to be a good manufacturer, the machine has virtually no resale value a day after you bought it. That's what I mean by the fall back position".*

The company would also be able to "off-load" the equipment if they needed to quite quickly at a reasonable price if the venture fails. Some manufacturers also give a guarantee to buy back the equipment after a period of time at a certain amount. For example, if a firm spent £0.5 million on a machine, the manufacturers would guarantee to buy the machine back at the end of one year for, say, £380,000 for any reason, which would leave the firm with a quantifiable loss of £120,000 less whatever the firm would manage to produce on the machine. Stressing the importance of resale value the owner-manager of Company 2 indicated that he normally buys Heidelberg because they have a good reputation. In other words, they have a good resale value and "are the best piece of equipment you can buy, and they hold value". Again, this principle is very similar to the principle of 'Bail-out payback method' (Pike and Neale, 1993, p.114), which recognises that there is usually a residual value at the end of each year for which the asset could be sold if necessary. Under the bail-out payback method the asset must be recoup within 2 years. This method is only really feasible where there is an active second-hand market for the assets, and unlike their direct digital counterparts, conventional multi-colour presses have a reasonable resale value after 5 years (Smallbone et al, 1999).

The investment decision making process involved in the acquisition of **new or digital technology** was more elaborate in the study firms. This involved the identification of investment needs not only by the amount of work but also by how to do the work more economically, whether to enter new markets or whether "there is a better way of doing things". Once the investment needs have been identified the decision-making process followed the same steps as discussed in sections 5.3 - 5.5.

Despite the amount of money involved in the purchase of direct digital equipment, Company 1 preferred to buy their equipment new as a matter of policy for various reasons. Firstly, because there is a warranty with brand new equipment and there are also service contracts attached to new equipment as servicing old equipment may prove to be too expensive:

"You 've got to have them [new] because the parts of the machines are so expensive and if you don't have them it comes straight out of your pocket" [Owner-manager - Company 1].

Secondly, new equipment lasts longer and probably works out cheaper in terms of subsequent repairs and maintenance, including spare parts. Used equipment may not last long because of the way and manner in which they were used by previous owner(s). Comparative analysis found that although Companies 2, and 3 were not using high technology equipment, the owner-managers also bought new equipment as a policy. According to the owner-manager of Company 3 they may have been overworked and without adequate maintenance. The owner-manager of Company 2 also emphasised that it was better to buy a brand new equipment than trying to repair someone else's second-hand machines since this could result in lost production, whereas "if you put a new one it's working from the time you install it. You won't be buying other people's problems". The rationale for buying direct digital presses new was that the shelf life is short. The also require special skills for repairs and maintenance, unlike conventional equipment which the business owners were able to carry out repairs themselves, switching parts between different machines. Although the adoption of CTP through digital imagesetting facilitates the merging of pre-press and press activities and the development of digital technology permits more rapid workflow and inevitably pulls the printing and pre-press processes together, they are subject to more down time for maintenance than conventional presses (Smallbone et al, 1999).

For investment in **buildings or property** the process was slightly different in terms of the identification of need and, to some extent, the evaluation process. For example, in Company 5 the board comprising the directors and key departmental managers would meet to decide how to invest any spare money they have had since more equipment was not needed for the business at that moment because they considered the business to be doing quite well with no anticipated problems. Once the decision to invest the spare money was taken the owner-manager approached an estate agent, inspected some buildings and a decision was taken based on what they wanted to do with the property.

The next stage was for the Finance Director to arrange for payment/mortgage or the company secretary would be instructed to arrange some money/mortgage. Mortgages were arranged through the tendering process and at the best possible rates. The property was then fitted according to requirement such as leasing to tenants or for business purposes. Again, the fitting was normally done through a competitive tendering process.

The lives of some assets were solely a function of time and usage, or a combination of the two. Hence, in deciding on the optimal replacement policy for a **motor vehicle** the owner-managers were confronted by a combination of 'time life' (age) and 'use life' (mileage), deciding arbitrarily as to which was used in determining the appropriate replacement policy. For example, in Company 1 motor vehicles were replaced "when they are not going any more", in Company 3 "when they start to give trouble", and in Company 5 "when the maintenance costs become unreasonably high or unbearable". Whereas, in Company 8 it was based on a mileage of 60,000 miles because "that's when the problem starts", and Company 2 replaced their motor vehicles every 3 years under a "contract hire". Contract hire means that the company pays a fixed amount every month and the hiring company (the hirer) undertakes the maintenance of the vehicle including taxing it for that amount on a set mileage of 25,000 miles a year. All the company (the 'hiree') has to do is to ensure that there is petrol and to have any body work repaired if it gets damaged. All other costs are covered in the contract. If the company goes over the fixed mileage they have to pay the extra. After 3 years the vehicle is taken away or replaced and the company avoids what the owner-manager refer to as "nasty shocks". Straight-line depreciation method was used in both sectors of the industry in the study for replacing short term and low cost assets such as motor vehicles and office computers.

For **computers costing less than £2000** the decision-making process in Company 4 involved visiting the dealers, comparing specifications, and making sure that the hard disk is the right size and the right memory:

"I would make sure that I visit all the dealers in computers. Make sure that I have the best value I can get from that equipment - the best price. There is nothing you can do other than buying a computer with the best memory, the biggest hard disk" [Owner-manager - Company 4].

A summary of the above main processes is shown in table 5.3 below.

Table 5.3 Main processes for different types of asset

[i]	**<u>Plant and Machinery</u> (Conventional equipment)** Identify need by the work load. Speak to equipment suppliers to see what is available. Compare specifications, prices and reliability. Consider whether they can afford the equipment.
[ii]	**<u>New Manufacturing Technology</u> (£350,000 - £0.5 million)** Identify need by the amount of work and how to do it more economically; whether to enter new markets or "there a better way of doing things". Read about equipment in trade journals to get an idea of what is available and to "follow what is going on". Attend demonstrations to compare specifications, resale value and to" talk to other people in the industry"; greater involvement of equipment suppliers. Inspect equipment in action in a working environment. Ask the operator for his opinion of the equipment. Assess by way of discussion with key employees whether equipment will fit in with everybody. Budgets and forecasts of monthly production costs and extra sales that will be generated by the new equipment. Ensure that there is "enough business to fill [the equipment] or a reasonable approximation to fill it".
[iii]	**<u>Buildings</u>** Directors decide how to spend any spare money, mostly from retained profits. The owner-manager approaches estate agent and inspect property. The owner-manager seeks advice from surveyors.
[iv]	**<u>Motor vehicles</u>** Need for motor vehicle was determined based on either age or mileage.
[v]	**<u>Computers</u> (Costing < £2000)** Visit computer dealers and compare specifications. Make sure that the hard disk is the right size and the right ram.

5.7.2 Matters taken into account for different types of asset

Matters taken into account in the decision-making process were also different for different types of asset. In some cases the extent to which owner-managers were influenced by the same factors were different for different types of asset. For example, with **new digital technology** there was greater uncertainty than with conventional plant and machinery due to the influence of the external environment e.g. rapid technological change and lack of complete common standard in new technology (Smallbone et al, 1999), as previously discussed.

The price of digital technology was also important since the owner-managers of Companies 1, 2, 3 and 5 would have discussions with their co-directors and other key employees as to whether they can afford the equipment. Once a decision to go ahead had been taken the companies would attend demonstrations to compare the prices. The main factor that might prevent the use of new technology in the printing case study firms was the cost. The owner-manager of Company 1 commented:

> *"Well, obviously cost, and whether you think you will be able to sell enough of whatever you are going to produce with the new technology to justify the cost".*

Therefore, the higher the level of the expenditure involved, the more the price became an issue. For example, printers paid closer attention to the price of direct digital press or CTP than the price of an office computer that costs less than £2000. However, there is also the question of the type of markets the firm is trading in and the basis on which it is trying to compete as discussed earlier. Another important issue in the investment decision-making process of digital technology was the ability to get out of the investment if it was not going to pay for itself after a period of time. The resale value of digital technology was a major concern because the shelf life is getting shorter, given that they have to be written-off over a 3-5 year period (Smallbone et al, 1999).

The 'Year 2000 Issue' was also a major factor of concern for the owner-manager of

Company 5 in their investment decision-making process involving **conventional plant and machinery.** This is an issue that was currently being addressed in the company at the time of the interviews because they had discovered that a large area of their design equipment was not yet "Year 2000" compliant. Therefore, they were considering upgrading their equipment. They had actually spoken to the suppliers about this problem, wanting "the next generation of design equipment". The 'Year 2000' (Y2K) problem had a major impact on the business environment both large and small. The problem arose because many computer systems and microprocessors had been programmed with year dates of only two digits. This meant that on 1st January 2000, these computerised systems would show the year as '00', causing them to fail or operate erroneously. This problem was referred to as the 'Millennium Bug'. Therefore, the entire business community needed to assess the extent of this effect on them and take necessary steps to become Y2K compliant.

The Bank of England (1998) had identified significant risk implications of the Y2K problem for the providers of finance to small businesses. As there was no robust way of ascertaining that a business was already compliant or was taking steps to be compliant, the providers of finance needed to assess the extent of their exposure to the non-compliant businesses. Therefore, the banks had developed models to assess the risk to them. They had also raised awareness among their small business customers and encouraged them to take appropriate action, thus seeking to reduce the potential risk.

For the decision-making process of a new technology the skills of existing workforce and the need for staff training were also major factors of consideration (see sub-section 5.2.3 above). The table below summarises the main matters taken into account in the decision-making process of different types of asset.

Table 5.4: Matters taken into account for different types of asset

[i]	**<u>Plant and Machinery</u> (Conventional equipment)** Price and reliability of the equipment. Resale value: "I would buy equipment with a good name on it". Year 2000 Issue i.e. whether the equipment is "Y2K" compliant.
[ii]	**<u>New Manufacturing Technology</u> (£350,000 - £0.5 million)** Price and cost of equipment, including delivery costs, installation costs, and maintenance costs. Resale value: "How do you get out of it if it is not going to pay for itself after a period of time – a sort of fall back position"? Staff skills – whether the existing workforce is capable of using new technology Market indicators- signs to indicate whether or not there is market for the products or whether or not the "customers are asking for the products".
[iii]	**<u>Buildings</u>** Price of the property is considered and compared. Location of the property
[iv]	**<u>Motor vehicles</u>** Price of vehicle is considered and compared.
[v]	**<u>Computer</u> (costing < £2000)** Price of equipment Year 2000 Issue – ensuring that the equipment is "Y2K" compliant.

The significance of this analysis are two fold: First, it shows the importance which the case study firms paid to the price of capital asset when considering its purchase. Second, it reveals that Company 4 and 8 were prepared to buy second-hand equipment to reduce the need for capital.

5.7.3 Level of planning for different types of asset

The level of planning involved in the decision making process for obtaining conventional equipment and buildings was either implicit or no planning at all, because owner-managers were very reactive, adapting to situations rather than explicit planning. For motor vehicles and computers costing less than £2000 there was no planning at all. However, for investment in new digital technology the level of planning involved was either explicit or implicit. It typically involved identification of needs, cost, where the money was going to come from, and estimating return on capital using budgets and forecasts and also assessing the extra sales the investment would create. There was also a clear, logical and systematic forward thinking.

Table 5.5: Level of planning for different types of asset

[I]	**<u>Plant and Machinery</u> (Conventional equipment)**
.	Implicit planning - "a sort of hybrid planning, very reactive".
.	No planning - "...adapt to situations rather than plan".
[ii]	**<u>New Manufacturing Technology</u>**
	Explicit planning, involving identification of needs, costs, where the money was going to come from, and estimating return on capital using budgets and forecasts and also assessing the extra sales the investment would create.
.	Implicit planning which involves a clear and logical and systematic forward thinking.
[iii]	**<u>Buildings</u>**
.	Implicit planning – involving how to spend any spare retained profits.
.	No planning
[iv]	**<u>Motor vehicles</u>**
.	No planning – very reactive, "when they stop going".
[v]	**<u>Computers</u> (costing < £2000)**
.	No planning – very reactive, based on necessity.

Table 5.6: The decision making process and sector differences

Printing	Clothing
[i] **Main processes:** Identify need through "a better way of doing things"; Attend demonstrations to compare equipment specifications and prices; Inspect equipment in a working environment; Ask the machine operator for his opinion. Discuss with staff to determine whether equipment "fits in with everybody"; Budgets and forecasts of monthly costs and revenue that will be generated by new equipment; Ensure that investment could be paid for through increased business. [ii] **Matters taken into account:** Consider the price of the equipment; Consider whether staff have got the necessary skills to use equipment, especially new technology; Consider whether the equipment has got "a good name on it" and therefore, a good residual value Consider whether the equipment is "Y2K" compliant. [iii] **Level of planning:** Explicit planning Implicit planning	[i] **Main processes:** Identify need through changes in quality control standards or "if there is a particular bottleneck in production"; Use a tendering process (3 to 5 tenders); Consider whether they finance the extra work the machine will do, "can we get the extra fabric?" [ii] **Matters taken into account:** Consider the Price of equipment; Consider the reliability of the equipment. [iii] **Level of planning:** No planning

5.8 IMPLICATIONS FOR SURVIVAL

The conceptualisation of the investment decision-making behaviour of the small firms within the context of organisational learning approach has far-reaching implications for the survival of a modern-day small firm. As the organisation continually learns from experience it is continually creating 'subjective' contextual knowledge through the process of the business striving to adapt, survive and grow (Gibb, 1997). Subjective knowledge can be defined as one, which is gained from the specific problems/priorities of the firm. There is a link between skills and this type of knowledge because, according to Gibb, the application of skills is always contextual, influenced by collective and individual knowledge pertaining to a specific situation.

As a learning organisation the firm is continually creating competitive advantage by engaging in 'generative' learning (Gibb, 1997), which includes the ability to create and bring forward experience. It also includes bringing forward the learning of others such as equipment suppliers, employees, peers, and customers. It is this network of relationship and learning which helps organisations to discover their place in the market and which transforms an organisation from a production function, seeking internal efficiency, to one which becomes a part of a complex network of economic relationships, dependencies and mutual obligations (Spender, 1994). It also helps to reduce transaction costs between small firms and the providers of investment finance. It is this concept of network interdependency between key stakeholders such as employees, customers and equipment suppliers which forms the basic ground rules for survival of the small business. This is because the very essence of small company management is the day-to-day handling of transactional and other relationships with the network of customers, suppliers, banks, accountants, solicitors, agents, marketing channels, workers and regulatory authorities as well as acquaintances, friends and family.

Thus, the key to success of the small business might be said to be not only managing and developing this network of interdependency but also that of learning from them. The ability of the small firm to survive and grow is a function of the ability to learn not only from its experience but also from the experience of others, to use them to "scan the wider business environment and to define and, meet and bring forward their future needs" (Gibb, 1997, p.18). It also enables the small firms to reflect constantly on their visions, performance and capability of the business and to assess the effects of new threats and opportunities.

Therefore, in summing up it is important that to survive and develop, small firms must be able to cope with the totally unpredictable nature of their operating environment. Smallbone and Wyer (2000) argue that if an owner-manager is confronted by a situation which is totally different from what he has experienced before, the success in coping with such a challenge, in a manner which can lead to sustainable business development, will depend on an ability and willingness of the owner-manager to adapt his or her mindset or frames of reference (i.e. personal construct) and to engage in complex learning. This includes an ability and willingness to draw on the understanding and learning of other key members of the organisation to enhance collective organisational understanding. This means that interaction, both between internal organisational members and with peer group or key informants on the boundaries of the small firm's operating environment, is a crucial learning activity.

In this study, the crucial learning activity occurred between equipment suppliers, key employees, and customers. The BPIF (1997) argue that high margins will only be achieved by providing additional benefit such as customisation and flexibility of response, which can be facilitated by printing companies not just being "passive recipients of orders but [having] the opportunity to shape the views of customers (and their customer's customers) by working more closely with them" (p.4). They also argue that "there is fierce competition for, and limited margins from, supplying 'commodity' print (i.e. basic ink on paper), which can be replicated by almost any printer... [Therefore], only ultra efficient printers or those with major locational advantages

(such as high street quick printers) will prosper in such an environment. For most printers reasonable margins will only be secured by focusing on niches such as particular industries or the bundling of print with other services to provide integrated solutions to customer problems" (p.5).

5.9 SUMMARY

The findings presented in this chapter have shown the key elements of the investment decision-making process in the case study firms, namely identification of needs, collection of information, evaluation of alternatives and choice of alternatives. The findings have also shown that owner-managers in the case study firms were relying on past experience and were learning from such experience. The use of experience and judgement in the investment decision-making process is conceptualised in this study as a learning behaviour based on the organisational learning theory currently emerging in the literature. Owner-managers employed the learning process to guide investment decision making process under conditions of uncertainty. In this respect, the findings have contributed to an understanding of the investment decision-making process in the case study firms. The chapter has also demonstrated that the collection of data about the role of stakeholders in the decision-making process in the case study firms contributes to an understanding of the investment decision-making process of small firms in general.

CHAPTER 6
RESULT 2: ANALYSIS OF INVESTMENT DECISION-MAKING PROCESS IN CASE STUDY FIRMS - FINANCE

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6.1 INTRODUCTION

As mentioned in the previous chapter, investment decisions and the financing decisions cannot be separated in the small firm sector but existing mainstream financial management literature is used here to present/rationalise the analysis of data as a separate chapter. In other words, the financing decision is not a separate decision taken at the end but is very much part and parcel of the investment decision-making process (as shown in Fig. 2). They are positively related because external financiers typically link the provision of finance to specific projects in order to overcome the contractual difficulties caused by the limited sources of finance available to small firms, together with the presence of uncertainty and asymmetric information (Keasey and Watson, 1993).

The literature, both theoretical and empirical, has shown that small firms experience greater difficulties in raising finance not only for investment but also for operating purposes. Austin et al (1995) argue that these problems are not just reflected in the ability of firms to obtain finance, but also in the terms on which finance is offered, such as high interest rates and more stringent security requirements. The literature also highlights unwillingness on the part of owner-managers to take advantage of external finance. However, Winborg and Landstrom (1997) point out that a major part of research in small business finance has been focused on the supply of capital instead of focusing on the demand side, originating from the small business manager's own logic. This is the central tenet of this research.

The firms in this study perceived finance as being their main investment constraint. Using 'insiders accounts' as a qualitative research method it was possible to investigate what this means in practice and the strategies used to cope with it. The findings are the subject matter of this chapter which analyses the various sources of investment finance actually used by these firms and the difficulties in the raising of such finance, thus addressing research objectives 3 and research question 5, respectively.

6.2 SOURCES OF INVESTMENT FINANCE

The firms in the study, particularly the printing firms, were spending large sums of money at varying intervals, up to £0.5 million on a single piece of equipment and in some cases the equipment was up to a third of the asset value of the company. Since this size of expenditure is very big relative to the company it was of great interest to know how this expenditure was financed. From the first interviews, which took the form of sensitising propositions and which were exploratory in nature, it was possible to identify that the case firms were using what Winborg and Landstrom (1997) refer to as 'financial bootstrapping' measures to finance their investment. Financial bootstrapping measures are measures used to meet the need for resources without using long-term external capital from banks and/or new owners. They argue that the definition of finance needs to be extended to include the resources needed in the business, which from the owner-manager's point of view is important rather than the capital per se. This means that concepts like networks, trust, use of resources, co-operation, and the role of stakeholders become more important than traditional financial sources. This is because connecting small firms with unique resources enhances the organisation's ongoing adaptation and can give businesses a competitive advantage (Dougherty, 1995).

Categories of the various investment finance were established from the detailed accounts of owner-managers, key employees and other informants using content analysis of listening to and transcribing the tapes, reading and re-reading the transcripts to list the features of investment finance. These are tabulated in respect of individual firms in Table 6.1 below. The initial categories were then developed into a systematic typology for clarification.

Table 6.1: Bootstrapping Sources of investment finance

Printing

Firm	Bootstrapping sources of investment finance
1	The main source of finance is "hire purchase because, firstly, a lot of money is involved which cannot be taken out at once. Secondly, and more importantly, it is of a short-term nature. Thirdly, because the finance house specialises in financing printing equipment. The only bank loan we raise is the mortgage".
2	The main source of investment finance is hire purchase: "We will go to a finance house...that specialises in printing and supporting printing companies. We don't use retained profits for investment. We don't use leasing which in the end is not yours. We don't use bank loans for capital investment [because] we get a better rate with the finance houses. I suppose we do use overdraft facilities for investment purposes. We have, however, used bank loans in the past for our mortgage, but that's paid now".
3	Finance companies: "We don't make much use of leasing for the simple reason that you are paying for something that is not yours. We use HP because it attracts lower interest than bank loans. It also has tax advantages and the company owns the asset in the end. We took a mortgage for the building, but that was a long time ago. The banks are very reluctant to lend a sizeable amount that will be adequate for investment purposes because the bank consider the printing industry to be a bad risk".
4	The main source of investment finance is leasing and hire purchase: "We use more leasing than hire purchase because leasing is easy to arrange. This 'strategy' is a 'bootstrapping measure' to reduce the need for capital through delayed payments. Firms which use this measure are classified as 'delaying bootstrappers' (Winborg and Landstrom, 1997). We use bank overdraft for investment purposes but not bank loans because the banks are greedy". The company buys second-hand printing equipment.

Note: Hire purchase and operating leases are the forms of asset-based finance most frequently used by small firms, with smaller companies more heavily dependent on asset-based financing than their larger counterparts (Bank of England, 2002). In this study leasing was used more by printing firms than clothing because it is an attractive way of financing the purchase of expensive equipment. In comparison with large company literature (e.g. Pike and Neale, 1993), leasing might be considered a bootstrapping alternative but in practice, the banks in Britain over the last 5 to 6 years have been encouraging the use of asset-based financing. The Bank of England has been promoting and supporting the use of leasing (Bank of England, 1999; 2001).

Clothing

Firm	Bootstrapping sources of investment finance
5	The main source of finance for investment in this company is retained profits "from the fashion end of the business". Another source of investment finance is personal investment by the directors who "are for ever putting money back into the infrastructure which is the main reason why we are so much more successful than our competitors". Businesses which depend on the resources provided by the owner-manager are classified as 'private owner financed bootstrappers (Winborg and Landstrom, 1997). The company raises "a lot of loans from the bank regularly "mainly for investment in property".
6	The main source of finance for this company is "own finance" and retained profits. The company also makes use of finance companies for leasing: "We use overdraft facilities, but we would not use bank loans for fear of taking up too much overheads in case the business suddenly switches off like a tap".
7	"It is retained profits. We fund all our investment internally. No external finance is used. The reason for this is that whenever we decide we need any equipment we look at all the options and go for the cheapest". The only external finance is, of course, the mortgage.
8	The main sources of finance for investment in this company are retained profits, government grants (RSA), bank overdrafts and mortgage: "We don't borrow. We don't believe in it. We believe your growth should come from your profits, from your own money". Businesses using subsidies from public organisations to meet the need for capital are called 'subsidy bootstrappers (Wimborg and Landstrom, 1997). The company buys second-hand machines.

Note: Retained profits were used more in the clothing sector because the amount required was smaller compared to the printing sector. The extent of borrowing in this sector was minimal, only for investment in property. The reason for this was to minimise the risk of excessive borrowing and being unduly exposed.

6.2.1 Personal Savings

Personal savings were an important source of investment finance in the clothing industry and for plant and machinery of low technology. They were also used for the purchase of computers for administrative purposes. The owner-manager of Company 6 remarked: "I use my savings. All my savings and profits, I invest here". In Company 5 personal savings were also used for investment purposes. The facilities manager explained:

> *"They [the board of directors] are for ever putting money back into the infrastructure, which is the main reason why this company is so much more successful than our competitors".*

The above comments highlight two points. Firstly, it shows personal savings as an important source of investment finance. Secondly, it highlights the strong perceived association between money from personal savings of owner-managers and the success or growth of their business. This is probably due to the strong commitment often associated with personal money. Businesses which depend on the resources provided by the owner-manager are classified as 'private owner financed bootstrappers' (Winborg and Landstrom, 1997). The main advantage of using personal finance is that it saves money on interest payments on hire purchase and bank loans (particularly if these are in the form of overdrafts, rather than term loans, negotiated against a planned investment programme), and from owner-managers' standpoint it involves lower risk. The major disadvantage is loss of personal savings.

6.2.2 Retained Profits

The clothing firms in the study were using retained profits to finance their investment. Retained profits were mostly used for the purchase of plant and machinery of low technology. They were also used for buying computers for office use. Retained profits are a good source of investment finance for small firms. However, as Barkham et al (1996) argue, profits take time to accumulate in small firms and may not be available in sufficient amounts at the point at which investment has to be made for the owner-manager to take advantage of a market opportunity. The degree to which retained profits are available will of course depend on the profitability of the firm and economic condition. It was significant in this study that 'own funds' (i.e. internally generated finance) were the most popular source of investment finance in the clothing firms, and for these firms the use of 'own funds' was a matter of policy. For example, Company 8 did not borrow because they did not believe in it. They believed that a firm's growth should come from their profits. This is evident from the following response from the owner-manager of that company:

> *"[We fund our investment] from profits. We don't borrow. We don't believe in it. We believe your growth should come from your profits, from your own money".*

In addition to the main advantage of using personal savings (see section 6.2.1), other advantages of using retained profits as a source of investment finance are that it reduces the amount of capital debt, and it is perceived to be a lot cheaper than using borrowed money. According to the owner-manager of Company 8, "you are not borrowing, you are making use of your own money". The use of retained profits to fund investment because it is the cheapest option is also illustrated in the following extract from the interview with the owner-manager of Company 7:

> *"We fund all our investment internally i.e. through retained profits. No external finance is used. The reason for this is that whenever we decide we need any equipment we look at all the options and go for the cheapest".*

Therefore, clothing firms in the study were relying heavily on internal funds for investment purposes, preferring to use internal sources of finance rather than incur the cost of borrowing. This is because for these firms retained profits were the most easily accessible source of investment finance. The possible disadvantages of using retained profits was the loss of interest on company savings (opportunity cost), and the fact that investment will only take place if the cash is available. For the simple reason that retained profits are not borrowed money, owner-managers did not see any possible disadvantage of it, depending of course on their aspirations. It does not deplete nor even squeeze working capital as owner-managers "do set aside money for operational purposes". For the owner-manager of Company 7, any disadvantage of using retained profits depended on the degree of usage i.e. whether they are over stretching themselves as to deplete working capital.

The Bank of England (2002) reports that since the recession ended there has been a reduction in the external borrowing requirements of small firms, which have been able to rely more on retained earnings. The report identified a positive move away from traditional debt finance towards a wider range of alternative financing which provide a more appropriate source of finance. This trend has been particularly noticeable in the

increased use of asset-based and receivables financing. It is suggested that the reliance on internal sources of finance and asset-based finance is due to a reluctance of business owners to expose themselves again to a high level of debt finance, following the problems experienced in the last recession. Unfortunately, as Chittenden et al (1996) point out, the UK tax system does not give any incentives for retaining profits in small companies, even though individual investment in quoted companies is treated favourably for tax purposes. This study adds value by offering insight into how such preferences (or reluctance) are developed. The evidence in this study demonstrates that they are developed through the transfer of a negative past experience. An example of a negative learning experience is shown in Box E below.

6.2.3 Hire Purchase (HP)

Hire purchase was also found to be a popular source of investment finance mainly in the printing firms. There are various reasons for the use of HP for investment in these companies. Firstly, it was used because of the amount of money involved (sometimes up to £0.75 million for a single piece of equipment), which is difficult to fund from retained profits, personal savings or from bank loans, because of the difficulties faced in raising finance from this source, as discussed in subsection 6.2.6 below. HP was used mainly for assets involving large amounts of expenditure, such as high technology equipment, e.g. direct digital colour presses, CTP, and other expensive conventional presses. Secondly, and more importantly, it was used because of its medium-term nature. According to the owner-manager of Company 1 if equipment is not paid for and written down within 5 years it will become worthless because of rapid technological change:

"The thing is you have to do it on a short-term [basis] because the longest we have ever done any equipment for was 5 years because if you don't pay it and write it down over that period of time it will be worthless because of technology changing fast... I mean now we do stuff for 2 or 3 years because if your equations don't work i.e. if you buy the kit and you can't make money and pay for it over 2 or maximum 3 years then there is no point buying it".

The highlight of the above quote is the perception that because of rapid technological change, short term financing rather than long-term loans is the ideal way to finance such investment. For example, in the experience of the owner-manager of Company 1, there is a company which bought a machine "at the wrong time of the cycle" for £900,000 over 5 years in the image-setting side of the pre-press and basically it became obsolete after the first year. This means that the company was still owing money on it even though the machine was scrapped. This is a clear demonstration of the concept of an open-loop learning, discussed earlier in the previous chapter, whereby the owner-manager learns and brings forward the experience of his peer. The learning here is that he has to get a return on his investment in a short space of time before the machine is out of date because of the uncertainty about future technological developments.

Other reasons and advantages for using HP included tax advantages and also the fact that the companies owned the assets at the end of the HP agreement, compared to leasing. The finance houses also offered better terms and better deals than the banks because, as explained by the owner-manager of Company 1, "you get finance houses climbing all over you to make a deal..., and so we can play on that and get good deals." This is particularly if the finance houses are owned by equipment suppliers, who offer a discount if the firms use their HP package. The major disadvantage of HP was that it is not very flexible. "Once you 're in, you 're locked in it", as explained by the owner-manager of Company 3. A BPIF consultant interviewed for this project to increase the validity and reliability of results argued that the HP industry in the UK is well developed with quite a number of companies providing HP finance including the big high street banks which have special groups that specialise in providing HP finance to the printing industry. An equipment supplier also intimated that an amazingly large number of firms buy on HP from finance houses.

6.2.4 Leasing

Leasing was found to be used a great deal by the case study firms. It was mainly used for small or minor items of capital expenditure such as motor vehicles, computers, telephones systems and coffee machines. The advantages to these firms of using this source of investment finance were that it provides an easy way of raising investment finance with "no hidden costs and fixed deposit" [Owner-manager-Company4]. It is quick and easy to arrange and provides "small helps" [Owner-manager-Company 6]. There were also tax advantages, and above all, it is easy to hand back the equipment or terminate the lease should technology or fashion change or as owner-manager of Company 6 put it:

> *"If the machine is expensive we rent it, after the period [period of dire need] we just give it back, to save money, or if the business is not busy the machine can be returned".*

This 'strategy' is a 'bootstrapping measure' to reduce the need for capital through delayed payments. Firms which use this measure are classified as 'delaying bootstrappers' (Winborg and Landstrom, 1997). The main disadvantage of leasing was that the company does not own the asset at the end of the leasing period. In fact, this was the main reason given by owner-managers of Companies 2, 3, and 5 for not using leasing for their investment. Another down-side of leasing was that "it is a bit more expensive than bank finance" [Owner-manager-Company 2]. However, the Bank of England (1999; 2001 and 2002) indicates that since the last recession, the proportion of external finance to small businesses accounted for by leasing and hire purchase has grown significantly, mainly at the expense of traditional bank finance. Leasing was used more by the printing firms than the clothing firms because it is an attractive way of financing the purchase of inexpensive equipment.

6.2.5 Bank Overdrafts

Firms in both industrial sectors were found to use bank overdrafts for their capital investment. Bank overdrafts are a form of short-term loan, which the literature stresses should only be used to cover possible cash-flow problems in the day-to-day funding of the business (Bank of England, 2002; Keasey and Watson, 1993). However, the problem faced by the small firms in the study was that this was the only type of bank finance easily available to them (although this is not simply a supply side deficiency), which was then used for capital investment in addition to using it for the day-to-day expenses. The use of bank overdrafts to finance capital investment contradicts the mainstream literature (e.g. Pike and Neale, 1993; Lumbey, 1994), which suggests that long-term capital projects should be matched with long-term loans. This is an example of the difference between what is actually happening in practice and what ought to be happening. The argument behind this suggestion is that capital investment may require a considerable time-lag before it starts to generate income and that overdrafts as short term finance require a high debt service. The evidence from this study shows that as technology is changing rapidly, with the life-cycle of the technology becoming shorter and shorter, it is inevitable that capital investment is financed from short term finance for the same reasons already explained in section 6.2.3 above, but not necessarily from overdrafts.

The major perceived advantages of bank overdrafts for those companies (Companies 4, 6, and 8) using them were that they are easy and quick to arrange and "they give you money when you need it" [Owner-manager-Company 8]. The perceived disadvantages were that they are "expensive" and there is also "the risk of the bank withdrawing the facility at any time" [Owner-manager-Company 8]. Bank overdrafts were used to finance low technology assets and assets involving small amounts of money, which meant they were more commonly used by clothing firms.

6.2.6 Bank Term loans

Small firms borrow for various reasons, notably to finance working capital, investment expenditure and the purchase of property (Bank of England, 2002). The owner-manager of Company 3 saw bank loans as being simple to organise with no penalty if they wanted to pay up early, but the major draw-back was an excessive demand for collateral, and to some extent, high interest rates. The owner-manager of Company 3 also found the banks to be very reluctant to lend sizeable amounts that would be adequate for investment purposes. The owner-manager of Company 3 was reasonably satisfied with bank services except that they always insist on "cast iron guarantees", in the form of personal guarantees and/or buildings. However, the study firms did not use bank loans for investment purposes for the reason that they wanted to "keep the cash flow situation separate from capital investment" [Owner-manager-Company 1]. In this respect, they also avoided "putting all their eggs in one basket" [Owner-managers-Companies 1 & 2] since they have already obtained their mortgages from the banks and are taking advantage of the overdraft facilities. This is illustrated by the following comments from the owner-manager of Company 1:

> *"You see, I mean the bank lent us the money to buy the building and they also supply the overdraft and we feel that's as much as we want in any one place".*

This demonstrates that owner-managers also learn by experiment as well as from experience, because they did not want to have all their "eggs in one basket". They experimented by spreading over their sources of investment finance so that they "can sometimes pay one and not the other if you are short of money. If it's all with the bank the bank knows everything that you are doing and they can pull the plug at any time" [Company 2 Respondent].

In all 8 case study companies investment finance was found to be a problem and it was the inability of the owner-managers to raise bank finance which was the main reason why the printing companies used HP from equipment suppliers and the clothing

companies relied on retained profits for their investment. The finding can be explained using the 'pecking order hypothesis' which suggests that firms will first use retained earnings to finance investment, then resort to debt when retained earnings are used up, and finally to equity when borrowing limits have been exhausted (Myers, 1984: Cosh and Hughes, 1994; Jordan et al, 1998; Taylor et al, 1999). The hypothesis is based on the premise that owner-managers are very reluctant to relinquish control of their firms to outsiders. Debt finance involves the risk of giving up at least some control if the contractual obligations are not met. External equity is seen as the most directly interventionist form of finance in the sense that decision-makers are bound to cede control to outside agents. In this study owner-managers completely rule out the use of equity finance to finance investment because of the fear of loosing control of their companies, whilst they employ only short-term finance such as bank overdrafts when they run out of retained profits.

However, although the interest in the demand side of small business finance is beginning to emerge, to explain these findings using the 'pecking order hypothesis' would be dangerous, since it would amount to starting from the same 'calculative capital logic' as the supply side research based on concepts such as information asymmetry, return on investment, etc (Winborg and Landstrom, 1997). Instead, Winborg and Landstrom suggest that research in small business finance should originate from 'the small business manager's own logic'. From the owner-managers' point of view, 'capital' or 'money' is not important per se, but rather the resources needed in the business, which they mobilise without exposing themselves to undue risk. This implies that the focus on small business finance needs to be broadened to include the resources needed. To meet these resources, firms resort to 'financial bootstrapping measures', either because of constrained access to capital from traditional institutional sources, or because of the desire to maintain control over the business. In this study, 'financial bootstrapping measures' are separated into two comprehensive groups of measures namely, measures with the aim of reducing need for capital such as buying used equipment instead of new, leasing equipment instead of buying, and buying equipment on hire purchase; and measures used in order to meet the need for capital

such as seeking out best conditions possible with equipment supplier(s), obtaining bank overdraft facilities, obtaining government grants, using retained profits to buy equipment, and using personal savings to purchase equipment.

Therefore, it seems fair to argue that the appropriateness of finance to the capital investment intended was as much a problem as the availability and the accessibility of finance from the institutional financial sources (Bank of England, 1999). The small firms in the study saw internally generated funds and asset-based finance as being the most appropriate to their needs. Bank loans were unpopular in both sectors. The main reason given as being responsible for the lack of interest in bank finance for investment purposes, were negative experiences with banks as discussed in Box E below. Other reasons included excessive demand for collateral, and high interest rates, bank changes and economic activity. These are discussed in section 6.3 below.

6.2.7 Government grants

The Regional Selective Assistance (RSA) (now effectively withdrawn) was the only form of government grant used by the study firms as investment finance which was found to be "very useful". Businesses using subsidies from public organisations to meet the need for capital are called 'subsidy bootstrappers' (Winborg and Landstrom, 1997). The main advantage of government grant to the company was that it is free money, with the only string attached being that a certain number of people must be employed before qualifying for it. The disadvantages, as pointed out by the owner-manager of Company 8, were that there is a lot of paper work involved, and that "they [the government] are constantly sticking their nose in all the time". Government grant was used for low technology assets.

Since small business owners are "notoriously hard-pressed" (Ram and Holliday, 1993, p.161), excessive paper-work and too much bureaucracy can only exacerbate the problem. Usually, when business owners need money they "need it quickly", as the owner-manager of Company 8 put it. On this point, Boocock and Woods (1997) advise

that fund providers must speed up their procedures for processing applications in order to attract and retain potentially sound investment, whilst Freel (1999, p.9) argues that for [investment decisions in small firms] "the window of opportunity is small and speed, rather than contractual minutiae, is what takes precedence".

6.2.8 Mortgage

Another source of investment finance for an organisation is to raise money by mortgaging its freehold property. Normally it is Building Societies who are the providers of such finance but one may find that all high street banks are involved as well, either directly or through subsidiaries. It is also worth noting that some former Building Societies have changed into banks (e.g. Abbey National, Nationwide and Halifax, which has now merged with the Bank of Scotland). The mortgage is for a fixed term though the rate of interest varies with the general rates of interest prevailing.

Mortgage was the only form of bank loan that was used by Companies 1, 2, 3, 5, 7 and 8 in the study. The firms found a mortgage for property purchase to be absolutely necessary and in a different category from loans obtained to acquire equipment and other capital assets. The major benefit of a mortgage as pointed out by those companies is that the property still belongs to the mortgagee and any benefits of appreciation remain with him. The owner-managers of Company 7 also pointed out that in times of inflation, the real cost of repayments decreases with the passing of time. However, the owner-manager of Company 2 indicated that the only drawback is that cash outflows are greater with a mortgage than with other sources of finance, such as HP and leasing, especially in the early years. These larger cash outflows mean that there is less money for investment in the business in the initial stages.

6.3 THE EFFECT OF MACRO ECONOMIC CHANGES

The macro economic changes that had implications for the timing of investment included interest rates, collateral security, bank charges, economic activity, and general attitude of bank managers. The extent to which these factors affected the use of bank finance was specifically and extensively explored in this research in the second interviews, as a way of returning to clarify some of the general information received during the first interview.

6.3.1 Interest Rates

Interest rates were a major influence on the decision of the firms not to use bank finance for their investment. This was part of the reason given for using finance companies because they perceived that they "get a better rate" or "a better deal" from the finance houses. It was a factor that affected their consideration of whether or not to use bank finance. The following extract from an interview with the owner-manager of Company 2 illustrates the point:

> *"Interest rates would have quite a big bearing on the decision and we would be looking at that, probably try to see if we could get a fixed rate for a period of time. I think that's what we would be looking for".*

The owner-manager is referring here to taking advantage of a fixed rate of interest. However, a fixed rate of interest is to some extent a gamble, which may turn out to be favourable or unfavourable, depending on interest rate movements over the loan period. If interest rates rise, a fixed rate becomes favourable, and if they fall, it is unfavourable. The major advantage of a fixed rate of interest is that it is a little easier to plan ahead, compared with a variable rate, which may rise several times in any one year, as was the case in 1998 with six rises! The extent of the effect of interest rates rises depends on how high they go up. This is evident in the following quote from the owner-manager of Company 3:

"...It depends, if it is between 5 and 6 % I don't think it would make any difference. But if it is between 5 and 14% then it would make an awful lot of difference. It depends on how high it goes".

Interest rates were a commonly reported problem for the 8 case study firms and in the two sectors. High interest rates contributed considerably to an owner-manager's reluctance to use bank finance. If interest rates were low and stable then they were unimportant. The manner in which interest rates bear little or no relationship with the reality of economic situation at the time of the research was rather baffling and confusing for the owner-managers. The owner-manager of Company 4 commented on how the Bank of England "are living in a cuckoo land" and how frustrating it was. Consequently, they were extremely reluctant to borrow from the banks. This means that owner-managers were learning from mistakes made during the last recession, when they had their 'fingers burned' because of excessive borrowing during which interest rates went up sharply and they were basically exposed. However, the argument in favour of interest rates, as pointed out by DeMeza and Webb (1990) and Cosh and Hughes (1994), is that since banks are unable to discriminate effectively between good and bad projects due to information asymmetry, they offer funds to both resulting in high interest charges to cover the cost associated with the proportion of bad projects funded. The down-side is that in trying to use interest rate increases to allow for their perceptions of riskiness, lenders drive away those owner-managers who believe that they are not as risky as the bank thinks, and attract those who believe they are more risky. Cosh and Hughes (op cit) argue that the alternative to using interest rates to solve the risk problem is to seek collateral, which is discussed below.

6.3.2 Collateral

Excessive demand for collateral by the banks was given as one of the factors affecting the choice of finance by owner-managers. In the printing firms, capital expenditure was typically large, with implications for the amount of collateral required to secure a bank loan. Almost all expenditure involved a huge amount of money. As the owner-manager of Company 3 observed: "big money frightens people, frightens the bank. If you tell

them you want to spend £0.5 million on something [equipment], they will faint". Therefore, because of the huge sum of money involved in capital expenditure in this industry and being private companies the bank has to ensure that they will get their money back by asking for "water-tight" and "cast-iron" guarantees in the form of personal guarantees and/or buildings [Owner-manager – Company 3]. The extent to which excessive demand for security affected the firms in the study varied, depending on whether the firms had their own premises or were in rented accommodation. For firms which had their own business premises, the demand for collateral by the banks was not a problem provided it was limited to the business property, since the owner-managers were typically unwilling to use their personal property as collateral. However, firms which had their own business premises had often already used such premises as security for overdraft facilities which limited their use as security for further borrowing. In such cases, the demand for personal security was off-putting:

> *"It puts you off. You don't really want your house to be on the line. That is not something you want to do. You want to raise money, you don't want to personally take the risk of a limited company" [Company 3 Respondent].*

The issue of personally taking the risk of a limited company was extremely worrying for the owner-managers. Binks (1991) argues that the erosion of limited liability in the case of companies would naturally be expected to discourage investment in many cases. This is a disturbing situation since the banks are supposed to play a crucial role in the financing of small firms. An equipment supplier emphasised that the difficulty of raising investment finance is simply that as a private company it cannot borrow beyond a fraction of its securitizable assets. The perceived excessive demand for collateral was illustrated by the disproportional or 'carcase' value of the security, which was sometimes "triple guaranteed" and sometimes four times the size of the loan required:

> *"Banks are not willing to get involved unless they have 200% security. You want to borrow £100,000 and your building is worth £200,000, they would lend you £50,000 only. I don't blame them, but they are not ready to lend unless they have 200% security. No way they can lose" [Company 8 Respondent].*

For those companies which did not have a business property the demand for collateral was a serious problem which meant that there was little alternative to putting down their personal houses as security for loans. It could be argued that the demand for collateral helps to elicit information about the borrower's risk perception. It also reduces the bank's down-side risk in the event of a borrower obtaining a loan for one project and pursuing another which has a higher risk/higher return than the one for which it was originally granted. This is referred to as the moral hazard problem (Cosh and Hughes, 1994; Deakins 1996). In support of the banks' use of collateral, Keasey and Watson (1993) argue that the bank's concern with protecting the security of their investment merely reflects the fact that lenders do not share in up-side potential and, therefore, do not expect to bear any uncompensated down-side risks. They also argue that loans secured on personal assets of the owner is a mechanism which ensures that only good projects select themselves for bank finance. However, the problems with this mechanism are that it erodes the limited liability of the owner, and also raises problems for those firms with good projects, but who have no assets to offer as collateral (Cosh and Hughes, 1994).

Deakins and Hussain (1994) and Freel (1999), on the other hand, argue that banks are concerned primarily with security and gearing when assessing venture propositions and less attention is paid to issues such as the non-financial characteristics of the owner-manager (or the management team in some cases), the nature of the investment (or technology), or the product market. What this finding reveals is that the security of loans on the personal assets of the owner-manager is the problem and not the general lack of collateral per se, which was found by ICAEW (1997) to be a major constraint on access to finance. This is another instance where 'insider accounts' proved useful as a research method because it allowed the actors themselves to give detailed accounts of their actions. It also allowed the accounts to be probed more deeply, where necessary in order to get to the root of the issue. What actually emerged by the second stage of the interviews was that the demand for collateral becomes a problem only where firms has no business property or has already used the existing business property to serve their

overdraft facilities.

6.3.3 Bank charges

Bank charges were another factor, which affected the use of bank term loans as investment finance. However, owner-managers were prepared to accept bank charges either as a "necessary evil", or as "expenses you have to swallow" [Owner-manager-Company 3]. Nevertheless, for the owner-manager of Company 4, the banks were over charging:

> *"That is disgraceful, absolutely disgraceful. It affects businesses. It's clear that what they are doing is ripping you off. I'm not saying they shouldn't charge. They can charge, but they are extortionists, they over-charge. They take any opportunity to rip you off. They are not on your side any more, they are not... Some of their charges are absolutely disgusting".*

Here the owner-manager is not against bank charges because banks derive income from their small firm customers not only through margins on borrowing, but also through fees and charges and the sale of other products. What the owner-manager was unhappy about was the high charges and the apparent rigorous enforcement of bank charges.

6.3.4 Economic activity

The general level of economic activity in the economy also appeared to have an effect on the choice of investment finance. The owner-managers of the 8 firms in the study (from both sectors) emphasised that they would not invest if the order book was not looking good. The firms expressed a great deal of concern about a sudden downturn in economic activity at the time of the interview. This concern covered the uncertainty surrounding their respective activities. The following accounts from the interview of the owner-manager of Company 3 help to explain the point:

> *"General economic activity has a lot of bearing on it. If the economy*

is in a downturn you are not going to invest a lot of money, are you? Not unless you 've got some little niche which is going to continue".

Uncertainty about the future prevented the owner-managers from using bank loans although they were using overdraft facilities. According to the owner-manager of Company 6, they would not use bank loans to buy equipment for fear of "taking up too much overheads" in case the business "suddenly switches off like a tap". Here, the business owner is referring to the slowing economic growth, rising interest rates and the continued strength of sterling, which had almost plunged the economy into recession at the time of the interview. Economic conditions were also an important consideration in Company 5 in terms of their property development. The owner-manager stressed that they had to look at the area where the building is situated. They also considered what they wanted to do with the buildings and whether there was a guarantee that they can get tenants for them, which they found difficult at the time. The last recession had certainly changed the borrowing behaviour of small firms owners and as a result owner-mangers are less reliant on external finance (Poutziouris et al, 1999). The Bank of England (1998 and 2002) also indicates that since the last recession ended, there has been a reduction in the external borrowing requirement of small firms, which have relied more on retained earnings, probably caused by a reluctance of business owners to expose themselves again to a high level of debt finance, following the problems they experienced in the last recession.

6.3.5 General attitude of the banks

The general attitude of banks was described as not particularly helpful. The following comments from the owner-manager of Company 2 help to highlight this:

"...We don't [use bank loans] and, this is the case for all small companies, particularly printing companies, the banks are not necessarily, particularly helpful. So we always tend to go out to a Finance House".

The owner-manager of Company 3 believed that the banks are only helpful in good

times i.e. as long as the business is doing well. If the business hits hard times or when the conditions are adverse they would "change automatically", without offering the help which is much needed at the time to see them back on their feet. Effectively, the banks were perceived to be patronising businesses when help was not needed and would withdraw such help when it is most needed:

> *"They are helpful at the moment. Typical of banks really – they give you an umbrella when the sun is shining, when you need it they take it away. ...they are okay but they are not very helpful" [Company 3 Respondent].*

The banks were also seen to be too greedy. The owner-manager of Company 4 believed that bank managers don't give a damn whether a business goes ahead or not, even when a business has been banking with them for over 10 years. The owner-manager of Company 7 found the bank less useful than they have been in the past because of the rationalisation of branches. He stressed that the movement away from branch-based managers, who know the customers, to "computer-managed" branches means that it is very difficult to have a one-to-one relationship with the bank manager because of the turnover of staff. At the same time, it can be argued that, the remaining branches are becoming more specialised, focusing more on needs of the small business sector, involving more tailored training of staff, and the number and availability of small business managers in the major banks has increased (Bank of England, 1999). This information was elicited in the third interview when this owner-manager was specifically asked to describe his past experiences with the bank, because in the previous two interviews he stated emphatically that he had not used bank terms loans for investment purposes.

Banks may not be as entrepreneurial as businessmen but they have, in the last few years, responded to the needs of small firms by setting up 'Small Business' departments and offering help in the form of 'small firm packages', which demonstrate how to present the financial needs of the firm in the best light. It is true that bank managers sometimes have to seek more information and even turn down requests for loans on the

basis that bank finance is not appropriate for the investment concerned, or that the business cannot generate sufficient income to repay, or even that the investment itself is judged not to be viable. However, it is necessary to understand the nature of the risk and rewards bank managers have to bear. The risk of making a mistake considerably outweighs the benefits to his own career of making a correct decision. The main objective of a bank manager is to ensure that loans are repaid in full; there is no bonus or reward to the bank manager if the small firm grows (Storey et al, 1989).

The Bank of England (2002) indicates that the banks, recognising the importance of matching appropriate finance to the needs of small businesses, have become more proactive in developing financing packages, often involving their own factoring and leasing subsidiaries and becoming more sophisticated at segmenting the market place. Furthermore, the banks have taken steps in the past five years to ensure that relationships with small firm customers have improved, by implementing codes of practice and adopting the BBA's Statement of Principles: Banks and Businesses Working Together (March 1997) document. The banks have also placed increased emphasis on training their small business managers to understand the issues faced by small firms. Policies have also been implemented where small business managers are required to spend a minimum of 3 to 4 years in the job, recognising that some of the problems between the banks and their small business customers occur when the managers change. There has also been a move towards allowing local managers to make lending decisions (within certain limits), which should result in faster lending decisions (Bank of England, 1999).

6.4 THE FINANCING PROCESS

In order to provide insights into the financing process of the study firms, owner-managers were asked to describe their actual behaviour in some detail, which was assisted by the use of 'insider accounts' as a research method. An estimation of financial needs was the starting point of the financing process, which followed the investment

decision process (as explained in Chapter 5). As mentioned earlier, this process does not necessarily take place at the end or follow a rationally planned approach since firms do not necessarily go through the different stages systematically. The estimate was based on internally generated bench-marking and informal discussions with co-directors, key employees such as the production managers, and with equipment suppliers. The next stage was the identification of the sources of finance, although if finance is linked to equipment purchase this is not a separate stage. The search for the sources of finance was carried out by the owner-managers or the finance directors. The duration of the search varied from company to company but was generally brief and quick. They approached a number of finance companies (3 at least) in order to ensure that the finance house dealt with was user-friendly. The following extract from the interview with the owner-manager of Company 2, which was progressively using new technology gives some insight into the process:

> *"We approach a number of finance companies just to make sure that the finance house we are dealing with mainly is within reason of everyone else. They are not the cheapest, they are not the dearest, they are somewhere within the middle, and we are happy with them and we have a good relationship with their representative and the directors. They know us and they can trust us and we can talk to them and say that we 've got problems, if we 've got problems and ask them how to get out of it"*

This demonstrates that the owner-managers were not particularly interested in the cheapest finance available provided that the finance company knew them and their activities and can trust them. This adds value to the Bank of England (1999), which stresses access rather than the cost of finance as the key issue for small firms. This means ready access to finance when needed. It also means finance providers being more user-friendly to small business customers. It was also based on whether or not the owner-managers were happy with them and can develop a good relationship with both the representatives and the directors of the finance company. A good relationship with the finance companies would allow firms to seek their advice if they ran into financial problems and how they could get out of it:

"...and we have a good relationship with their representative. We have a good relationship with their directors if we have any problems. They know us and they can trust us and we can talk to them and say that we 've got problems if we 've got problems and ask them how to get out of it" [Owner-manager - Company 2].

It is important to point out that most of the finance houses were actually owned by equipment suppliers specialising in the industry. The significant of this is that in some cases the finance came as a package with the equipment that was being purchased. This means that equipment suppliers are actually in a position to offer not only an attractive financial package but also trust. Therefore, the finance providers were those that the owner-managers believed were prepared to understand and to empathise or even sympathise with their 'mode of life' and their shortcomings, and those who were prepared to treat them with respect if they had problems and to help them rather than hinder them. This is evident in the following account from the owner-manager of Company 2:

"I do not like some of the people we dealt with in the past where they put you under pressure, which put you in the problem that you don't need. When you are under pressure you don't need to be put into more pressure. ...So, they treat us with respect if we have problems and help us rather than hinder us".

The identification of the appropriate source(s) of funds was influenced by the state of knowledge of the owner-manager, his experience, and perceptions about external funding. It is important to note that 'knowledge' refers to the knowledge of the various sources of finance and knowledge of the financing process, which enabled the owner-manager to know which sources to approach and how to manage the key components of the financing process. This type of knowledge was not acquired through formal education but acquired through experience and learning process i.e. tacit rather than codified knowledge.

The owner-managers were concerned with whether they could afford the investment. In

deciding whether they could afford the investment the firms took into consideration the availability of finance through finance companies in the form of hire purchase. They were also concerned with the efficient management of the financing process in terms of the responsiveness of the funding bodies, minimising costs involved in raising external finance and reducing the processing time. Past experience played a major part in the lack of interest in bank finance for investment purposes. For example, the owner-manager of Company 2 had a negative experience with the bank. The transfer of experience is explained in the box below.

Box E

Company 2 – Example of a negative learning experience

During the first interview of 2/4/98 the owner-manager informed the researcher that the firm only used HP for their investment. They did not use bank loans because they received better rates from finance houses. In the third interview of 7/4/99 this matter was explored more deeply after the researcher had time to analyse the data collected in the first interview. For example, how did the company come to select the particular finance house? To what extent were alternatives compared?

At this stage it became known that the decision to use HP in this company as the main source of investment finance was based on experience of using leasing to buy some small items of equipment before (as already explained in the paragraph above). From this experience, the company concluded that HP was the best way of purchasing larger pieces of equipment. The company came to select the particular finance house by comparing it with other finance houses. The process was to approach a number of finance companies, in order to ensure that the finance house dealt with was the most appropriate i.e. they were not too expensive and that they had a good relationship with them. It was also necessary to ensure that there was trust between them so that they could share their problems with them (if they had any). The owner-manager stressed that they did not like some of the "people" (the bank) they dealt with in the past because they were put through a great deal of pressure caused by high interest rates.

In the third interview, the owner-manager was specifically asked to describe his past experience with the bank. In the experience of the owner-manager the banks are too expensive and they ask too many questions, whereas the finance company that they use is "print orientated" and therefore they know the trade and the activities of the firm. They know whether "we are bull-shitting or not". They have seen the equipment before in similar set-ups and they know whether or not it is going to be worthwhile before financing it. Whereas, the bank "looks at the figures and say, 'yes or no', doesn't understand the business at all, hasn't got a clue what we are buying and so there is no point". Here, the owner-manager means that the bank lack contextual knowledge of the small firm operating environment and the particular industry.

When probed whether he had previously experienced any financial difficulties caused by excessive borrowing, it became known that the owner-manager had experienced two "nasty" experiences with the bank during the last recession when he had his "fingers burned". This was due to excessive borrowing during which time interest rates went up sharply, leaving him exposed and forced to chase businesses through price cutting referred to in the trade as “the busy fool syndrome”. He learned a lesson from that experience, and no longer wanted to have all his "eggs in one basket".

Box E above demonstrates another example of where going back to the companies on three occasions actually offers more insight into why the owner-manager lacked interest in bank finance for investment purposes. By the third interview the owner-manager had 'opened up' as a result of the trust that had developed between him and the researcher and was more prepared to discuss his past experience with the bank. Thus, developing trust is an additional benefit of the longitudinal research. The owner-manager of this company became more conservative about borrowing as a result of two negative experiences during the last recession. Similarly, the owner-manger of Company 6 commented:

> *"...the sort of experience we had in the early 1990s, the recession, these things scare you and you stop borrowing for fear of losing your home".*

Here, the owner-manager is referring to the same negative experience of the last recession. The owner-manager of Company 4 also stressed that his past experiences with the bank during the last recession when he borrowed excessively and was exposed has affected his choice of finance. As a result of that experience, he has subsequently avoided using bank loans for investment purposes. This experience means that they are now more conservative about the way they go about borrowing. They also learned that investing for the sake of it, without having a clear picture of "how much extra business will be generated" can produce 'the busy fools syndrome' of the last recession, when the firms became over-stretched financially and were barely profitable. These experiences relate to critical incidents (Cope and Watts, 1999) where an individual changes his "conception about a particular aspect of his view of the world in general: the aspect being, however, situation specific" (Borgoyne and Hodgson, 1983, p.394).

The financing decisions in the companies studied were considerably affected by the owner-managers' perceptions, beliefs and general attitude towards potential lenders. Owner-managers' attitude to borrowing was also linked to their past experiences. Therefore, negative experiences were found to have a negative impact on the attitude of the owner-managers. For example, negative experiences with the banks led to negative

attitudes to bank borrowing, therefore reduced the level of it. As a result of their negative past experiences, owner-managers in the study were keen to avoid "having all their eggs in one basket" by spreading over a little bit where they were borrowing money from:

> *"then you can sometimes pay one and not pay the other if you are short of money. If it's all with the bank the bank knows everything that you are doing and they can pull the plug at any one time. So, the bank is not, I feel, ideal for borrowing for equipment for the shop floor. Overdraft, yes, and short term loans, may be, but not capital equipment" [Owner-manager - Company 2].*

This also illustrates that owner-managers in the study firms were learning to spread their sources of finance, so that they can select which lenders to pay if they are short of money. Experimental learning is a complex process of continual trial and error or cyclical learning (Hawkins, 1995). In addition to past experiences, perceptions were also formed through interactions with other individuals and through the diffusion of information between and within groups of individuals (Lloyd and Dicken, 1972).

6.5 INVESTMENT FINANCE FOR DIFFERENT TYPES OF ASSET

The types of finance used for investment and the financing process was different for different types of asset. The process involved in the financing of conventional plant and machinery was less detailed than that involved in the purchase of a new technology. The type of finance used for conventional equipment included hire purchase for computer-controlled equipment such as Five-colour Heidelberg Speedmaster. Other types of finance used for lower forms of conventional equipment included leasing, retained profits, personal savings, grants, and buying second hand equipment instead of new.

Whilst, the type of finance used for buying new digital technology was mainly hire purchase, but the financing process was more rigorous in the sense that owner-managers ensured that finance companies were not only reasonable, but also that there was a good relationship and trust between them. A summary of the investment finance for different types of asset is given in table 6.2 below, whilst table 6.3 summarises the types investment finance used in the different industrial sectors in the study.

Table 6.2: Investment finance for different types of asset

[i]	**Plant and machinery (Conventional equipment)**
.	Buy equipment on hire purchase
.	Lease equipment instead of buying
.	Use retained profits to buy equipment
.	Use personal savings to buy equipment
.	Obtain grant from the government to buy equipment
.	Buy used equipment instead of new
[ii]	**New manufacturing technology (£350,000 - £0.5 million)**
.	Buy equipment on hire purchase
[iii]	**Buildings**
.	Obtain loan from the bank to buy property (mortgages)
[iv]	**Motor vehicles**
.	Buy motor vehicle on hire purchase
.	Use contract hire for a term of three years
[v]	**Computers (<£2000)**
.	Lease equipment instead of buying
.	Use retained profits to buy equipment
.	Use personal savings to buy equipment
.	Use overdraft facilities from the bank to buy equipment
.	Use government grant to buy equipment

Table 6.3: Investment finance used in different sectors

Printing	Clothing
Hire purchase	Retained profits
Leasing	Personal savings
Bank overdrafts	Bank overdrafts
Bank loans (mortgages)	Government grant
	Bank loans (mortgage)

The above sources of finance used in the different organisations were compared and related using pattern-matching technique to identify varying amounts of expenditure in the two sectors, and that retained profits were used mainly by the clothing firms, whilst hire purchase was the most popular source of finance in the printing firms. Therefore, the owner-managers of the firms in the study perceived the ideal mix for their capital structure as consisting of internally generated finance and a fair amount of debt finance, mostly in the form of hire purchase and mortgages. The small firms in the study were relying heavily on internal funds for investment purposes, preferring to use internal sources of finance rather than incur the cost of borrowing. It was therefore not surprising to see the general conservatism amongst the firms in the study towards the use of bank loans to finance their investment. It was both their inability to raise outside finance or bank loans as well as their unwillingness to do so. In response to the conservative attitude towards bank finance, major equipment suppliers started to provide not just the equipment but the financing for it too. This of course provides a double edge sword – financing may be easier to obtain and suitable for shorter life equipment, but it means being locked into one supplier for some time to come, especially if some of the finance comes via a long term lease arrangement (Horton, 1998).

6.6 IMPLICATIONS FOR SURVIVAL

The implications for growth of the small firm investment financing are many fold: Firstly, small firms appear now to be appropriately financed than in the 1990s, with a higher dependence on internal sources of finance and those that require external finance made more use of asset-based finance and a reduced proportion of finance accounted for by traditional bank lending (Bank of England, 1999). The Bank of England report also argue that small business owners have a greater understanding of their financing needs and are less vulnerable to any deterioration in trading conditions than in the early 1990s. As revealed in this study, and argued elsewhere in this thesis, the 'greater understanding of financing needs' does not necessarily mean formal education and training in financial management and other management training. It means the ability of entrepreneurs to develop explicit and flexible mechanisms for raising finance, based on previous financing experience either from other businesses or from acquiring successive rounds of financing for the current business.

Secondly, the Bank of England (1999) also argues that the change in the structure of bank finance to small businesses, whilst increasing the stability of the small firms sector, has also altered the type of exposure held by the banks. Banks have become more proactive in developing financing packages. The major UK banks have their own hire purchase and leasing subsidiaries and have also become more sophisticated at segmenting the marketplace. Therefore, the availability and the accessibility of small firm finance have been matched with its appropriateness.

Thirdly, the use of bank overdraft for investment purposes also has a possible implication. The large company literature (e.g. Pike and Neale, 1993) suggests that to achieve optimum returns on investment, a firm should match its sources of funds to the life of the capital asset that is acquired. For example, long-term capital projects should be matched with long-term loans; equipment should be financed by term loans. It should be noted that whilst it is easy in theory to differentiate between the various

sources of money, it is very difficult, if not impossible, in practice. Once in the business, one pound looks much the same as another, irrespective of its source (Barrow, 1993). In this study, the use of bank overdrafts to finance investment in some cases reflected the short term life-cycle of modern technologies especially in the printing industry and an attempt by the owner-managers to match the cost of purchasing the assets over all or most of the lifespan of the assets. The use of asset-based finance also enabled the firms to carry out this cost-matching exercise, thus overcoming the problem envisaged in the literature. Finally, the interaction and learning process between the owner-manager and the providers of investment finance has the potential to reduce the transaction costs of both sides dealing with each other (Deakins, 1998). It creates a better understanding between the owner-managers and the funds providers, which helps to reduce the costs associated with managing the finance (Gibb, 1997).

6.7 SUMMARY

This chapter has shown that the clothing firms in the study were using internally generated finance for their investment. This was mostly from retained profits. The main reason for using retained profits was because there was no cost of borrowing incurred although some firms used internal finance as a matter of policy and for small-scale investment. Hire purchase and, in some cases, leasing were the only form of external finance used for investment because they were simple, easy and quick to arrange. These were used mostly by the printing firms. The most important reason for the use of hire purchase was the short-term life cycle of new technology. Thus, asset-based finance offered owner-managers the ability to match the cost of the asset over all or most of the assets' life-span. Secondly, it enables owner-managers to purchase assets without increasing the firm's capital gearing ratio. It also avoided using banks, which some of the firms had bad experiences with during the previous recession in the early 1990s. Hire purchase was found to be more popular than leasing mainly because at the end of the HP agreement the asset belongs to the company as opposed to leasing.

Term loans were used only in the form of mortgages for investment in property. However, overdraft facilities were used for investment purposes, apparently because of the short-term nature of modern equipment and the ease with which they could be arranged. The reliance on retained earnings, hire purchase and short-term debt in the form of bank overdrafts, when financing investment in the case study firms, amounted to financial bootstrapping measures designed to meet the need for capital, without using long term external capital from banks and other traditional financial institutions. Therefore, financial bootstrapping is conceptualised in this study as 'making do' with ready-made and tried solutions. The use of these measures by the owner-managers is an example of how the appropriateness of investment finance was the issue rather than the capital as such.

The concluding comments based on the findings discussed in this and the previous chapter, together with contribution to knowledge and implications for future research are presented in the concluding chapter, which follows.

CHAPTER 7
CONCLUSIONS AND IMPLICATIONS

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7.1 CONCLUSIONS

This study has focused on the investment decision-making process in small manufacturing enterprises in the printing and clothing industries. The aims of the study were:

(i) To analyse the investment decision-making process of small manufacturing enterprises for different types of asset and to assess the methods actually used in relation to those that could be used.

(ii) To assess the extent to which investment decisions in small firms are based on previous learning experiences of decision makers.

(iii) To analyse how capital investment is financed in small manufacturing enterprises.

Previous studies in this area had focused on large companies and, in particular, on conventional appraisal techniques adopted by these companies. In contrast, this research began by examining the motivations of owner-managers as a logical first step to understanding the actual investment decision-making behaviour in the context of small firms. The core argument in this thesis is that small firms use 'bootstrapping' techniques in their investment decision-making instead of formal methods recommended in the financial management literature. These are informal routines providing 'satisficing' solutions, which although not explicitly rational, are boundedly rational. In order words, they are rational within the context of owner-managers' perceptions, knowledge and experience.

The approach adopted involves detailed accounts from the actors themselves and is based on the philosophy that the objects studied are in fact subjects, who produce accounts of their world. In the introduction to this thesis, a number of specific research

questions were identified and it is these that will be used to summarise the main findings of the study in the following subsections. The contribution to knowledge or new insights the study is adding into the process of investment decision-making will also be focused around the initial research questions.

7.1.1 What motivates investment decision-making in small manufacturing enterprises?

Investment decisions in the study firms were motivated by a number of reasons. Firstly, clothing firms (mostly Companies 6 and 7) typically invested to take advantage of an opportunity rather than as part of an explicit strategy. This means investing to meet the needs of a particular customer. For example, Company 6 suddenly invested in Twin-Needle machines to meet a particular order for casual wear. Secondly, six of the case study firms (Companies 3, 4, 5, 6, 7, 8) invested because of the need to increase efficiency/cost-effectiveness by replacing obsolete or worn-out equipment or equipment, which was continually breaking down, with a newer equivalent. Although it was claimed that this had the effect to improve labour productivity and efficient use of materials, thus controlling cost and improving the quality of output, it was neither a planned process nor an explicitly rational one. It was only when equipment was physically worn out that they realised it should be replaced.

Thirdly, Companies 1 and 2 claimed to be investing to increase capacity in order to be able to offer unique products and services to their clients, to respond to increased work load, and mostly to keep work in-house, in order to maintain margins instead of contracting work out. These firms claimed that they needed to have added value in order to be successful, by offering unique products that their competitors could not offer. Again, this was not a planned replacement cycle. Lastly, investment in the printing case-firms was driven by technological change. Technological change had a significant impact in the printing firms in term of customer relationship, customer communications, and changing customer needs. Therefore, apart from Company 1, the other printing firms were basically driven by the need to keep pace with these

developments in order to remain in business, to keep up with competition and to keep a competitive edge in prices, services and products.

7.1.2 What methods are actually used in making investment decisions and to what extent are investment decisions based on qualitative criteria as well as quantitative techniques?

In this study investment decisions were carried out as an act of faith, based on qualitative decision criteria, such as experience and judgement, which are conceptualised as 'bootstrapping' investment decision techniques. It is bootstrapping because what the owner-managers are actually doing is finding their own solution to a problem using an approach that may be characterised as 'making do' or 'patching things' together. This contrasts with the use of established methods or procedures by finding ways around problems based on past experience. Other techniques range from the tendering process, speaking to other people in the industry, to a slightly more formal technique of budgets and forecasts. Although budgets and forecasts represented a greater degree of formality on the scale of techniques used, it was a 'satisficing' threshold used as 'safety net' in the decision-making process, depending on the type of asset involved. It is argued in this study that owner-managers of case study firms were using very similar principles to what are used in more formalised 'payback' method, but without the same sophisticated financial analysis.

The study firms were not using formal investment appraisal techniques for many reasons: Firstly, the application of formalised investment procedures and sophisticated investment techniques do not automatically deliver better investment decisions (Pike and Neale, 1993). Therefore, theoretically 'correct methods' may not, in practice, produce optimal investment solutions. It is not the sophistication of techniques that is important, but a logical and systematic thought process that may be based on experiential learning rather than more formalised methods, as demonstrated in subsection 5.2.2 (ii). Secondly, non-quantifiable aspects have a significant impact on the investment decision-making process, especially as small firms lack the time and

expertise to engage in number-crunching exercises. Therefore, the judgement and experience of owner-managers become more important in the investment decision process than complex quantitative analysis.

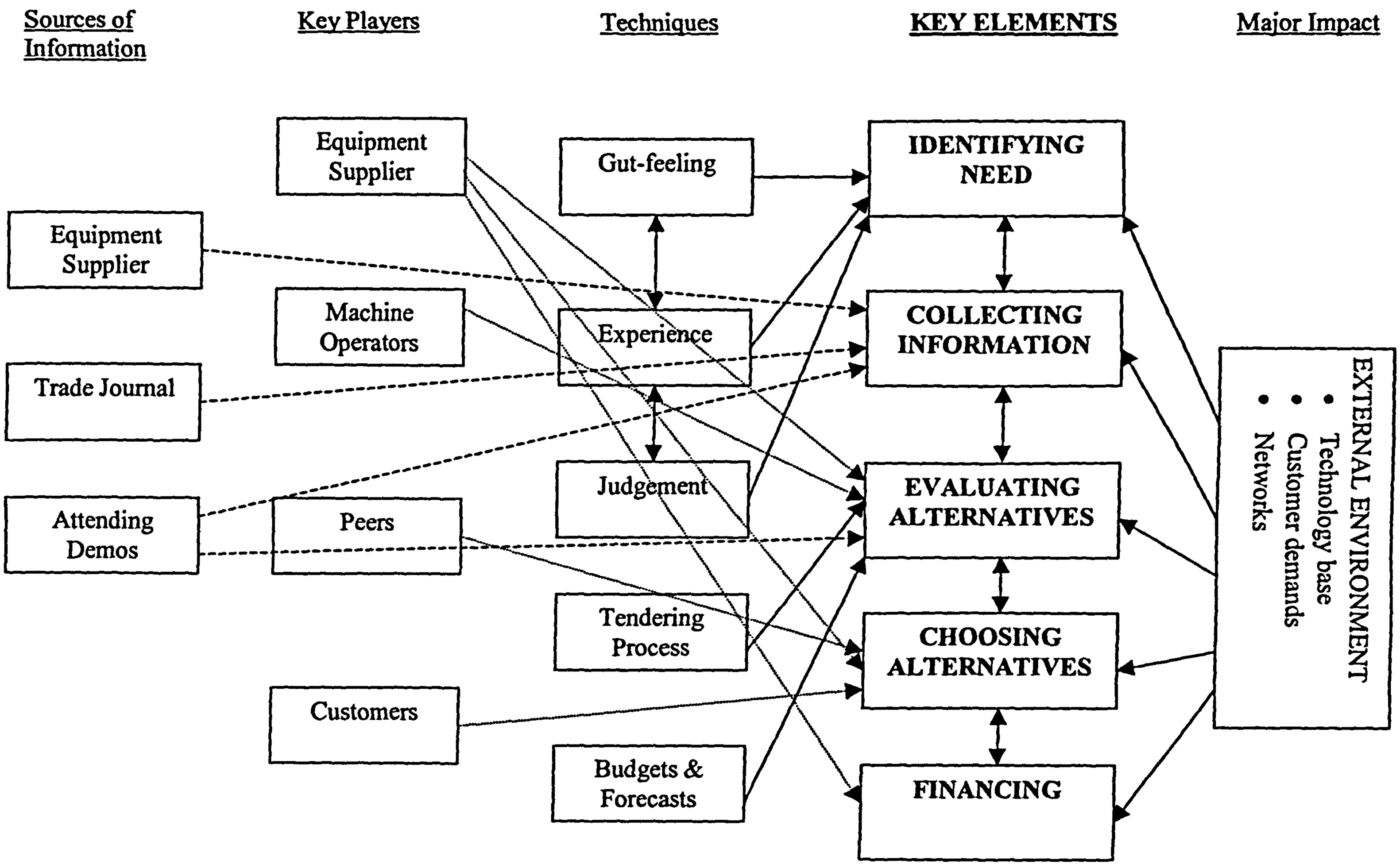
Thirdly, the distinctive nature of the small firm's operating environment precludes the simple application of the conventional appraisal methods. It seems that the firms in the study operated quite successfully (in terms of their ability to survive) without the use of any of the textbook-recommended techniques. Jarvis et al (1996, p.7) argue that "any approach which interprets activities, such as managing cash flow or investment, in terms of departures from some formal model is at best naive and at worst absurd". They also argue that the "application of formal rationality models of financial 'good practice' to the interpretation of small business owner decisions with observed departures seen as evidence of poor management skills, constitutes a failure to understand human action in economic situation". Therefore, 'best practice' models advocated by the finance literature are not necessarily appropriate to small firms and alternative approaches may be viable, even though these alternative approaches may seem unorthodox to the academics.

Finally, the firms' objectives, and the state of knowledge and experience of the owner-manager have a significant impact on the investment decision process. Orthodox economic theory operates from the assumption of perfect information, perfect ability and profit maximisation motivation. In effect, economic theory has been looking at the behaviour of an 'Economic Man', describing how the economic system would appear if the individuals operating the system were to behave perfectly rationally (Lloyd and Dicken, 1972). In fact, the firm is a complex organisation where information is far from perfect and therefore has to be sought and sifted. Organisations also have varying abilities and a range of motives. Profit maximisation is not the only objective pursued by small firms. Since small firm owners pursue other objectives, such as survival, independence, and legacy to pass on, then techniques such as the DCF, which are consistent with the wealth maximisation objective, may not be suitable for small firms, where a focus on minimising risk using some other methods and techniques, may be

more appropriate.

The investment decision-making process can be summarised in the model below. This model is an inductively derived, grounded model of investment decision-making process in the case firms. It brings together the models in Figs 2 –7 in Chapter 5, which act as building blocks to this final model. Figure 1 in Chapter 3 provides a guided frame of reference. Whilst the simple model in the literature recognises that it would be wrong to assume that there is a continuous flow of investment ideas, in practice the decision-making model is more complex. The model in the literature assumes that future cash flows can be estimated and isolated with ease, whereas in practice and in small firms in particular this is extremely difficult, if not impossible due to economic uncertainty and competition, and the uncertainty of the operating environment.

Figure 9: A Model of the Investment Decision-making Process



Explaining the model

Although not always sequential, the process begins with the identification of investment needs either through gut-feeling or through the identification of "a better way of doing things". This is followed by a search for information from equipment suppliers about the asset that will satisfy the need. When the necessary information has been collected the owner-manager evaluates the different alternatives by comparing specifications, prices and resale value of the equipment through attendance at demonstrations and inspection of the equipment in working environment.

After the information gathering and evaluation stage, the benefits to be derived from the asset in question are estimated through the use of budgets and forecasts. The budgets and forecasts are a quick and simple mental exercise. Estimating benefits or cash flows is a very difficult process, which is mainly carried out through experience, judgement and gut-feeling. This is why experience was more important than formal methods in the process of investment decision-making of the case study firms.

7.1.3 To what extent are investment decisions in small manufacturing enterprises based on previous learning experiences of decision-makers?

Applying the 8 characteristics of a learning organisation listed in Chapter 2 (sub-section 2.6.1) to the case study firms, none of the firms can be regarded as a learning organisation. However, there was evidence of organisational learning in all of them as they were learning either from past experiences of owner-managers or from experiences of others within their close network. The role of experience was the key contributory factor in investment decision-making process of the case-firms. The researcher conceptualises the role of experience as a learning behaviour within the context of an organisational learning perspective currently emerging in the literature. For example, the owner-managers of Companies 2 and 8 had learned from past experience that it is much better to stick to the equipment that they definitely know than move to a different type of equipment that they do not know. When they do, their choice of equipment and

decision-making methods typically make use of informal routines that are tried and tested. This is known as closed loop learning. The experience learned is that having previously invested in a machine from a different manufacturer, they had actually found inefficiencies in terms of maintenance and a lack of spare parts. Therefore, they had decided it was better to stick with what they knew, since this saved the time it took for staff to learn new things and also how to repair different machines. Sticking to what was known within the firm means that they were able to switch parts between different machines.

Learning behaviour can also take the form of open loop learning where owner-managers encounter a situation that was distinctively different from what they had experienced before. In these cases, their tried and tested methods may be inadequate as a basis for effective decision making, which means they have to step outside their zone of experience. This is an open loop learning because it requires owner-managers to extend their experience through a process of interaction, which entails the questioning of the underlying assumptions upon which their existing experience is based (Stacey, 1996). Therefore, owner-managers (e.g. Owner-managers of Companies 1 and 2) were learning from the experiences of others such as equipment suppliers, key employees and peers. This could be referred to as 'procedural rationality', by which owner-managers are influenced by industry-wide norms and shared expectations, not because such practice is rational, but because it is considered an accepted practice in the industry, especially when faced with unfamiliar decision. This is discussed in section 5.2, sub-section 5.2.3 (ii) and in Box B.

By learning from experience owner-managers, would often test a number of possible combinations of 'bootstrapping' techniques, from which they would learn the decision-making techniques that gave them the greatest rewards or payoffs. This would involve tending to retain satisfactory responses and deleting unsatisfactory responses. In effect, they were learning better from experience, bringing knowledge, skills, values and attitudes together and learning by doing, by problem solving and opportunity taking and learning from making mistakes. It was this process of learning by experience that

strengthened gut-feeling, instinct, reflective thinking and judgement. Judgement was used to determine those ideas and actions which owner-managers could commit themselves in terms of what was right or wrong, good or bad.

At the same time, it must be recognised that learning by experience can be either positive or negative. Nevertheless, owner-managers were adopting, from the learning behaviour, the method that worked or was practical for them rather than the 'best' method. It also meant learning by trial and error, which is an adaptive process that provided the case study firms with an opportunity to evaluate outcomes associated with a course of action before deciding upon a future course of action. As an example of a transfer of a negative experience, owner-managers in the study were more conservative about borrowing, having learned a lesson from the last recession. The owner-manager of Company 2 referred to having their "fingers burned", because of excessive borrowing, during which period interest rates went up sharply, which meant they became exposed and forced to chase businesses through price cutting.

7.1.4 What are the key factors influencing investment decision-making?

The key influences on investment decision-making process in the case-firms were the roles played by the owner-manager, equipment suppliers (subsections 5.3.1 and 5.5.1), key employees (subsection 5.5.2), peers (subsection 5.5.3) and customers (subsection 5.5.4). This is known as the concept of stakeholders. Although the role of stakeholders might be different in different companies, and although the business might be autocratically managed, there was no case where the decision was totally made by the owner-manager on their own without reference to other people. The role of stakeholders is important to the decision-making process in small firms. In a firm employing more than one person, the influence of other people such as key employees is important. Similarly, in a one-man firm where decisions are largely made by one person, apparently without reference to anyone else, the firm still draws its influences from other stakeholders such as equipment suppliers and customers.

The role of equipment suppliers in the investment decision-making process of the study firms was significant. Owner-managers in both sectors in the study established a good relationship with equipment suppliers. So, when the machines needed renewal, they simply got in touch with an equipment supplier who came around and talked about the latest model, what it does and the time it saves. Since the machine had worked well in the past, there was an assumption that it will continue to work. Therefore, they stick with the supplying company, the salesman and the finance package. This means that the equipment supplier was driving the agenda in terms of the investment by the firms. Similarly, with respect to financing, equipment suppliers always had people who were going to supply the finance. In most cases, the finance came as a package with the equipment that was being purchased. This is because many of the HP companies and finance houses are actually owned by equipment suppliers in the printing sector at least. For this reason, they were in a position to offer an attractive financial package, comprising lower repayments over a long period of time.

Equipment suppliers also had considerable impact on decision-making not only through the provision of information in the initial decision-making stage, but also through building long-term relationships and helping business owners to make the right choice. They know that a lot of small companies have a desire to satisfy their customers, so they offer not only after-sales service but also help them to sell their products, to find new markets and to extend existing markets. It must be pointed out that owner-managers are not collecting information at random. They are collecting information about equipment that is within certain parameters. Therefore, even at the information gathering stage part of the decision has already been made because the structure the decision-makers is putting on the information gathering process is helping to influence the final decision.

Equipment suppliers also had input into the decision-making process of the case study firms by actively considering the current year's product range and being willing to discuss with their small business customers the production options that are available. They also advised on certain colour effects and how to produce them. Similarly, the

customer may be undecided on the equipment he was buying, for example, whether he wanted a six-colour press or alternatively a four-colour press, which may require putting work through twice. In this regard, equipment suppliers would work with the customer at the 'choosing' stage of the decision-making process to decide what would be most economic to buy, given the type of work the firm was intending to use the equipment for. They would find out what the customer's aspirations are and talk through with the customer why one would be better or why the other would be better. This is a learning process through interaction between the equipment supplier and the owner-manager through sharing ideas and meaning. Thus, the study offers new insights into the process of investment decision-making in small firms.

The role of employees was demonstrated in some firms in the way in which machine operators were being consulted to ensure that the equipment was technically reliable, easy to maintain and capable of producing good quality products. Key employees, such as the production manager in Company 1, the sales managers in Company 2, and the facilities managers in Company 5, were involved in the decision-making process by attending demonstrations with the directors, to help to determine the best price and value. The role of employees was also demonstrated in Company 2, through setting up "week-end away" meetings during which they locked themselves in a hotel to share ideas and knowledge. This is known as team learning which brings with it crucial benefits such as bringing together the talents and abilities of team members (Hawkins, 1994).

The role of customers in the process of investment decision-making in the case firms was through a process of learning by feedback from customers. For example, the ability to respond speedily to customer demands in the printing firms, who increasingly wanted just-in-time printing, required the acquisition of high technology equipment such as direct digital colour presses, CTP, five-colour presses and ISDN. Investment being customer driven also means that owner-managers learned from customers as part of a network, using them to scan the wider business environment and to define, meet and bring forward their future needs (Gibb, 1997). For example, owner-managers

ascertained the quality of their products, which in turn determined the need for investment, through a continuous feedback process between the customers and the firms. Also, the customers were increasingly requesting a direct mail service and the printing firms did not want to pass it to the mailing house, preferring to keep it to themselves since and the facilities were becoming available.

7.1.5 To what extent is raising investment finance a problem to small manufacturing enterprises? What strategies do business owners use to cope with it?

Lack of investment finance was perceived as the main investment constraint for all the case study companies. The evidence suggested that the perceived lack of investment finance did not only refer to availability or access to investment finance, it also referred to the appropriateness of finance to the investment proposed. Consequently, the firms adopted 'financial bootstrapping' measures, in order to meet their need for the appropriate form of finance for investment and to minimise undue exposure to risk. These measures included the use of retained profits, personal savings, hire purchase, leasing and bank overdrafts. It also included the use of second hand equipment instead of new. Financial 'bootstrapping' measures are therefore creative ways of obtaining investment finance without raising finance from the traditional financial institutions. The concept of 'financial bootstrapping' originates from the demand side of investment financing i.e. from the owner-manager's own logic rather than focus on the supply of capital based on a rather narrow definition of finance, which is often explained using the 'pecking order hypothesis'. This is based on the notion that owner-managers use internally generated funds first to finance investment before resorting to external finance. In this respect, 'bootstrapping' is a particular form of learning behaviour since it emphasises the notion of what the business owners are bringing to solve investment problem by reliance on past experience.

The internally generated finance in the form of retained profits and personal savings were the preferred form of investment finance in the clothing case-firms. The main

reason for using internally generated funds was because, apart from being a matter of policy, there was no perceived cost of borrowing incurred, although there is in practice an opportunity cost. Another reason was that capital expenditure in the clothing case study firms typically required only a few hundreds of pounds, which was easier to source internally than the much larger sums required by printing firms. The major draw backs in using retained profits is that they take time to accumulate and may not therefore be available in sufficient amounts when required. Therefore, the degree to which internally generated finance is available depends on the profitability of the firm, the cycle of economic performance and the amount of finance required.

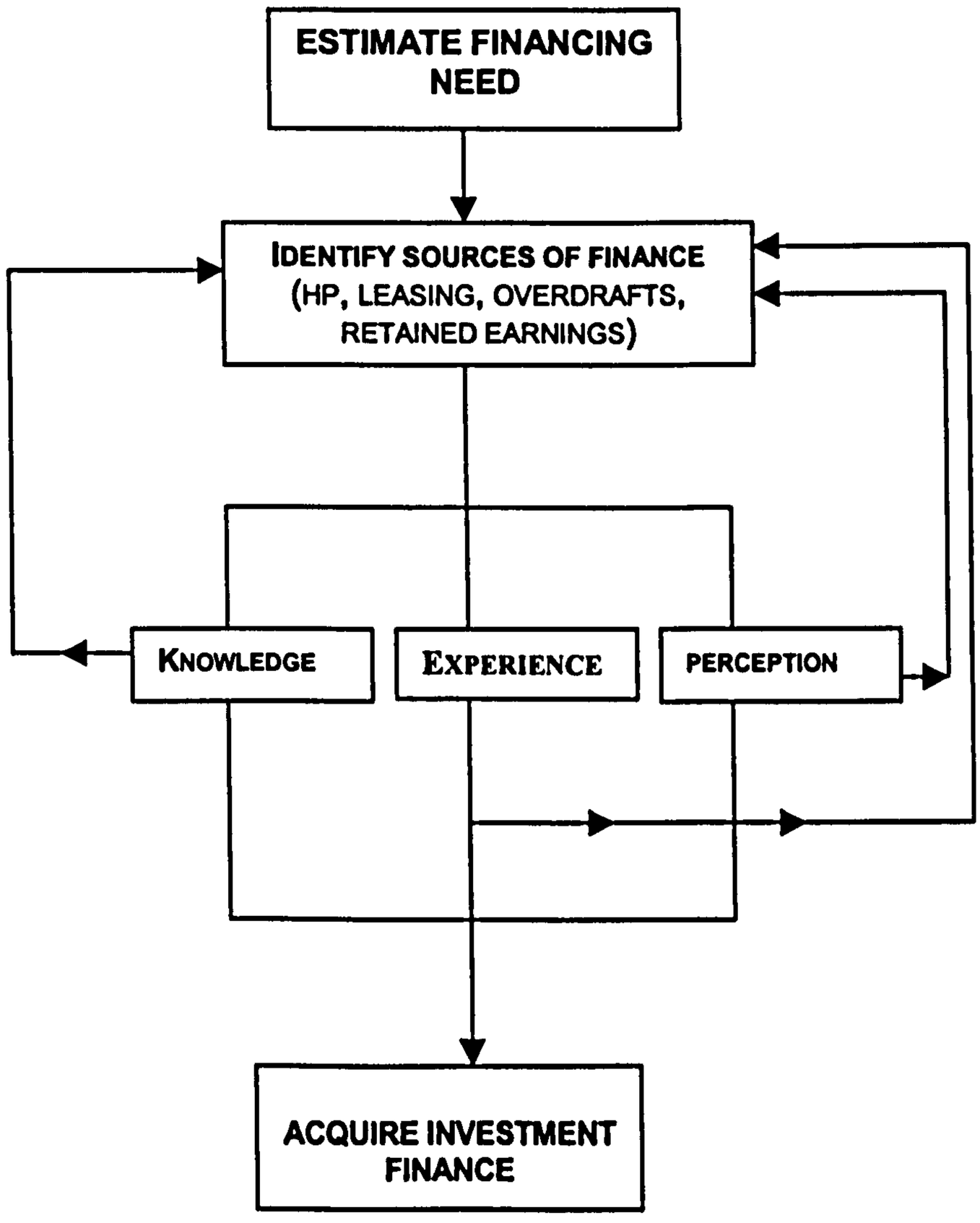
Hire purchase was the main form of external finance used for investment in production equipment in the printing case-firms. Leasing was also used for investment purposes, but in the printing industry this was mainly for minor investment such as telephone systems and coffee machines. Hire purchase and leasing are referred to as asset-based finance. The main reason for using HP was that it was considered by owner-managers to be the most appropriate form of investment finance given the short-term life-cycle of new technology, which is currently 2-3 years and getting even shorter. Asset-based finance therefore has the advantage that enables owner-managers to match the cost of the equipment over all or most of the asset's life span. It also enables the owner-managers to purchase equipment without increasing the firm's capital gearing ratio.

Bank loans were used mostly as mortgages for investment in buildings and property, rather than mainly for production equipment. This is mainly because the firms did not consider term loans to be appropriate for investment in shop floor equipment. The Bank of England (1999) has shown that in the last couple of years there has been quite large change in the pattern of financing in small companies, so that the total amount of loan finance has actually gone down. Although the Bank of England (2000; 2001) note a very slight increase in bank borrowing since June 1999, overdrafts have seen decline in importance relative to term lending as small businesses increasingly diversify their sources of finance (Bank of England, 2002). However, overdraft facilities were found to be used for investing in production equipment for the same reason as in the case of

asset-based finance above (i.e. the short-term nature of the equipment, which requires finance of a 2-3 year term).

In conclusion, the case study evidence indicates that the owner-managers in the printing firms had gained valuable learning experience in term of investment finance from interaction and from dealing with the providers of funds, especially the finance houses, and others in the close knit network. The investment financing process adopted by the case-firms can be represented in the model below. This model derived from interviews with owner-managers of how investment finance was acquired. In the simple investment decision-making model in Fig 1 in Chapter 3 investment and financing decisions are effectively separated as this is not incorporated in the decision-making model. Whereas, in small firms, there is no such separation since investment decisions are controlled by debt providers by linking the provision of finance to specific assets. In some cases, such as leasing and hire purchase, the fund provider retains ownership of the assets. The relationship of investment and financing decisions is demonstrated in Figs 2 and 8. Fig 9 is an extension of this relationship and demonstrates the role of knowledge, experience and perception of the decision-maker in the financing process.

Figure 10: A model of the Investment Financing Process



Explaining the model

The process of investment financing begins in the case study firms with the estimation of financing need. The second stage in the process is the identification of the sources of finance by owner-managers approaching a number of finance companies to ensure that they have the best possible deal. However, this is not a separate stage if finance is linked to equipment purchase. To identify the appropriate source(s) of finance the owner-manager has to rely on his experience, knowledge and perception. 'Experience' means the transfer of previous experience, whether positive or negative, to identify the main finance sources and to have a clear view of the preferred financing options. 'Knowledge' means the type of knowledge acquired through experience and the learning process, and not the type acquired through formal education. 'Perception' means the process by which individuals interpret and organise sensation to produce a meaningful experience of the world. In other words, it is a mental image of reality of the owner-manager about external funding.

7.2 CONTRIBUTION TO KNOWLEDGE

7.2.1 Methodological Contribution

The study makes the following methodological contributions to knowledge. Firstly, the detailed accounts of the actors themselves which incorporated the actual motives of the owner-managers was made possible by using 'insider accounts' which is an innovative, qualitative methodology involving in-depth, semi-structured interviews and direct observation conducted longitudinally in a case study approach. Methodology is an intricate and inter-linked part of knowledge development and there is a glove-tight relationship between them (Wyer, 1990). In this regard, the study contributes to methodological development. Much of the financial management literature is full of methodological weaknesses from a small firm perspective that need to be taken into

account in developing alternative investment decision techniques for small firms. Thus, this is the only study that uses this sort of approach to investment decisions, which makes it one of the few process-oriented studies in this field.

Secondly, the longitudinal study provides greater insight into investment decision-making by allowing different shades of meaning to be captured when decisions are made. Deakins et al (2000) argue that longitudinal research is lacking on the small firm sector. Even existing qualitative studies such as Jarvis et al (1996) interviews were semi-structured with questions designed to elicit "free flowing narratives" (p.12), but it lacks the longitudinal element of this study. Therefore, this study adds value to their work through the longitudinal element, which enabled trust to develop between the researcher and the owner-manager, thus allowing the investigation to be deepened as well as allowing decision-making to be investigated as it was taking place or as it has recently taken place, rather than retrospectively. The longitudinal element is not just a series of cross-sectional views over time, but it is also a process of successive deepening of the investigation each time the companies were visited on the three separate occasions.

Thirdly, the methodology used in this study is unique in terms of the combination of the different threads such as in-depth, semi-structured interviews, direct observations and the longitudinal nature. This is the only study in this field, which uses the direct observation technique of investigation. Direct observation reveals the complex process of investment decision-making in small firms, and allows the researcher to explore the differences between what people do and what they claim to do.

Lastly, apart from Jarvis et al (1996), previous studies tend to use assumptions and methods which fail to take account of the actual motives and behaviour of the actors and the distinctive nature of the small firm context. For example, Peel and Wilson (1996) use postal questionnaires in their study of the working capital and financial management practices in the small firm sector. The study therefore contributes to knowledge by putting together more detailed descriptive case studies than has been

previously produced in the field of small firm financing and in the area of investment decision making in particular.

7.2.2 Conceptual Contribution

The study provides an inductive and balanced empirical description of bootstrapping investment appraisal techniques adopted in small firms in comparison with earlier studies. The concept of 'bootstrapping' in small businesses was developed by Winborg and Landstrom (1997) to include 'financial bootstrapping', which represents measures used by small business managers in order to meet the need for resources, without raising external long term capital from banks and other traditional sources. This study builds on this concept of bootstrapping to include decision-making processes and sources of investment finance, because of the need to increase understanding of how small firms actually behave in relation to investment decision making. In contrast to previous studies such as Peel and Wilson (1996) which found a high proportion of small firms using formal and sophisticated techniques, this study indicates that owner-managers were using bootstrapping techniques for their investment appraisal. This is essentially a learning process, bringing knowledge, skills, values and attitudes together and providing owner-managers with an opportunity to evaluate outcomes associated with investment based on previous experience.

The concept of bootstrapping is not simply a way of owner-managers finding a solution to a problem, or 'fire-fighting', but rather a notion that they are bringing past experience to bear to solve a problem, which represents a form of learning behaviour. Conceptualising small firm investment decision-making within the context of an organisational learning approach holds promise as an explanatory framework for investment behaviour in small firms. In this regard, the study makes a conceptual contribution to knowledge, adding value to the work of Wyer and Mason (1998) and Boussouara and Deakins (1999a) by linking the concept of bootstrapping as discussed by Winborg and Landstrom (1997) to learning theory. The Winborg and Landstrom study focuses on the resources that can realistically be mobilised in the business, and

this study suggests that these 'creative ways' of acquiring the use of resources are compatible with learning behaviour by which owner-managers are finding their solutions to a problem. It distinguishes between open and closed loop learning, through which informal procedures, industry-wide norms and shared expectations are transferred from one situation to another, either through existing experience (closed loop) or through learning from the experiences of others when theirs become inadequate (open loop). The link between bootstrapping techniques and learning process is demonstrated in subsection 5.2.3 (and specifically in Boxes A and B, which illustrate closed and open loop leaning). In this sense, it also adds value to the work of Winborg and Landstrom (1997). Thus, learning by experience offers new insights into the process of investment decision-making in small firms i.e. experience is more important than formal methods.

The study also contributes to knowledge in the area of small business finance through the application of the bootstrapping techniques to the way in which investment finance is 'sourced'. The majority of the previous studies in small firm finance have focused on issues, such as the supply of capital and the financial problems facing small businesses rather than on the actual decision-making practices and behaviours. Thus, the 'finance gap' have been explained by reasons such as the information asymmetry experienced by the financiers, the high risk involved in financing small businesses, the high transaction and monitoring costs involved, and the concept of return on investment. On the contrary, this study deviates from the supply side logic and reveals that owner-managers handle the need for investment finance without raising such finance from traditional sources in order to minimise risk. As a contribution to the area of small business finance the study has also highlighted the importance of the appropriateness of finance to the capital investment intended rather than the availability of finance from the institutional financial sources per se.

In contrast to previous studies, especially large firm studies, this study has shown that in the small firm sector investment decisions and the financing decisions cannot be separated. They are positively related because external financiers typically link the

provision of finance to specific projects in order to overcome the contractual difficulties caused by the limited sources of finance available to small firms together with the presence of uncertainty and asymmetric information. The use of asset-based finance is an area where the inseparability of financing and investment is particularly most apparent.

Finally, the study offers value added by showing how the role of stakeholders feeds into the decision-making process and where in the decision-making process this happens, as demonstrated in section 5.5. For example, the study shows that the influence of equipment suppliers took place right the way through the different stages of the decision-making process but in particular as a source of information and in helping owner-managers to choose between alternatives, albeit from within a single company's equipment range. The nature of the relationship with stakeholders is quite an interesting one and offers value through this process-oriented study. Respondents cited examples of how they learned skills and insights from others, including equipment suppliers, key employees, peers and customers. Clearly, relationships are fundamental in learning business practices and skills (Rae and Carswell, 2001). Equipment suppliers had a long-term interest for the owner-managers to make the right choice, as well as peers who had longer periods of experience than the owner-managers in the study, passing on their learning to help 'younger' entrepreneurs to learn and grow their businesses.

7.3 POLICY IMPLICATIONS

Many studies on training, in the past, have tended to focus on formal training, ignoring or downplaying informal training (Curran et al, 1996). At the same time, over many years a number of studies have argued that formal training approaches do not appeal to the small firms' population for reasons relating to time, resources, lack of in-house trainer, motivation and interest (Hendry et al, 1991; Hussey, 1993; Curran et al 1996; Gibb, 1997). Twenty years later, the same training and advisory approaches are still being used, with

very low rates of awareness, understanding, interest and take-up (Matley, 2000; Gibb, 1997; Curran et al, 1996). The financial management practices of large firms have, for some time now, been used as a benchmark for small businesses (Jarvis et al, 1996), but this research has demonstrated that small business owners have different motives, beliefs and values. These differences must be recognised since the template designed for large firms may be inappropriate to small firms. This has implications firstly to policy makers and secondly small business owners themselves.

7.3.1 Implications for Policy Makers

One of the key findings of this study is that small firms use 'bootstrapping techniques in their investment decision-making process, which is a particular form of learning behaviour. This has major implications for the design and delivery of training. This means giving greater recognition to what small business owners do and understanding how they learn from their stakeholder environment and their wider networks. In this sense, policy makers ought to be sensitive to what small firms actually do; not assumptions about what they should do.

Part of the core argument in this thesis is that the behaviour of small business owner is often based on the concept of bounded rationality. This is because what they do is often based upon what they have learned to do through experience rather than what they have been taught in a formal way. Many of the methods they use to make decisions have actually been learned in terms of principles and routines which are not a million miles from the principles that are embedded in more formalised approaches. The specific suggestion which policy makers could take on board is that instead of designing formalised training courses to teach prescriptions it may actually facilitate decision-making if entrepreneurs are put into potential learning situations, or simulation exercises. This means creating an artificial decision making environment, which in a sense can be sensitive to their motives and values. It involves gearing training activities to practical problems, tailor-made and specific to the business in an in-house, informal manner.

7.3.2 Implications for Business Owners

The major implication of the research for business owners is that owner-managers have different management skills, business objectives, and more resource constraints to those of large firms which makes the use of conventional investment appraisal methods difficult, if not impossible. Therefore there is need to develop alternative investment evaluation strategies that specifically take account of the distinctiveness of the small firm context. Given the unpredictable nature of the operating environment it is suggested in this study that it might be more beneficial for owner-managers to make investment decisions based on experiential learning and tacit knowledge, which is based on real understanding. This has the potential to enhance their flexibility in terms of moving resources from one investment to another with changes in technology or economic conditions. This is recommended because these informal procedures exhibit very similar characteristics and principles to those used in the more formalised payback method, albeit without the difficult financial analysis associated with it.

Thus, there is the potential to facilitate investment decision-making if owner-managers are encouraged to extend and build on their experience through artificial decision-making environments, which seeks to build on and use their experience, rather than trying to replace it with some prescriptive tool.

7.4 IMPLICATIONS FOR FURTHER RESEARCH

The implications for further research result partly from the limitations of this study, and partly from new insights, which it has generated. The findings of rigorous and scientific research are always constrained by the method chosen for the study and also by the researcher's access to resources of time and finance (Shaw, 1999). The findings generated by this study are no different and consequently are limited in many ways. Firstly, the findings are limited to the extent to which they can be generalised to a wider

population of small firms. Since most of the case study firms can hardly be described as high growth companies, it is recommended that the findings of this research be tested on more dynamic firms or firms at varying levels of performance. This is to establish the extent to which leading edge companies, in terms of their growth performance or their technology base, are behaving in comparison with those operating at lower levels of performance. It will also establish the extent to which the models, the approaches and the processes observed in the 8 case study firms is repeated in leading edge firms, and the extent to which the findings are about uncertainty of technology as against the amount of money that have been spent.

Secondly, the findings are limited by the time available to the researcher. It can be argued that the time period over which the longitudinal study is undertaken is short in relation to the phenomenon under study since investment decisions are fairly infrequent, so that a longer longitudinal period is really needed. It is clear that different types of investment decisions are made with varying degree of frequency. For example, a firm might replace their leased car every 2 or 3 years, but some major equipment decisions, such as moving from one technological base to another (e.g. digital press), could be made every 5 or 10 years. Being a major decision, it is made less frequently. Therefore, a longitudinal methodology, which involves visiting firms over a 12-month period is not necessarily picking up many of the major decisions because it is too short a time period. This study has established the methodology and how it should be operationalised but it would offer more insight if the longitudinal aspect was rolled over a longer period. This will make it possible to follow and explain the changes in the decision-making process together with the learning and interaction process.

Finally, whilst the use of case study approach allowed data to be collected from owner-managers and key employees as well as other key informants, in practice, due to limited resources data was more readily collected from owner-managers, key employees (where possible), equipment suppliers and business advisors. As the purpose of the research was to acquire an understanding of the investment decision-making process in case-firms, it was important that the researcher's resources were directed towards the

collection of data about the perceptions and behaviour of the key decision-maker in particular. Therefore, there is need for a more balanced research whereby more data will be collected from other key informants and stakeholders such as accountants and bankers, as well as considering different types of customer relationship.

A number of different research directions could be considered. However, the three outlined above offer an immediate appeal. This continued research can provide empirical evidence that may eventually lead to the development of a theory on alternative investment decision-making strategies that specifically address the needs of small firms.

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APPENDIX 1

CASE STUDY FINDINGS

COMPANY 1

Historical Background

The company was established and incorporated in 1982 as a limited company and operated in the Camberwell area before relocating to its present complex building. The company moved to its present location simply because it outgrew its former premises. It has 35 employees and is owned by two joint directors who are not related. The directors are 35 and 47 years of age, respectively, and both have 'O' level educational qualifications but with considerable experience in the printing industry. In common with all the case study firms, organisational structure in this company was difficult to determine due to its size and informality of their operations. It was common for staff in this company to handle a number of functions simultaneously.

Before he started his company to be "his own boss", the respondent director had been working in the sales and administration for a number of years for his brother-in-law. The owner-manager started without any background in production. He said he "came in sort of blind. I didn't have any background in the business at all other than what I have learned since I 've been working within it". He started with a partner who then went and the present partner who is also a director joined the company about ten years ago. The company started as a plate-making company and evolved into "what it is now [a leading edge company] by pressure of technology". The production manager who was also interviewed is 28 years of age with no formal education but has been in the printing business all his working life. He joined the firm as a film planner and worked his way to the production manager.

The company's business is reprographic and has a turnover of £3 million. Its main products include digital printing, computer to plate (CTP), wet proofing, imagesetting, inkjet digital posters, achiving, film output and retouching. The main objective of the company is to stay one step ahead of the game and to be the best.

Data Sources

The researcher spent twelve months in the field, during which time he made three contacts with this company, using 'insider accounts' as the qualitative research method described in Chapter 4 to collect data from Company 1. The main sources of data were the owner-manager of the firm, the production manager and equipment supplier. The owner-manager was interviewed three times at six months intervals, whilst the production manager and the equipment supplier were interviewed once. Background information relevant to the case was also collected from an equipment supplier and the British Printing Industries Federation (BPIF) as key informants because as indicated by Stockport and Kakabadse (1992) successful data collection depends upon the finding and using of key informants. The collection of data longitudinally from these diverse sources using each of the methods previously described including interviews and observations, allowed triangulation and verification (Shaw, 1997a) and deepening the analysis in order to ensure the validity of the findings that emerged.

Capital Expenditure

Capital expenditure for this company means "every thing within the building". Specifically, it includes all printing equipment, building and 7 motor vehicles (2 vans and 5 cars). It does not include desks and other assets whose value is less than £1000. For this company the cost of equipment is comprised of the price of the equipment as quoted by the suppliers and the delivery and the installation costs. It also includes any training costs that the suppliers might provide. The main types of equipment used in this company for production processes are as follows:

[i] Apple Mac: which drives the entire operation because they are the central work-stations where all the work starts before going through all the different output devices. Apple Mac is the most essential part of the operation and costs about £2000 each. The company has 10 of them. They are on average 1 year old with a shelf life of 3-4 years.

[ii] Imagesetters: used for design purposes for desktop publishing.

[iii] Scanners: 2 drum scanners for quality scans from input 25" X 25" and output size A6 to A0. The bigger scanner was purchased for £1.5 million and is about 6 to 7 years old. The other one is 12 years and was purchased for £0.25 million and is probably worth nothing at the moment.

[iv] Conventional planning machines, costing £30,000.

[v] Two 2 x B1 Proofing Presses, costing £50,000 each. One is 10 years old while the other is 15 years old.

[vi] Two Xeikon Digital Printers: These are used for 4 colour short run jobs on demand, printing both sides simultaneously and producing as few copies as are required. They also allow highly personalised work to be carried out. One was purchased for £450,000 and the other for £250,000 and are 3 and 5 years old, respectively. Their shelf life is 4-5 years.

[vii] An Inkjet Digital Printer: This is used for high quality, large format colour or monochrome images up to 54" wide printing on various coated papers, films and vinyl, etc with 600 dpi print resolution. It was purchased for £14,000 and is one year old. Again, it has a shelf life of about 5 years.

[viii] CTP (Computer to Platesetter): This is the most recent equipment purchased in October 1998, costing £325,000. This enables digital input from disk to laser imaged plates ready for press, saving steps, time and money, using a unique laser registration for perfect positioning. The CTP allows the linking of the activities of the press and pre-press together.

[ix] Digital Short Run finishing equipment (e.g. Guillotine, etc): This department was set up at a cost of £18,000. This equipment enables in-house finishing which includes folding, drilling, laminating, stitching and various types of binding, mounting and encapsulating. The equipment in this department is on average one year old.

The company has spent about £2 million on investment in the past 2 years and all of it for production equipment. The company has recently purchased two major pieces of equipment in the last one year. These are the Inkjet and the CTP. The purchase of the CTP was actually witnessed by the researcher during the second interview of 5/10/98. The company makes a major purchase every year. The reason for this yearly purchase is basically "to get in there before everyone else. When everyone else is thinking about buying it and are having problems, we have sorted them out already". Another reason is that the company buys equipment when they are making a lot of money in order to protect itself when the margin is tight. For example, at one point the company was paying about £25,000 a month in repayments on all the different machines and at that time they were making more than enough in order to cover that. Thus, this enables the company to take advantage of paid off machines, which are still in use because it would be impossible to be paying for all pieces of kit at the same time. The owner-manager describes this as "prudent buying" based on "experience and thinking of the future all the time" by which they have managed to get themselves into "what is now a reasonably secure and safe position". This point was emphasised by the owner-manager as follows:

"So what has happened in the last ten years is that we have bought 10 pieces of kit in those ten years. So obviously you reach a point where,

you know, you are very profitable where we were paying for 5 pieces of kit at any one time but now, what happens is that as we re-invest these are now falling off in payments. So, now we are at a point where we are only purchasing to increase capacity, because a lot of the machine have now been paid for but are still being used as we build up, as it were, our portfolio of machinery" [Owner-manager - First Interview - 31/3/98].

At a follow up meeting with the owner-manager and the production manager, the production manager who was spoken to separately confirmed the "prudent buying" strategy:

"The idea is to pay these machines off within 3 years and then they become yours and whatever work you are putting through them after those 3 years, you are making money on. Because, in effect, you are only paying the guys' wages and consumable costs and the electricity to keep it running" [Production Manager - Second Interview - 5/10/98].

The company was at the moment considering buying a B2 Xeikon digital press in the near future costing about £450,000. The company buys all its equipment new as a matter of policy. The rationales for this are two fold. Firstly and more importantly, there is a warranty with brand new equipment and there is also service contracts attached to new equipment as servicing may prove too expensive:

"You 've got to have them [new] because the parts of the machines are so expensive and if you don't have them it comes straight out of your pocket" [First Interview - 31/3/98].

In a discussion with the production manager during the second meeting, he provided the second rationale for purchasing equipment new in this company. He said that "being new and the latest technology there is no chance for it to become second hand yet". In this company everything is completely run by computers. The company also uses computers for administrative purposes such as costing, wages, holidays, sickness records, etc. The production manager described computers in this company as "output devices and the brain behind" production. "With digital presses it's the computer technology which makes the end-product, in effect". The company is also affected by developments in

communications technology such as ISDN. The owner-manager described it as the most important thing:

> *"That's one of the things we have to have to operate. We have to communicate with customers through that facility" [Third Interview - 1/4/99].*

Computers are also used for sales and distribution in this company. The company does not, however, rely on computers for quality control purposes. Quality control is carried out manually because according to the owner-manager "the human eye is better". The most technologically sophisticated equipment in the pre-press is the Apple Mac "because without them you wouldn't be able to produce any works". In the press the most sophisticated machine is the digital printing presses. The finishing is still manual although some of the equipment in this area are computer controlled. Almost 100% of the work passes through Apple Mac. The proportion of work carried out using each type of equipment at each stage of the manufacturing process actually depends on what work is required. "If someone wants films run out then there will be more work on the Macintosh whereas if it was to do with the printing it would be more on the digital printing side of things". For this company the CTP as revealed during the third interview is for increased capacity whereas the imagesetters are straight replacements. The owner-manager explained: "It is just keeping up with the new systems. You 've got to be constantly investing because of speed and then there are more applications on the different imagesetters than there were five or ten years ago. Everything is getting that much quicker now".

The third interview also revealed that the present technological options for this company are the CTP and the direct digital colour. The reason is basically speed because they enable faster make ready times thereby saving money. They also enable shot run jobs on demand. The main factor that might prevent this company from using new technology is if it does not fit in with the company's overall objective. Before the company invests in a new technology the owner-manager considers the way it will influence the whole

company:

> *"Well, basically they have to try and sell it to us and convince us that it can work for us. If we don't think it will then we don't bother. It's all down to (a) Do we need it? (b) How will it influence us, the whole building? (c) Will it upset too many things? And is there something we can sell to our client base?" [Second Interview -5/10/98].*

Investment decision-making process

During the first interview of 31/3/98 the owner-manager reported that the company did not use any formal investment appraisal technique for their investment decisions. Instead, he referred to his method being based on his own gut-feeling, which he described as:

> *"You just feel that you need the equipment and that you are not going to loose your shirt in the process" [First Interview - 31/3/98].*

It emerged from the comparison of field notes and transcriptions with other owner-managers that gut feeling typically refer to experience and judgement. At the time of this interview the owner-manager was contemplating the purchase of their first CTP in six months' time due to increased sales and customers.

However, during the second interview of 5/10/98 which was deliberately arranged to coincide with the date of purchase and delivery of this equipment the researcher was able to observe the decision-making behaviour of the owner-manager in respect of this particular investment. Although the owner-manager had previously denied liasing with external people in making such decisions, the role of equipment suppliers was subsequently shown to be quite important. The owner-manager was observed to have series of discussions with the equipment supplier, asking him many questions about the equipment, including specifications, and whether or not it will require a long period of training for the existing staff. When asked, the owner-manager stated that the questions were designed to clarify certain matters arising from their previous attendance at a

demonstration to compare specifications and speed of the equipment. He also stated that the firm had previously inspected the machine in an ideal working condition to determine whether or not it would be suitable for their requirement and to ask the machine operator of his opinion of the machine. Asked about how the opinion of a machine operator can help in investment appraisal, the owner-manager explained that his opinion is about the technical reliability of the machine. When asked about the extent to which the opinion of the machine operator is taken into account, he responded:

> *"The machine operator knows about the technical aspects of the machine. He knows whether or not it does a good job technically and whether it is easy to use. His opinion about its reliability and likely maintenance and repairs is highly valued as a member of the team. In this trade, you know, we learn from experience. Experience means everything" [Second Interview – 5/10/98].*

The owner-manager was also observed to liase frequently with his co-director and the production manager, going over matters that they had discussed many times before, such as whether or not the equipment will fit in with staff and where in the building they hoped to install the machine. The owner-manager also telephoned his colleague who had more experience of the equipment because he had owned one for some six months. Although this company had previously invested in high technology equipment such as Xeikon digital printers costing £450,000, the CTP was clearly an investment, which the company was not familiar with, which meant that existing knowledge and experience was an insufficient basis for decision-making.

When pressed further during the third interview the following stages of the decision-making process adopted by the company became clear. Firstly, the need for the equipment is identified. The need for investment in this company is determined through gut feeling and by attending demonstrations. They identify needs by seeing "pieces of kit and if you think you 've got use for it and you can sell it then you put it in". Secondly, one of the directors together with the production manager will attend demonstrations to determine the best price which in most cases includes transport and installation costs, and

to ensure that they have the best value they can get from the equipment. Attendance at demonstrations also enables the owner-manager to know more about the machine such as the specific model available, the manufacturers, and whether or not the equipment has any residual value. The speed of the equipment is also ascertained at demonstrations. Thirdly, the owner-manager will inspect the equipment in action in an ideal or working environment to determine whether or not it will be suitable for their requirements. The owner-manager illustrated this process as follows:

> *"You go and see some demos and look at different pieces of kit, you go and see the machine in action in ideal surroundings and you think, well, will it work for us? If it will, then you go and see another site where it is actually working in a working environment rather than a demonstration environment. And then you basically ask the guy that operates it what he thinks of it" [Third interview – 1/4/99].*

In an earlier conversation with the production manager, it was made apparent that attendance at demonstrations was a key aspect of the decision-making process. He stressed:

> *"We go and look at different pieces of kit and then we say which one will slot in the easiest into the way we work already, and how much time is it going to take us to get us up and running on it and working a 100%" [Production Manager - Second Interview - 5/10/98].*

Fourthly, in the decision making process the company obviously takes into account the availability of space in the building for the equipment and whether or not it will fit into the overall objective of the company:

> *"It's got to be anything that can go into the building quite easily and fit in without upsetting the whole working situation. ...Basically, it's got to fit into the working environment without too much hassle" [Third Interview - 1/4/99].*

Fifthly, the company takes staff skills into consideration in the decision making process. During the discussion with the production manager he intimated that staff skills are not a

problem for this company. He further indicated that staff skills could only prevent this company from using new technology if it requires them to spend too long in staff training. The company has its in-house training facilities and trains up their staff "to a good standard". By the same token, the owner-manager stressed that company trains the staff to be able to use new technology. However, they do not want to spend too long in staff training:

> *"You don't want to spend too long in training people up. ...You do have to train people up to do it but then if you 've got experienced staff and good operators they take to it just like that, because at the end of the day it's only another output device" [Third Interview – 1/4/99].*

Finally, the company carries out a budget exercise by first of all ascertaining the price of the product, and then forecasting the costs of production on a monthly basis. This is a fairly formal process in terms of the scale of formality but still short of the conventional methods. When the owner-manager of this company was first interviewed on the 31/3/98 the researcher was informed that he uses experience and judgement as the only techniques in the investment decision-making process. As indicated earlier, the second interview was arranged to coincide with the purchase and delivery of their first computer-to-plate (CTP) equipment, during which the owner-manager was observed to hold a meeting with his co-director and the production manager. At this meeting, which was also attended by the researcher (on his request) as an observer only, the management team was observed to cross-check matters dealing with budgets and forecasts. For example, they referred to past financial statements and records and cross-checked estimates of the price of the products and forecasts of the production costs on a monthly basis. The costs included the monthly repayments for the machine, material costs, costs of labour (wages), and other consumables, such as electricity, etc. Since the monthly turnover more than covered the costs of production, then the equipment was certainly going to be acquired.

Data collected while observing participants during the meeting contradicted the characterisation of the firm's investment behaviour as portrayed in the first interview.

After the meeting the researcher asked the owner-manager why it was necessary for them to carry out the budget and forecasts exercise at that stage of the decision-making process. The owner-manager emphasised "with all the machines that we have bought, we look at it [the budget] to buy one piece of kit about £0.25 million per year". The time the researcher spent with the management during this meeting revealed that the company does not have a formalised procedure to identify needs. The owner-manager uses gut feeling to identify investment needs and does not have problems with that because he already knows that he is going to make series of checks in terms of budgets and forecasts as a 'safety net' to back up their judgement and gut feeling. It emerged from the comparison of field notes and transcripts of interviews that budgets and forecasts were also used in the decision-making process of Companies 2 and 3, both of which were printing firms.

The researcher observed that the meeting also provided an opportunity for the management team to explore their investment decision-making process through 'collective meaning and knowing' in the form of shared understandings (Wyer and Mason, 1998) of the budgetary process. This is a typical example of team learning process. The information based on the first interview was clearly misleading but not deliberately so since the owner-manager did not consider budget and forecasts as part of the decision-making process. It was only after this meeting which the researcher was privileged to attend that it became apparent that the company assesses how much money the equipment is going to make for them by working out the costs of production and setting these costs against the selling price of the products. These costs include, wages of the operators, materials and other consumable. When this was tested in the third interview with reference to the recent purchase of the CTP the owner-manager's reply is representative of the process used by the owner-managers of Companies 2 and 3:

"We have got to take into account the cost of the operator. You will have to pay his wages; then the cost of the plate how much a set of plate is going to cost you; and then you are paying for the technology as well. And then, obviously you 've got to sell it and you 've got to work out costs where you are taking all those into account and making money on top of

that. We kind of do a budget. ...It's like anything else. It's got to be able to make its money otherwise, as I said before, there is no point in doing it, and if it makes its money then we put it in and give it a go" [Third Interview – 1/4/99].

However, it was made apparent during a conversation with owner-manager that they find the budgeting process difficult due to fluctuating orders and the uncertainty of the industry's operating environment:

"We try and forecast it but you never can because this trade is so erratic, one minute you are up, you are up to your rafters with work, and the next minute you are down, down on the floor. So, there is no constant flow or constant cycle in this trade any more"[Third interview – 1/4/99].

The researcher was also interested during the third interview in finding out how useful the advice received from both the equipment suppliers and the colleague on the purchase of the CTP had been perceived. When asked, the owner-manager's response suggested a learning process. He revealed that he had actually learned and benefited from the experience of the equipment suppliers and that of his colleague. Specifically, he answered:

"They helped tremendously not only by providing us with advice about the CTP but also by providing technical support and training. They 'll probably continue to offer us the benefit of their experience for a long time" [Third Interview - 1/4/99].

During this discussion the owner-manager was also asked about the extent to which the production manager's opinion/assessment was taken into account. In his reply he made it apparent that the production manager has a lot of experience in the production process and is always willing to make his personal knowledge and experience available, again suggesting a learning process:

"He is quite a capable person and a huge asset to the company. He has been with us since we started and has acquired a lot of experience over the years especially on the production side of things. We learn from his

experience and he learns from ours. That's the way it works" [Third Interview].

External inputs into the investment decision making process were revealed after a number of interviews with the owner-manager and observation of their decision-making process. Initially unsure about whether to reveal that he actually receives advice about investment decisions, the owner-manager indicated that the company does not use the services of a consultant for investment decisions because they do not believe consultants have got a sufficiently detailed knowledge of their industry. The owner-manager felt that it might take a consultant too long to understand the way the company operates:

"...this is a specialist thing and there is no one out there (I suppose there is probably some one out there but it's such a specialist kind of thing) that can understand the way we work, the way the building works. It will probably take a good year or so to get your head around the way everyone works and the way we work and the way we make money" [First Interview – 31/3/98].

At the same time, he stressed that the company uses the services of external accountants to inform them of their financial performance. The owner-manager emphasised that "the accountant will tell whether you are making money or you are not making money". As the relationship between him and the researcher developed, he revealed during the second interview that the company uses the services of equipment suppliers. "Obviously, they have got to keep us informed of what is coming out and obviously the trade press as well" (Second Interview – 5/10/98). When asked whether equipment suppliers had any other input in the decision-making process he replied: "nup!", despite the fact that he was earlier (the same day) observed to have had series of discussions with the equipment supplier. Realising the slow process in which this information was released, the matter was revisited during the third interview. It was interesting how the owner-manager just 'opened up', probably because by this time the relationship between him and the researcher had fully developed. He revealed that in this company, equipment suppliers have a lot of influence on the investment decision making process. When asked about how this influence manifested it self, he explained that equipment suppliers influence the

decision making process through the use of their marketing techniques such as offering discounts and incentives including the offer of free equipment if a certain number of equipment is purchased from them:

> *"And generally what you find is that if you go to one supplier, what they do sometimes is 'if you spend 'X' amount of money with us and buy all of our stuff we will give you 'X' for nothing', which is happening more and more now. The suppliers have a lot of influence on investment decisions. Sometimes it's like the old cow and donkey trick, really, because ultimately that's where they make their money " [Third Interview - 1/4/99].*

The second visit, during which the equipment supplier was there, provided the researcher with the opportunity to ask him about his involvement in the investment decision-making process of his customer. His reply provided an insight into the decision-making process:

> *"When we are selling presses we would actively consider the current year's product range and would be willing to discuss with the customer the production options that are available. We also advise on certain colour effect and how to produce them. We sit down and talk through with the customer why one would be better or why the other would be better" [Interview Notes –5/10/98].*

The equipment supplier explained that they also have input in the financing decision-making process. Although the equipment supplier did not own a finance company but they would recommend a finance house that would provide the finance for the equipment. The equipment supplier explained this as follows:

> *"We do suggest a couple of finance houses on many occasions, but we have as little as possible to do with it. We try to steer them towards the finance houses that we know will keep us waiting the least long because all the finance houses are very provident the way they deal with machine dealers" Interview Note – 5/10/98.*

The owner-manager revealed that the major sources of risk and uncertainty in this company are sales: "Not having any work. Cash flow is the most important thing. You

've got to have money coming through the door. Sales, yea" [Third Interview]. Again, this was representative of the responses from each of the owner-managers in the study. Although this was not apparent during the first interview, the company incorporates risk and uncertainty into their investment decisions through the use of forecasts. However, as a result of the attendance of the researcher at the meeting referred to above, it was possible for him to deepen his investigation and to explore deeper how this was done. Having observed during the meeting that they referred to past financial statements and records, the researcher enquired about the significant of this exercise and it became obvious that the company uses past records to forecast the future. The owner-manager responded:

> *"We look at the last few years' books to try and do a forecast of what we have to make that year, so we can then justify buying a piece of equipment, really. This is very difficult because things are changing rapidly. It's just like when you are going to buy a car, you pay £12,000 for brand new, but as soon as you drop out of the show-room, it's not worth £12,000 any more" [Second Interview – 5/10/98].*

The discussion with the production manager revealed that to reduce the uncertainty of sales the company operates a system of "house accounts" so they don't depend totally on the sales representatives to bring in new business. They also "look after" existing 'house accounts' by each head of department. For example, if it is films that are required "Ken looks after, if it is digital printing I [the production manager] look after them". 'House account' is the term used in this company to describe existing customers and clients. When asked whether he uses the same decision making process for all types of asset, the owner-manager replied that he uses the above process mainly for investment in digital technology which involves new technology and high levels of expenditure. They do not use this process for small items of expenditure such as computers costing less £2000 and motor vehicles, which are replaced "when they are not going any more" (Owner-manager). They are not based on mileage or age but "when they stop going" (Production manager).

Both the owner-manager and the production manager made it apparent that the company does not carry out any formal market research or marketing other than reading the trade press. They read about new products and what customers would like from trade press and decide whether or not they can go into such markets. The production manager emphasised: "You can tell whether it's going to be right or wrong for you just reading about it". However, the company uses pricing decision to boost sales. For example, if a customer "gives loads of work, they get a better discount, but if it's only one job they pay a premium rate" (Owner-manager). The price is actually based on cost plus pricing where all the costs such as the cost of films and other consumable, operators' wages, electricity, etc are added up and a margin is put on it.

In discussing the extent to which investment decisions are planned in this company or the level of investment planning with the owner-manager, it was made apparent that there was little evidence of planning. Investment decisions were planned in this company only in terms of identifying the needs, the cost, and where the money is going to come from, then by attending different demonstrations, looking at different pieces of equipment to see whether they will fit in with the firm's overall objective. Other issues considered at the planning stage as revealed by the interview with the production manager include determining the time it will take for the equipment to be up and running and working at full capacity. He also revealed that the firm assesses the benefits from the equipment and how quickly it will take to pay for the equipment. This means:

> *"How much money is it going to make us which is the most important thing and how quickly do we think we can pay it back. They are all the things you have to look at. It's not like going out to a shop where you have everything in front of you, picking bit and pieces. You 've got to go out, you 've got to have demonstrations and you 've got to see how fat it is i.e. have you got a place to put it somewhere? There are so many little things and obviously the cost which is the main thing" [Production Manager -Second Interview - 5/10/98].*

The owner-manager revealed that investment planning, as well as other areas of planning are difficult because the industry is changing rapidly due to technological changes.

Examples are the CTP, which is eliminating films, and the digital printing press, which is eliminating films and plates. The owner-manager of this company argues that the technological change is following a natural progression:

> *"...It is following a kind of natural progression because what the industry is trying to do is try to take something out of the way of working and replacing it with something quicker and faster... They are always trying to eliminate some parts of the procedures (like films and plates). They are narrowing it down all the time now. We all live in a digital environment now. Because of that we can't plan more than a year because you never know what they 've got out there and suddenly what you 've got becomes obsolete and then you have to go out and buy something else" [First Interview - 31/3/98].*

However, the owner-manager revealed that the only form of planning in this company involves estimating the return on capital in a simple mental process. When asked how the estimate is done, he emphasised: "What product you 're selling. How much you know you can get it for. How much you can sell it out. In other words, it 's the sales less the costs to arrive at how much you make". Asked whether the implementation reflects the plans, the owner-manager indicated that it does to the extent that the equipment fits in with the company's overall objective and are generating returns, which is the ultimate aim. The owner-manager illustrated it in the following terms:

> *"Get it in and get it going and get it making money, that's the plan. Yes, it does reflect the plans. Obviously, there is no point doing it if you are not making money" [First Interview – 31/3/98].*

The motivation for investment activities in this company was initially revealed when the owner-manager was asked to describe the rationale behind investment in his company. In his reply, it was apparent that the company invests for the purposes of increased capacity to be able to offer unique products and services to their clients and to maintain a leading edge. The owner-manager illustrated this as follows:

> *"To make money. To offer any thing to our clients within reason. To get one step ahead of the game because you 've got to be able to offer*

something unique" [First Interview - 31/3/98].

It was also apparent that investment in this company is also customer-driven. The owner-manager commented that "without customers we wouldn't be working and without customers we wouldn't be making money". Investment enables the company to respond swiftly to customers' demands. The third reason for investment in this company as also revealed by both the owner-manager and the production manager is technological change sparked off by the introduction of the Apple Mac into the industry. The owner-manager emphasised during the third interview that it is a "natural progression" for them to invest in new technology. For example, their recent investment in CTP enables them to take advantage of new technology, which enables faster make-ready times for presses by eliminating the film stage:

> *" It is just a natural progression for us to just go out and buy a new piece of kit like the CTP because a service we sell to the trade outside is to make plate quicker and you eliminate the film stage you 're still making more money, if you see what I 'm saying. Every device we put in makes money, so the more devices we put in the more money we make. If you eliminate the film it makes your work faster because when you run out of film you don't have to wait for someone to cut it down and you don't wait for someone to go and make the plate. You fix the job up, you send it to the CTP, it prints the plate for you. The job is done" [Third Interview - 1/4/99].*

In a separate interview earlier with the production manager, he stated that rapid technological change was the major motivation for investment in this company:

> *"Technology pulls us along basically. That's what happens. Since the Apple Mac had taken off every thing else just follows suit, really". And that's part of the reason. The introduction of Mac into the trade has made it go this way [Second Interview – 5/10/98].*

When asked which of their equipment was for increased capacity and which was a straight replacement, there were differences of opinion. Whilst the owner-manager thought that all his production equipment was to increase capacity, the production

manager was clear that the imagesetters are straight replacements because of technological developments which brings out quicker and better ones whilst the CTP and the digital printers are for increased capacity. He stressed that they are to bring in more work.

It was also established during an earlier discussion that the main constraint on the investment decision making process in this company is finance. An extract from an interview with the owner-manager illustrates this:

> "Obviously, the cost, the finance. You 've got to be able to justify going out and spending £0.75 million on a piece of kit, because if you can't justify it to yourself, then there is no point in putting it in"[First Interview – 31/3/98].

The owner-manager's comments are representative of the view of each owner-manager in the case study firms. What this means in practice was investigated in the next section.

Investment Financing process

It was established during this first interview that, in common with each of the other companies in the printing industry, the main sources of finance for investment in this company is Hire Purchase (HP). By comparing the data collected from different sources it was made apparent that these printing case study firms used HP mainly because the finance houses that they used specialise in financing printing equipment and therefore are in a position to make decision quickly. Specifically, Company 1 used HP for the following additional reasons: Firstly, because a lot of money is involved (sometimes up to £0.75 million) which can not be taken out at once. Secondly, and more importantly, because of its short-term nature. According to the owner-manager if equipment is not paid for and written down within 5 years it will become worthless because of rapid technological change:

"The thing is you have to do it on a short-term because the longest we

have ever done any equipment for was 5 years because if you don't pay for it and write it down over that period of time it will be worthless because of technology changing fast. Basically, if you buy stuff over too long a period you end up, at the end of 5 years, that you have to scrap the machine and still owe money on it. I mean, now we do stuff for 2 or 3 years because if your equations don't work i.e. if you buy the kit and you can't make money and pay for it over 2 or maximum of 3 years then there is no point buying it" [First Interview - 31/3/98].

During this discussion the owner-manager revealed that they haven't got any equipment that is over 5 years old that hasn't been massively updated because of his experience of a lot of other companies bought equipment at the "wrong time of the cycle":

"Take for example, one company I know, they bought a machine for £900,000 over 5 years and it was in the image-setting side of things and basically it became obsolete after the first year" [First Interview – 31/3/98].

In common with the other case study firms, this company does not use bank loans for investment purposes. The owner-manager made it apparent that the reason he does not use bank loan for investment is that he wants to "keep the cash flow situation separate from capital investment" thus avoiding "putting all its eggs in one basket" since they have already obtained their mortgage from the bank and are taking advantage of the overdraft facilities:

"You see, I mean the bank lent us the money to buy the building and they also supply the overdraft and we feel that's as much as we want in any one place" [First Interview – 31/3/98].

The second reason, as revealed by the owner-manager during this discussion, for not using bank term loans is because they get "good deals" from finance houses. The following extract from the interview with the owner-manager is representative of the reasons given by each of the other owner-managers in the printing case study firms:

"...you get finance houses climbing all over you to make a deal, and you know, we 've got a good track record and so we can play on that and get

good deals. The trouble is putting all your eggs in one basket, as you know banks can be very unfriendly in hard times" [First Interview – 31/3/98].

When asked to comment on whether loss of control was a factor which influenced his financing decision making process, the owner-manager made it apparent that loss of control does not play any part in the company's financing decision-making process because they don't borrow so much that could cause the bank to "pull the plug" on them.

Cash Flow Management

The efficient management of working capital is important from the point of view of both liquidity and profitability. Poor management of working capital means that funds are unnecessarily tied up in idle assets hence reducing liquidity and also reducing the ability to invest in productive assets such as plant and machinery. During the first interview the owner-manager of this company was reluctant to discuss the cash flow position of his company. He did not "see where the questions were leading". Realising this attitude the researcher did not push the point. However, during the second interview when the relationship between him and the researcher had developed, the owner-manager was quite willing to discuss the matter. He revealed that the company does not have any cash flow problems because according to the owner-manager payment is always made in time. When asked how the owner-manager decides how much credit to give a particular customer he revealed that most of his customers are recommended by other customers and are established businesses with a vested interest in paying. The company also asks for half of the money up front. However, to decide how much credit to give to a customer, the owner-manager revealed that he carries out a credit check on them and obtains credit references. The following explanation from the owner-manager provides an insight into the process:

"Often most of our clients come on recommendation from other clients, but you know, we still have to make provision for an estimate of bad debts a year, as it normally does happen, it's just one of those

unfortunate things, really. We ask for credit references. We ask for half the money up front, or something of the sort but we are not dealing with members of the public. Nearly all our clients are established business. They are normally people with a vested interest in paying rather than not" [Second Interview - 5/10/98].

It also emerged from the discussion during the interview that the credit period in this company depends on who the customers are. There are 30 days, 60 days and 90 days credit periods but the average credit period is 60 days, which is the norm in the industry. The owner-manager describes this average credit period as "the general kind of thing for everyone". When asked what steps he takes to ensure that payments are made in time he replied that the company has a credit controller who he described as a "rottweiller":

"We have a lady upstairs who does it. We call her the rottweiller. She frightens the nation to death" [Owner-manager - Second Interview - 5/10/98].

In a separate interview with the production manager as a key employee, he referred to the credit controller as "an angry lady":

"We 've got an angry lady who sits upstairs. She gets on the cases and gives them some stick if they don't pay and they end up paying in the end" [Production Manager - Second Interview – 5/10/98].

The production manager also revealed that the steps she takes depends on how much money is involved. "If they owe a lot, then she is on their case big time". The production manager was quite keen to inform the researcher of steps that the credit controller takes in the credit control process:

"She phones up creditors about two weeks after the expiration of the credit period. This is followed after about two weeks by a debt recovery letter and after another two weeks by a solicitor's letter [Second Interview – 5/10/98].

The owner-manager also revealed in the conversation that the company does not protect

itself against possible default by way of insurance because it is too expensive. The owner-manager expressed concern about the number of clauses contained in insurance contracts and gives this as another reason for not insuring his business against possible default. The owner-manager was also reasonably confident that their customers will pay up as they are "very good clients and of course good clients are always going to pay". The company does not use factoring or invoice discounting for the following reasons: Firstly, factoring does not pay the full amount of an invoice. The owner-manager took issue on this:

> *"So much hassle, and in the end you don't get the full amount for the job. So why do you give someone else the money when you are doing the work" [Second Interview –5/10/98].*

Secondly, the owner-manager believed that factoring firms give a false sense of security and a company "can end up in a month with no money" in the bank. The owner-manager supported this point by emphasising that:

> *"most of the people [customers] who have gone skint on us are factored. You know, I would say that 70% of our bad debts had been with clients who are factored. I mean, you know how factoring works. They give you false sense of security. It can blow your bank" [Second Interview – 5/10/98].*

Thirdly, the owner-manager was worried about losing control of clients by being phoned up by people they don't know and people that are not very friendly. The owner-manager commented that, even their "rottweiller" smiles at times.

COMPANY 2

Historical Background

This company was incorporated in 1966 as a limited company, has 20 employees and is owned by a family management team of husband and wife. The husband is the managing director whilst the wife is the finance director. Both husband and wife are aged 59 years and are educated to secondary modern and grammar school but without formal qualifications. They have worked for a number of years in the printing industry before setting up their business. The husband has been in printing since he was 11 years old and has worked for employers up to the age of 20. The motivation to start his own business started when he bought a little printing machine to use at home when he got home from work and "felt a different kind of satisfaction. My input into what I was producing from what the customers wanted gave me a certain amount of thrill and then my parent put the deposit down for the company I bought originally. So, I was self- employed, not really knowing a lot about running a business but had to learn it quickly. So, why I went into it I don't really know. I love the industry. There is nothing best to me than printing". The sales manager who was also interviewed is 52 years of age with 'O' levels qualification and had worked for a number of years as a sales manager with a big retail company before joining this company after being made redundant.

The company's business is commercial printing and its main products are printing and stationery including brochures, leaflets, newsletters, business forms, etc., with a turnover of £2 m in 1998. Its objectives are profitability, high quality products, good service and a stable environment for employees.

Data Sources

The main sources of data in this company were the owner-manager and the sales manager. The owner-manager was interviewed three times over a period of twelve months at six

months intervals, whilst the sales manager was interviewed once. Equipment supplier was also interviewed as a key informant.

Capital expenditure

Capital expenditure, in this company, means all the Printing Presses. It also includes large pieces of equipment. Computer hardware is also capitalised. It does not include small items of expenditure such as computer software. The main types of equipment for production process in this company are the Printing Presses and computerised equipment:

> *"The main type of equipment is Printing Presses. We also have computer links. You know, the art-works and type-setting are all done by computer now a days. So computers are very important, Apple-Mac as we call them" [Owner-manager - First Interview - 2/4/98].*

This company is divided in to three departments, namely the Pre-Press Department, the Commercial Department, and the Finishing Department, and each department is equipped with appropriate machines. The Pre-Press Department has a Design Studio, which is equipped with standard Apple Mac and PC, CD writer, scanner and imagesetter. The Apple Mac cost £2-3000 per unit. They are fairly new, the oldest being 3 years old and the newest has just been installed as recently as last July. The Scanner was purchased for £9500 whilst the imagesetter cost £40,000. The shelf life is 3 to 4 years. Other machines in the Pre-Press Department include:

[i] Dainippon Camera C690D - Fully computerised with densometer checking for halftone values. Negative up to 510x635mm (Line). A3 (Halftone). Copyboard 610x930mm. This equipment although no longer in use was purchased at a cost of £18,000.

[ii] Processor for Positive and Negative Films. There are two of this equipment which were purchased for £6000 each.

[iii] Agfa-Gevaert Copy Proof - Processor CP350 for Photo Mechanical Transfers. This was purchased for about £500.

[iv] Parker Printdown Frame - Double sided frame for up to SRA2 plates. It was bought at the cost of £1400.

[v] Processor for Positive and negative Plates - Process, wash and gum plates for consistent quality costing £6000.

[vi] Light Table - For spotting out, registering film work and general planning.

The Commercial Department houses the following machines:

[i] Heidelberg Platen (254x380mm) - Single Colour Letterpress, Using Nylo Plates and Zinco's - for Blind Embossing, Cutting, Creasing and Crash Numbering. This machine was purchased for £5,505 and has a shelf life of 30 years.

[ii] Heidelberg GTO46 (320x450mm) SRA3 - Single Colour Lithographic, Close Register, Perforating and Numbering. Using Metal Plates. This machine was bought at a cost of £12,000 some 22 years ago.

[iii] Heidelberg GTO52 (360x520mm) - As above, but larger sheet size. This machine has been owned for 12 years and was bought for £18,000.

[iv] Heidelberg GTO52/2 (360x520mm) - Two Colour Lithographic, Close Register, Perforating, Numbering and Perfecting. Using Metal Plates. It was purchased 14 years ago for £52,000.

[v] Heidelberg MOZP (480x650mm) - Two Colour Lithographic, Long Runs and

Close Register, Marvellous Solids and Perfecting, CP Tronic and Alcolor. This equipment was bought at a cost of £140,000.

[vi] Heidelberg Speedmaster 52/5 (370X520mm) - Five Colour, Perfecting 2,3 - Fully Automatic, High Speed Running, Short Make Ready Times, Computer Controlled. Using Metal or Polyester Plates. This machine is less than a year old and was purchased at a cost of £374,000.

[vii] Bar Code Reader - Reading wand for checking Bar Codes printed on all of the above machines costing £600.

The Finishing Department is equipped with the following machines:

[i] Uchinda Sheet Counter - For checking quantities of paper for accurate deliveries in and out of stock. This was purchased at a cost of £4000.

[ii] Polar Guillotine Electromat 72 - Magnetic strip, costing £8000.

[iii] Polar Guillotine EMC92 with Monitor - Fully computerised with airbed, purchased at cost of £8000.

[iv] MBO Folder T48 (SRA2) - With cross fold unit. This machine was bought second hand for £2,250.

[v] Setmaster (GST) Collator - 5 Station A3 or 10 Station A4. Gathers, Folds, Stitches (either saddle or stab, top left or right hand corner) and trims fore edge. The Setmaster was purchased for £30,000.

[vi] Citobourne 280B - Drilling Machine with 2 heads and mechanical stops, costing £2000.

[vii] Worsley Brehmer Stitcher - Reed fed stitcher, for saddle or stab stitching, top left or right hand corners, purchased for £1500.

[viii] Hand Finishing Equipment - Spine tapers. Tapers for double-sided adhesive tape, Line gluing for folders and drawn on covers, Rollem scoring and perforating machine and Padding frames. The cost of the finishing equipment varied from £10 to £500.

When asked if the company has recently purchased major equipment, it became apparent that the company has recently purchased two major equipment - a new Heidelberg Five Colour Press as shown above, and a new Management Information System (MIS) which was currently being installed. The owner-manager described both pieces of equipment as very important investment:

> *"The Heidelberg is a very super piece of equipment, state of the art and it puts us into a new lead in that we up until now couldn't do a full colour work, you know. We had to put it through a Two-Colour machine twice. Now we have a machine that can do it all in one, in one go. That means that we can go after the lucrative part of the market place. So that's one piece of the investment. The second investment is that we are currently putting in a new Management Information System, MIS for short. That is a software and a hardware system which will control all our business from beginning to end. So that's a very major piece of investment. The Printing Press came in April and The MIS is still being installed, so say July" [First Interview - 2/4/98].*

The average age of equipment in this company varies from 5 to 10 years old, excluding the recent purchases mentioned above. The period of write-off varies but it is approximately 7 years. The company always buys their equipment new as a matter of policy and invests in a major asset every 4 to 5 years and consequently, it is not considering making any investment in the near future, having just made the two major pieces investment:

"These are very major investment for us. We are not that big a company to be able to do that every year. So I would think it would be every 4 to 5 years" [Owner-manager - First Interview].

The company buys equipment new for two reasons: Firstly, because they get more back up facilities from the company they purchased it from. Secondly, because according to the owner-manager he has always found it easier to buy new ones to start from scratch than trying to repair someone else's second-hand machine which could result in loss production. The owner-manager emphasised this point:

"You lose production and lose work on second-hand machines whereas if you put a new one in it's working from the time you install it. You won't be buying other people's problems" [Third Interview - 7/4/99].

The reason for investing in a major asset every 4 to 5 years is money. However, the company invests constantly every 18 months in such assets as computers. The owner-manager explained it as follows:

"You 've got to look at it logically. The 4 to 5 years isn't quite true, to be honest. I would say that we are constantly spending money every 18 months or so. We do the big investment every 4 to 5 years. We will pay for a machine and then we 've got the capital available to pay for the next one. But that's not to say that we won't go out to spend £3000 on a computer and put in. But to spend £370,000, you are not going to do that every year unless you 've got the right amount of work. We 're always buying. We are always increasing assets. We go out and buy desks and filing cabinets and God knows what!" [First Interview - 2/4/98].

In the past two years, mostly 1998, the company has spent between £450,000 and £500.000. The major part, about £400,000, is for production equipment. On the relationship between the cost of equipment and sales revenue the owner-manager emphasised that there is no ratio of cost of equipment to sales:

"It just means that you can do more work with the more equipment you 've got. The cost of equipment doesn't do anything to the sales revenue.

You have to have the equipment and then sell for it. So, there isn't a sort of ratio or anything like that" [Third Interview - 7/4/98].

Computers and information technology have a major and significant impact on the business so much so that it is doubtful if the company would survive without it:

"We couldn't do without computer technology. For instance, what we call pre-press is now all computer. All the images come across down telephone lines into computer Apple Mac. It's a 100%, we are relying now 100% on computers" [Owner-manager - First Interview - 2/4/98].

The offices are comprehensively equipped with computer network for administration, accounting, estimating, sales, production and management information. The network includes several bar code points in the factory for production control (i.e. stock use and work flow through the factory). Job docket production, job history, costing, material stock control, estimating, invoicing and accounts are all prepared and controlled using the Milpara print production system. In the pre-press the most technologically sophisticated equipment is the G3 Apple Mac. The next technologically sophisticated equipment is the imagesetter. The Speedmaster 52 is the highest piece of technology in the press. The finishing "is just basic". There is nothing sophisticated in that department. A 100% of the pre-press goes through the Apple Mac. If the company has to originate any piece of work it has to go through the Apple Mac and the imagesetter. The Speedmaster does about 30% of work in the press section whilst about 20% of the work goes through the 'MOZP' and "the rest takes the balance of it".

The present technological option for this company is the conventional press at the moment but they are hoping in the near future to install an imagesetter that would do computer to plate because, according to the owner-manager, "that is the next step in time". However, the owner-manager assesses that in about 10 years time the development in digital printing technology would probably have a significant impact but now it doesn't. For now "it's there and it's like a needle and it's sticking all the time and it sticks in a bit of our work but not all of it". The greatest impact is that customers and potential

customers are aware of it and they know that they can get digital work now without waiting till the following day. The owner-manager commented:

> *"And like everything, everything is speeded up. If a customer wants copies of leaflets ready by 10 o'clock tomorrow morning, with digital you can do it but conventionally you can't" [Third Interview - 7/4/99].*

The owner-manager acknowledged the impact of improvements in communications technology as a way of getting messages quickly and faster. They have not got ISDN in the premises but have the use of one in the next door building. However, the owner-manager pointed out the down side of the improvements in communication technology as being the possibility of loss or corruption of information:

> *"We don't have ISDN here. We have it in the next door building which we use. It's the ideal way of doing it. It's not as convenient. You lose some information coming down an ISDN line occasional. Some thing might get corrupted so it's better to have it on a disk and the like which is also corrupted at times with problems but having ISDN and e-mail and the rest of it is a way of getting messages quickly and faster which also means you can't tell a customer you haven't printed it yet" [Third Interview - 7/4/99].*

Investment decision-making Process

The company does not employ any formal method or technique to evaluate investment proposals. The owner-manager explained:

> *"We don't have a formula. Of course, in our planning we try to forecast what extra sale that investment would create and therefore what extra profit and make sure that we could pay for that investment by increased business. Yes, we do a certain amount of planning in that respect, but we don't have a formula" [First Interview 2/4/98].*

The benefits in the form of cash flows are assessed through a forecast of how much extra

business the investment will bring into the company. The owner-manager provided an insight into this process by explaining:

> *"That's done in the budget exercise. We make a forecast as to how much extra business this investment will bring us and we number-crunch down to see what profits it will bring. [The number crunching involves] everything, we look at how much extra business we are going to do, what our sales are going to be. Then we go down to see what our costs are going to be - wages, cost of machine, financing of the machine. Do a proper, you know, profits and loss accounts, in effect, and at the bottom line see what profits we are getting. A sort of projected profits and loss account on a monthly basis" [Second Interview - 5/10/98].*

Apart from the price quoted by the equipment suppliers, the owner-manager revealed that he includes transport costs and installation costs as constituting the cost of the machine. He also disclosed that he takes other factors into account in investment decision-making process such as "the market place, competition, and growth for the company". He further revealed during the third interview that the need for investment is identified in this company by considering the amount of work they have got and how to do it more economically. They also consider the amount of work that they are contracting out and whether they want to enter new markets. The Five-colour press recently purchased in this company is a prime example. They checked through everything they had done for the past twelve months; worked out all the work they had undertaken - from single colour to five colours; worked out what they were sending out and what they could do in-house and decided that they were better off with a machine with quicker turnout, slightly cheaper price and cheaper plate. As most of their work was between two colours and five colours, the Five-colour machine was the ideal situation. The owner-manager explained it follows:

> *"You look at the work you 've already got and see whether you can do it more economically with a new piece of equipment or you have found the market outside is telling you that you haven't got the equipment to do that specific job. How much of it you are sending out and whether you want to get into that market" [Third Interview - 7/4/99].*

When pressed further during this interview the following stages of the decision-making process adopted by the company emerged. Firstly, the company thought of what they wanted to buy and found out whether they could afford it. Secondly, they looked at other manufacturers just to make sure that they were not paying because it was Heidelberg as against other models and not paying a higher premium for something they don't really need. The owner-manager likened purchasing equipment that is not really needed to "buying a Rolls-Royce for delivery when you could do it in a van". Thirdly, they attended demonstrations and talked to other people in the industry to know what equipment they have got and what problems they have had with it. The owner-manager indicated that he had no fears when he was going to buy their Five-colour machine; that it was just a matter of looking at the price of "somebody else's so-called equipment against what he was going to buy and whether he felt that in 5 to 10 years time it would be worth as much as the other one. Fourthly, they approached finance companies to make sure that they would loan them the money. They also sought the opinion of the finance companies regarding the machine since the finance companies used by this firm are those specialising in the printing industry. Finally, the machine was ordered. The owner-manager would find out when it was coming in and the information would be given to the staff. They would get the electrician in and would get the water properly connected if water was going to be needed and would wait for the machine to be delivered.

When the owner-manager was asked during this discussion about the extent to which he found the opinions of other people in the industry useful as well as the opinions of the finance companies, he replied:

> *"Fantastic! I have learned a lot from these guys in terms of what they have got and what problems they have had. They have been in the industry for God knows when and have acquired a lot of experience. The finance companies tend to specialise in the printing industry and we learn from their specialist knowledge too" [Third Interview - 7/4/99].*

The owner-manager also disclosed that skills requirement affects investment decisions in this company. It was a consideration in that they would not buy equipment if they would

not find somebody to operate it. Asked if there is any training facility in the company the owner-manager responded that "the only training facility is sitting by the side at the moment. You know, in the old days you used to sit on a bench and watch and watch until you can do it". However, when they are buying new equipment the suppliers do provide some form of training about "the bits on the machine but not how to print".

Asked whether he uses the same decision-making process for all types of asset, the owner-manager explained that he uses this process only for capital investment of high technological value. One exception to the use of this process is the acquisition of motor vehicle. For motor vehicles the company uses contract hire for a term of three years. Therefore, motor vehicles are changed after 3 years. Contract hire means that the company pays a fixed amount every month and the hiring company undertakes the maintenance of the vehicle including taxing it for that amount on a set mileage of 25,000 miles a year. All the company has to do is to ensure that there is petrol and to have any body work repaired if it gets damaged. Other than that everything is covered in the cost. If the company goes over that mileage they have to pay extra. After 3 years the vehicle is taken away or replaced, thus avoiding what the owner-manager refer to as "nasty shocks".

When asked to what extent investment decisions were planned in this company it became apparent that investment decisions were planned in this company in the form of budgets and cash flow forecasts, albeit for only one year ahead and in a much less formal way. For instance,

> *"... for the Five Colour machine, we started planning for that back in September last year. We started the planning process, you know, should we go for it and if so, how could we afford it, where would we get the new business from, all that sort of planning. So we started back in September planning for that investment. In a small company like this we don't have a lot of paper-work Owner-manager - First Interview - 2/4/98.*

During the interview with sales manager this matter was put to him so as to determine his involvement in the investment decision-making process. In his reply, the sales manager provided an insight into this process:

> *"It's really the team, the directors, the owners and the managers sitting down and planning. We do a budget, which is not just the budget, it's also a planning exercise and we would, in effect, plan for a year ahead. After christmas we all went away for a week-end and lock ourselves in a hotel for the week-end and just plan for the year ahead. So planning, not just for investment, but everything for the business" [Sales Manager - Interview - 5/10/98].*

During this discussion the sales manager also revealed that the extent to which the implementation reflected the plan was: "... a bit early, rather early for me to answer that if I'm honest with you. But so far we are seeing what we plan coming into fruition. And so we are quite pleased. We would like to see slightly more sales or higher sales, but you know, they are just reflecting the current, rather flat economy". When the owner-manager was asked about the significance of 'week-end away' and the role of the key employees such as the sales manager in relation to the investment decision-making process, he replied:

> *"We learned a lot during the 'away-days' through interaction, sharing knowledge, ideas and opinions. We all have different talents and abilities, you know, which came out in a team spirit during the 'away-days'" [Second Interview – 5/10/98].*

Planning in this company involves estimating return on capital. The estimate is done through budgets and forecasts. The owner-manager commented:

> *"I 'm not a financial person, but we did budgets about how much sales we would need to cover the cost of what we were involved in and the kind of wages and all the rest of it"[First interview - 2/4/98].*

The major source of risks and uncertainty in this company is sales as explained by the owner-manager:

"Well, any business has risks and uncertainty. I mean, risk is that we don't get sales. That would be the main risk, quite frankly. Another risk would be fire, you know, or some sort of disaster, you know. But I mean we are insured for that. I suppose that's not really risk. I think I 've got to put it in one word - sales really, yea" [Second Interview - 5/10/98].

The company incorporates risks and uncertainty into their investment decision-making process. The sales manager explained the process: "We take the uncertainty of sales into consideration. Yes, very much so". When asked how this was done, he replied:

"As I said earlier, you know, that meeting we had over the week-end, we do a proper sales forecast for a year, and it's not an easy thing to do, you know. It's a little bit like looking into a crystal ball" [Sales Manger - Interview -5/10/98].

It was also established during a discussion with the owner-manager that the company attempts to reduce this uncertainty by carrying out a form of informal market research, finding out what the customers want by talking to them more out of a natural instinct than a conscious, formal market research. However, the owner-manager disclosed that occasionally when they want to embark on a specific project or launch a new product they carry out a formal market research. For example, at the time of the third interview the company was considering launching a new type of post card and they have done a market research which the owner-manager believed reveals a lot of potential customers. This was explained by the owner-manager as follows:

"You look after the customers the way they should be looked after. We do a bit of market research. We look at what the customers need. We don't do as a specific 'we are going to do market research'. It is a natural instinct to talk to the customers and find out what they want. And if you feel that you can satisfy the customer's need then you go and do it. If you don't you let it alone and let somebody else do it. It is an informal type of market research, except if we are going to do something specific. At the moment we are looking at doing post cards, cut price post cards, cash up front, to a set format, set price and we have looked at it with market research and there is a lot of potential customers now and therefore, that is the service we are going to offer" [Third Interview -

7/4/99].

He also disclosed that the company also does a fair amount of marketing such as consistently sending out printed samples of items with the company's name for people to use on their desks. It also involved attending the Chamber of Commerce meetings so as to make themselves known and to put their names forward and advertising in Yellow Pages and sometimes in local papers. The owner-manager also disclosed that as part of the attempt to reduce the uncertainty of sales, he manipulates the price to attract customers. For example, they can sell the same product to two customers at different prices:

> *"We try to manipulate the price to attract customers. If we could sell the job to you for £100 and sell the same job to the bloke down the road for £80 and we felt we were still going to break-even and make a profit on the £80 we would do yours for £100 and his for £80. We sell to the customer. But that means that we would run around after you a little more than we would run around after him because of the little more meat in that and we can afford to do it" [Owner-manager - Third Interview - 7/4/99].*

To determine the price the owner-manager worked out the hourly rate and the number of hours it is going to take them to do the job and a profit margin added to these costs and then:

> *"we think 'there is a rich man over there, may be he can afford it, let's try', and if you say, 'no that's beyond my budget', we will talk to you and if we can meet your budget we will try, if we can't then we have to let you go elsewhere".*

The owner-manager revealed that they have a figure that they work to but they have to make sure that they get as much profit as possible. He explained that it depends on the way the customer perceives the value of what the company is giving him, whether he wants to pay that price or what he had in mind:

> *"providing we can come to some arrangement and you get what you*

want and I get what I want, we 're both happy" [Third Interview – 7/4/99].

On the purpose of investment the owner-manager revealed during the first interview that the company invests in capital equipment for various reasons including: to remain in business, to keep up with technology/competition, and to keep a competitive edge in price and service and products:

> *"To remain in business, as simple as that. The printing industry is extremely competitive. There are over 6000 printers in this country, and if you don't keep a competitive edge in price and service and products, then, you know, you 've got a problem. So that the reason for investment is to stay in business, to be there" [First Interview - 2/4/98].*

The owner-manager also revealed during the deepening process of the third interview that equipment in this company is for increased capacity. He stressed that none of them has been replaced, rather they continue to be added to the existing ones for more units in order to make production more economical:

> *"We used to replace equipment because we only had a small workshop. So, we had a machine and then get rid of that one and get a new one in to increase productivity. What we 've done now is we try to hang on to a machine and put a new one in, hang on to a machine and put a new one in. So, we 've got more units which makes us more economical" [Third Interview - 7/4/99].*

The company has an external accountant but the owner-manager disclosed that he does not have any input into the decision making process. His responsibility is to prepare accounts and the financial statements. The company has used the services of a private consultant once for investment decisions, although "not in a big way" and found it useful. When the company was established in 1966 they used the services of a non executive director who used to sit in the board meetings. He was a managing director of two other companies and was "more professional" than the owner-manager and the rest of the employees who were all "machine minded" at the time and had no directorship or management skills. He brought "fresh light" into the company and would "look at things

in a different light" from family members and from the rest of the employees who are ingrained with the company. The company is a member of BPIF and the owner-manager finds it to be "fantastic" as a source of advice and information other than for investment decision.

During the first interview the owner-manager informed the researcher that equipment suppliers have no input whatsoever in the investment decision-making process of his company. The owner-manager emphasised that he is "Heidelberg born and bred" and therefore he does not need equipment supplier to tell him what to do:

> *"I normally buy Heidelberg from Germany because they are the best piece of equipment you can buy, and they hold value. They are not quite at the moment holding the value that they used to perhaps because of the exchange rate of the Dutchmark. There seems to be a glut of machines on the market but normally they hold their value very well. I have been in this trade since I was 11 and my first employer had an Heidelberg and I loved it. I have used other pieces of equipment and they are never as good as Heidelberg" [First Interview - 2/4/98].*

However, the role of equipment suppliers in this company was revealed after a number of conversations, discussions and interviews with the owner-manager. During subsequent interviews and observations it became known that the company sticks with the same suppliers and the same type of equipment. The equipment supplier would phone up once every 2 to 3 months and thus, driving the agenda in terms of investment decisions in this company.

When asked what might prevent the company from using new technology the owner-manager made it apparent that lack of finance is the only factor that might prevent them from using new technology:

> *"I can simply say it would be lack of finance. There is a lot of things we would like now but we can't afford" [Second Interview - 5/10/98].*

Investment Financing Process

Since finance was the main investment constraint in this firm it was pertinent to find out the sources of investment finance. During the first interview of 1/4/98 the owner-manager informed the researcher that the main source of investment finance for the company is the finance house i.e. Hire Purchase. The company does not use retained profits for investment nor does it use leasing because, according to the owner-manager, at the end the lease agreement the equipment is not theirs. They also do not use bank loans for investment because they get a better rate from the finance houses:

> *"We will go to a Finance House. We tend to stay with the same Finance Houses that we have used in the past. Also they tend to be Finance Houses that specialise in printing, supporting printing companies. We don't use retained profits for investment. We don't use leasing which in the end is not yours. We don't use bank loans. We do have overdraft facilities, we wouldn't use bank loans for capital investment. Yes, I suppose we do use overdraft facilities for investment purposes. The reason we don't use bank loans for investment purposes is that we get a better rate with the Finance Houses" [First Interview - 2/4/98].*

When asked about the advantages to this company of using finance houses, the owner-manager revealed that they know them, and they can make a decision quickly. A possible disadvantage could be that they have a slightly higher rate than the bank rate but they would give a longer term than the banks, which makes it a "better rate". In the third interview of 7/4/99 the matter of how the company came to select the particular finance house, and the extent to which alternatives were compared was explored deeper. This was after the researcher had the time to analyse the data collected in the first interview. At this stage it became known that the decision to use HP in this company as the main source of investment finance was taken out of experience after using leasing to buy equipment once before, after which the equipment was bought in the end after paying for it. Such equipment includes computers, telephone systems and coffee machines. From this experience the company came to the conclusion that the HP is the best way of dealing with the bigger pieces of equipment.

It also became known at this stage that the company came to select the particular finance house they were using by comparing it with other finance houses. This process is the responsibility of the finance director, which is subsequently approved by the owner-manager. The owner-manager explained that the finance director:

> *"Approaches a number of finance companies just to make sure that the finance house we are dealing with mainly is within reason of everyone else. They are not the cheapest, they are not the dearest, they are somewhere within the middle and we are happy with them and we have a good relationship with their representative. We have a good relationship with their directors if we have any problems. They know us and they can trust us and we can talk to them and say that we 've got problems if we 've got problems and ask them how to get out of it, and they would talk to us. I do not like some of the people we dealt with in the past where they put you under pressure, which put you in the problem that you don't need. When you are under pressure you don't need to be put into more pressure. So, you know, they realise the company's faults. They realise if the company is going into liquidation and we wouldn't be the first or the last to do so. So, they treat us with respect if we have problems and help us rather than hinder us" [Third Interview - 7/4/99].*

In the third interview also, the owner-manager was specifically probed to describe his past experience with the bank. In the experience of the owner-manager the banks are too expensive and they ask too many questions whereas the finance company they use are "print orientated". Therefore, the finance companies know the trade and the activities of the firm and they know whether "we are bull-shitting or not". He explained that they have seen the equipment before in similar set ups and they know whether it is going to be worthwhile or not before financing it. Whereas, the bank "looks at the figures and say, 'yes or no', doesn't understand the business at all, hasn't got a clue what we are buying so there is no point". When probed further whether he has ever had any financial difficulties caused by excessive borrowing, it became known that the owner-manager have had two "nasty" experiences with the bank during the last recession when he had his "fingers burned" because of excessive borrowing during which interest rates went up sharply and

he basically got exposed and forced into chasing businesses through price cutting. As a result of these "nasty" experiences the company became more conservative about borrowing as they did not want to have all their "eggs in one basket". They wanted to spread over a little bit where they were borrowing from:

> *"then you can sometimes pay one and not pay the other if you are short of money. If it's all with the bank the bank knows everything that you are doing and they can pull the plug at any one time. So, the bank is not, I feel, ideal for borrowing for investment in equipment for the shop floor. Overdraft, yes, and short-term loans, may be, but not capital equipment" [Third Interview - 7/4/99].*

The owner-manager also explained that he did not want to borrow from the bank for fear of putting his personal home on the line. The owner-manager explained this as follows:

> *"We do borrow. We borrow money consistently. As I say, I have been in the business since 1966. I have had my house on the line. I had short of money in my pocket. My house is now mortgage free and it is not tied to the firm and I don't want it to be" [Third Interview].*

When asked about his awareness of government financial schemes, the owner-manager explained that the company was not aware of any investment financial assistance from the government. However, he disclosed that they have used a government financial assistance once for training, but not for investment:

> *"I think actually we have, in training. Just for training and not for investment. I don't know what it was called but it was linked to training" [Second Interview - 7/10/98].*

The company would like any investment financial assistance schemes to be brought to their notice through such bodies like the Business Links and the Chamber of Commerce. On what more the government should do to help small firms in their investment decision-making, the manager thought that the government should not get so much involved in investment decision-making because "it's not really their business".

Cash Flow Management

The owner-manager revealed that the company had been having cash flow problems from time to time, but it did not constitute a constraint on investment decisions because: "...cash flow problems are really due to the result of getting money in from our customers, so it doesn't really affect our decisions". The problem, if and when it occurred, was dealt with through the overdraft facilities the company had from the bank. The owner-manager stressed: "that's part of the reasons we have an overdraft facilities, so that we can fall back on that if we need to". The company decided how much credit to give a particular customer by taking credit references from the banks. The company allowed its customers 30 days credit period, and the average was 60 days. This was the industry norm. The company at the time of the study did not have any control of their customer because their sales ledger was managed by a factoring company. In effect customers are passed to the factoring company. However, the company was planning to bring back the customers within their control by getting rid of the factoring company because "they are expensive" and "there is a little bit of loss of control" of the customers.

COMPANY 3

Historical Background

This company was established in 1924 as a limited company, undertaking general printing and stationery. It has 17 employees with a turnover of £750,000 and is owned and run by a family management team of two directors. Its main products include colour printing, letter heads, business cards, complimentary slips and advertisement. The respondent, who is the Managing Director, is 39 years of age with a college education. His qualifications include 'A' levels, HND in Business Studies and a Diploma in Management Studies (DMS). He has a background in electrical engineering and printing and joined the family business after his college education in 1984. The Company's overall objective is to achieve growth and profitability by opening new markets.

Data Sources

The main source of data in this company was the owner-manager who was the sole decision-maker. He was interviewed three times over a period of twelve months at six months intervals. Equipment supplier who also supplied equipment to Company 2 was interviewed.

Capital Expenditure

Capital expenditures, in this company, were basically plants and machinery, buildings and repairs to buildings. Any expenditure over £1000 is capitalised. However, there were expenditures of capital nature which were not capitalised in the company. Such items included calculators, office furniture (i.e. single pieces of furniture, they might capitalise if they were to refurbish the whole office). Repairs to machinery did not go down as capital expenditure. Computer software did not count as capital. The company used both machine tools and computerised machine tools for its production process. These

machines include the following:

[i] Repro-Camera - used for taking pictures of design and art-work. The Repro-Camera was 14 years old and was purchased at a cost of £6000.

[ii] Film processor - which is used for processing films was purchased at a cost of £5400 and is 4 years old.

[iii] Macintosh Network Desk-Top publishing system, including Scanner and Imagesetter, all for desk-top publishing. The whole the network system was purchased 4 years ago at a cost of £75, 000

[iv] Plate-making machines, including exposure machines and Processing machines for processing. The company had 2 of them, one was £3,500 and was 10 years old, and the other was £8000 and was 3 years old.

[v] 5 Printing machines - for printing (3 single- and 2 Two-colours). One of the Two-Colour machines cost £88,000 and was bought in 1993, the other which was bigger and older cost £25,000 in 1984. Two of the Single-Colour machines cost £28,000 each and were bought in 1977, whilst the other one cost £24,000 in 1987.

[vi] 4 Letter Press printing machines - for printing. These machines were so old that the owner-manager was unable to say how much they cost. They were all over 30 years old.

[vii] Guillotine machine - which is used for cutting papers was bought for just under £30,000.

[viii] Collecting machine for putting different sheet of papers together was £8000 and was bought in 1987.

[ix] 2 Folding machines for folding paper and for gluing paper together as well. One cost £4800 in 1987. The other one cost about £22, 000 in 1989.

The oldest machine in the company was made in 1950 and they had owned it since then. The newest machine is two years old. On average (excluding the 1950 model) the machines were 8 years old. The company had spent approximately £10,000 on total investment in the past two years and virtually all of it is for production equipment. The relationship between the cost of equipment and sales revenue was difficult to establish in this company because of inflation and also because they haven't got the volume of work to ensure the establishment of a proper relationship. The owner-manager explained that:

> *"There isn't really a relationship between them because inflation makes the difference. The machine here costing £28,000 could potentially bring in more than that machine now, potentially, but it doesn't because we haven't got the volume of work to ensure it. I can't say there is an actual relationship between the cost, the purchase price, and the revenue" [Third Interview - 7/4/99].*

However, the owner-manager believed that there would be a general relationship in the sense that the more expensive the piece of equipment the more the work that could be put through it. The revenue was about 4 times as much as the cost of the machine but as the machine gets older it becomes "very, very difficult to quantify". For example:

> *"some of the older machines down stairs, at the moment, I can do work on some of those which will generate more cash flow on those machines which are completely written off. They are worth about £3000, you can probably generate more on those than you can on machines costing £8000. But we do need both to be able to do that" [Third Interview].*

All machines were purchased new in this company as a matter of principle and normal practice. The company occasionally bought some assets second-hand, but not normally big capital equipment. The owner-manager emphasised:

> *"As a matter of principle we go for new. I don't know whether we will continue to do that, but today we have"* [Second Interview - 7/10/98].

The rationale for this policy of buying new equipment as opposed to second-hand is firstly that new equipment carries good guarantees. Secondly, they are more be reliable since no other person has used them before. Thirdly, new equipment lasts longer since the company keeps their equipment for a certain amount of time. The owner-manager explained:

> *"If you bought a second-hand machine, you wouldn't know who had used it. It could have been worked 24 hours a day, 7 days a week you wouldn't know. It's better to buy a new one. We know how we run it. We know how it's looked after, and that will last longer and probably cheaper as well" [Third Interview - 7/4/99].*

The write-off period depended on the nature of the asset. Computers were written off mostly for accounting purposes in 3 years. Most of the other pieces of equipment were written off in 5 - 7 years. The company had not purchased any major equipment since the last couple years. The frequency of making investment decisions depended on "market needs", but the company was looking forward to making a major purchase in the next couple of months. When asked what he meant by market needs, the owner-manager explained that market needs mean whether the customers are asking for the products and whether the market is there for the products. The owner-manager explained:

> *"At the moment what we are having is a sort of stagnation, not going up, not going down. It is whether you feel the market is there for your product, whether you think the market is increasing or decreasing. That is really the market need" [Third Interview - 7/4/99].*

The owner-manager also explained that market needs were assessed by gut feeling and by keeping a close watch at the sales or whether the company was getting enquiries about a particular kind of work or whether the company thought they could do something better. He explained that they were also assessed through the use of informal market research:

"It is not a written down sort of thing. It is really a bit of gut-feeling, to be honest. You see your sales, you feel you 're getting inquiries about a particular kind of work or again you feel you can do something better. This is where market research comes in although we don't do any formal market research. ...It is a kind of market research, not formal, not written down. It is in your head. You feel it. You make inquiries or if you feel that there are better ways of doing things or you 've seen something. You say, 'Ah! I can use that. I 've seen a machine that can make me do something or you cut down the time it takes you to do that by half. It is more the want of the market. You think you can use it, you can make money out of it. You think you 've got a fighting chance of wining. You are not going to lose your shirt in the process" [Third Interview].

The company was greatly affected by computers and information technology. In his response, the owner-manger used the word "heavily" to show the impact of modern technology in his company. The company also used computer systems for administrative purposes "significantly". The owner-manager explained:

> *"Everything we have is on computer - job history, job specification, paper works, accounts, payroll, everything" [First Interview - 1/4/98].*

All designs were done on computer and the company also used computer software for control of manufacturing. The owner-manager explained:

> *"All the reproduction that we do, 99% of the reproduction we do which is producing the origination we are going to print from, is computerised. When it gets down to printing we still have the manual machines. The finishing machines, the Guillotines, are computer-controlled. You tell it what you want to do and it will adjust itself to it" [First Interview].*

However, the company did not use computer systems for quality control purposes. The owner-manager explained that quality control was still done manually. But for sales and distribution, the company used computer systems to generate information about existing clients. The most technologically sophisticated equipment in this company was the Macintosh system used at the pre-press. The majority of work that went through the building had some input from that system. Some 99% of the work went through the

Macintosh system at some point. The company's technological option at the time of the third interview was conventional press. The reason being that using conventional printing press was versatile. The owner-manager argued that

> *"if you have CTP you still need to have the capability to do it. It's versatile. Very, very versatile. That's why. The biggest way of improving quality of work is to produce good origination work, which is why I spend a lot of money on the origination pre-press. And having that improves the quality of printing, anyway" [Third Interview –7/4/99].*

However, the disclosed that he was "looking closely" at purchasing computer to plate (CTP) because "it takes a whole stage out of the process", thus saving time. Asked about how the development in digital printing technology affected his company, the owner-manager explained that it did in the sense that they had lost some of the short run works and they could not 'outsource' it at a competitive price. Improvements in communications technology had improved the company's business since they have got the Internet, CD-Rom and modem. However, the owner-manager thought that the development in multi media would affect them in the longer run but not at the moment. He disclosed that they had not yet got the ISDN. Asked about how the company was responding to the technological developments, the owner-manager replied that they did that by outsourcing some of their work at the moment. He revealed that they were also trying to develop a new market and once there was sufficient demand then they would install the ISDN.

When asked what might prevent them from using new technology, the owner-manager made it apparent that the main factors that might prevent the use of new technology in this company were the cost, the ability to sell what was produced with the new technology, and the rapid technological change. The owner-manager explained:

> *"Well, obviously cost...It is not just cost, its whether you think you will be able to sell enough of whatever you are going to produce with the new technology to justify the cost. If you can justify it there is no reason why you should not have it. I suppose the biggest reason (and I'm very kin on new technology) is probably the life-cycle of the technology. It's becoming too short. Before it is out of date you have to get a return in*

such a short space of time. You 've really got to be sure of what you are doing. You could end up buying a machine that is right at the end of its life-cycle, what you are paying the full price for. Next week a new model comes out, does the job twice as quickly but half the price. You are at a competitive disadvantage which you never, never recover from. That worries me about these things" [Second Interview -7/10/98].

Lack of skilled labour was also cited as being the barrier to new technology in this company:

"It depends on staffing as well. We have to take into account the existing workforce. Are they capable of doing what you are going to ask them to do in relation to technology? That's an issue we face in the last two years. We train and with a bit of luck some people respond to the training" [Second Interview].

The owner-manager revealed that the main reasons for investing in capital equipment were: Firstly, to "rationalise the production process". When asked what this meant, he explained that it means cutting down on the number of operations. For example, if a single-colour machine is being used and most of the work is to print 3 colours, it makes sense to have a machine that prints 3 colours in one go rather than printing one colour at a time. It may take another form such as folding. The owner-manager explained:

"We used to be making booklets. We would cut the sheets in half, fold two sections, hand-gather them together and staple them. We don't do that any more. We glue them. We have an online glue in the folding machine to hold the glue, cut off the edges, they come out as finished books. It cuts down a number of operations, cuts down the handling of the materials. That's what I mean by 'rationalisation'. It means you can get the work out of the door fast" [Second Interview – 7/10/98].

Secondly, to "reduce the unit cost of production". When asked to explain what this means, he said:

"This follows on from the 'rationalisation' to a certain extent. It means reducing the amount of time spent on a particular job. It depends on the machine usage. Obviously, you are looking for a machine that runs

faster than your previous one and can do more in the same time" [Second Interview].

Thirdly, "to be more competitive" through faster customer response, quick production, more customisation, and greater variety, thereby sustaining long-term profitability. The owner-manager emphasised that all the pieces of equipment in this company were for increased capacity and that there had never been straight replacements.

Investment decision-making process

The owner-manager disclosed right from the outset that company does not have a formal recorded structure in its investment decision process except to assess the strengths and weaknesses of such decisions in relation to the business. The owner-manager stressed:

"We are constantly looking for a better way of doing the job. If the better way of doing it involves spending some money, so be it" [First Interview - 1/4/98].

However, by the third interview stage it became apparent that in reaching the decision to buy equipment the company gave consideration to whether or not they have got enough business to fill it, or to make a reasonable approximation of filling it, and whether or not they would generate enough revenue to cover the cost of financing it. For example, if a machine is costing the company £6000 a month to buy on HP, the company has to cover the cost of labour at least to make it worthwhile. They need to have the business in place to be able to generate sufficient revenue to cover the cost or they need to have the means of getting that business before they would invest. For example, a £6000 machine per month will probably need to generate cash of £8000 per month to pay for it. Investment need in this company was identified through gut-feeling. The owner-manager explained:

"You just feel that you need it. You just feel it because you can see that there is a better way of doing things than the way you are doing at the moment, but you can't quantify it, you can't quantify how it's going to work in practice. You just know that there is the better way of doing it

than the way you are doing at the moment. Therefore, it should be of benefit to the company" [Third Interview – 7/4/99].

When pressed further during this discussion the following process of investment decision making in this company became clear. Firstly, the need was identified as described above. Secondly, several equipment manufacturers were approached to find out the specifications of the various machines. The specifications of all the machines were then compared on a big chart. The size of the machine, the weight, the cost, how it works were all compared and ranked, and a decision was taken of which ones were the best. In this company up to 20 manufacturers were visited and the best 5 are selected.

Thirdly, the company attended demonstrations of the best five selected with members of staff as well, so they can see how the machine works. At demonstrations the owner-manager took what he considered to be the most difficult job and asked them to do the difficult job on the press for him and the operators to see how it works and how the various components work. If it looked good and did what they considered to be a difficult job easily that proved that it is a good machine. The machine was effectively evaluated against what was considered to be difficult, bearing in mind that what was considered to be difficult then would be considered easy in 3 or 4 years. It was also evaluated against likely resale value, its reliability and sheer quality i.e. whether or not it was going to be versatile. After this a discussion started all over again between the directors and employees to determine whether or not "it fits in with everybody".

When asked about the usefulness of attending demonstrations and the extent to which the opinions of key employees are taken into account in the decision-making process, his response was:

"You learn a lot from demonstrations, from the experience of the suppliers. At demos you do a 'trial run' of the job the machine will be used for. After that we [owner-manager and key employees] bang our heads together to decide which ones we should go for" [Third Interview – 7/4/99].

The next stage was to short-list the suppliers down to perhaps 2 and to start discussing price. The owner-manager explained that in some cases there might even be one which was considered to be the best. The final stage was to "work on the finance side of it". Asked how this was done, the owner-manager explained that after deciding the best manufacturer who was going to give the best finance the order was then made. He pointed out that the equipment suppliers always had "people" who was going to supply the finance. In some cases the finance came as a package with the equipment that was being purchased. For this company the capital cost was the cost of the machine plus the installation and wiring, and the transport cost of getting it into the building.

When the owner-manager was asked about how cash flow from investment was assessed, he explained that this was done by ascertaining the following costs per week: operating costs, which include the running costs and the maintenance costs of the machine; and the finance costs, consisting of the capital repayments and interest payments. Also ascertained were the overhead costs - these are general overheads such as phones, lighting and heating, sales and administration costs, etc. which were apportioned to departments on a floor area (sq-ft) basis and these costs were also apportioned to the machines; and labour cost. At the top of the sum total of these costs an appropriate margin was added. The owner-manager described the process as follows:

> *"To assess the benefits we work out what the operating cost is going to be for the machine, including capital repayments, interest payments, staffing, maintenance, everything else, over the period of time in which we are financing the machine. Then we look at the market, what are the prices we can get for the kind of work we will be producing on that machine? If we can get significantly more than what we pay for the machine then obviously it is the right thing to do. If it is marginal, then it is not worth doing" [First Interview - 1/4/98].*

During this discussion, the owner-manager revealed that the company specifically considered, as part of the decision-making process, whether or not the equipment can pay for itself and whether or not there is the fighting chance for it to pay for itself. They also

considered how to get out of it if it was not going to pay for itself after a period of time - a sort of fall back position, and whether or not the finance was available. He explained:

> *"In assessing whether there is a fighting chance of gaining a living out of the investment, you look at what costs are likely to be over the period of time normally from experience, 3-5 years, then working back to estimate the level of usage you will have of the equipment, then you will get the cost per unit of production, then you look at what the market is allowing you to charge per unit of production. If the two things are equal more or less then this is not the right thing to do. Normal things are sort of marginal. Hopefully you make some economy on the estimate. If the market doesn't allow you to charge what you need to charge then you don't go ahead with the project at all" [First Interview].*

As far as the fall back position is concerned the owner-manager explained it as "a comfort factor because you don't want to spend £0.5 million on a machine, it's got a wrong name on it, it's made by a manufacturer which is not perceived to be a good manufacturer, the machine has virtually no resale value a day after you bought it". Whereas if one spends £0.5 million on a machine from a good reputable manufacturer, it could be worth £0.5 million a year latter, depending on fluctuation and the demand for the equipment, obviously, but you have got a confidence factor, with goodwill, a good manufacturer, a reputable name. If the venture fails, it would be possible "to off-load the equipment if you need to quite quickly at a reasonable price". This is because some manufacturer will give a guarantee to buy back the equipment after a period of time at a certain level. The owner-manager explained:

> *"Again, if you spent £0.5 m on a machine, they will guarantee to buy that back form you at the end of a year if you don't like it. They will give you £380,000. So you know if the venture fails you have lost £120,000 less whatever you have managed to produce on the machine. Your quantifiable loss is £120,000 less so much" [First Interview – 1/4/98].*

The owner-manager stressed that this decision-making process evolves from his experience and judgement and not necessarily what obtains in the industry. The owner-manager also explained that he assessed whether or not the equipment can "pay for itself"

by himself without the help of an accountant as they did not have any internal accountant. However, he disclosed that they had an external accountant who was not involved in the decision-making process. Asked how he carried out the assessment, he replied:

> *"It's got to pay for itself. Well, if you look at it, if you are buying a piece of equipment for say £6000 per month you have to be generating enough cash to cover that and the wages at least. You 've got to have that work intact to put on that machine. Then you work out how much you 'll be able to generate. You work out the hourly rate you are going to be charging, whether the work you are doing at the moment can be transferred on to that machine at that rate, whether the work you are outsourcing at the moment can go on that machine. That's the way generally I would develop our business, our source of work until you 've got a reasonable volume and then you bring it all in once you 've got the equipment to do it" [First Interview]..*

When asked whether he used the same process for all types of capital assets, including new technology, the owner-manager revealed that the bigger the capital project the more focus on the fall back position because it is a bigger risk. Motor vehicles were only replaced when they started to give trouble. Replacement policy was not based on mileage or age. It transpired during the first interview that the company has never used any consultancy or external advice for investment decisions and gives the following reason for not considering using one:

> *"We are probably in a better position to know what we want and what we need. I haven't considered whether it would be money well spent" [First Interview – 1/4/98].*

During this discussion the owner-manager was adamant that the role of equipment suppliers is limited to the provision of information and demonstration services. When the researcher realised the reluctance on the part of the owner-manager to discuss the matter, he deferred it to the second interview. When it was put to the owner-manager during the second interview whether equipment suppliers would influence his decision by merely telling him what the equipment can do, he replied:

"No, you compare it against others. You have to compare it against others that do similar things. You wouldn't just buy one just because they say it can do that. That wouldn't work. You have to compare it with several specifications. Find out what they do and what they don't" [Second Interview - 7/10/98].

However, during the third interview the owner-manager was more willing to reveal the role of equipment suppliers. It transpired at that interview that the bigger the name of the equipment supplier, the more the company is "predisposed" to be influenced by their opinion because

"they have been in business for a long time and have got a good name in the trade. That has a bearing on it" [Third interview - 7/4/99].

In discussing the main sources of risks and uncertainty with the owner-manager it was made apparent that sales was the main source of risks and uncertainty for this company as emphasised by the owner-manager:

"The biggest source of risk is sales. It's the customers. If they stop buying from us we have cash flow problems. That's the biggest risk for the company" [Second Interview - 7/10/98].

When asked how these affected investment decisions, the owner-manager replied that risks and uncertainty are taken into consideration in making investment decisions in the company by looking closely at market indicators as well as using gut-feeling to determine whether there is demand for the products:

"We have got to look at how we can sell what we are producing. If we can't sell it deprives the company to a certain extent. As I explained to you earlier about the unit cost of production, if the market is saying that there is a demand which is higher than the net cost of installing the equipment it shows that there is a good demand there. You have a good chance of exploring the market because there is an enormous demand for the supply. It is gut-feeling to a certain extent but it is mainly market led" [Second Interview].

When discussing this uncertainty, the owner-manager drew attention to the steps taken to reduce it in the company. The owner-manager revealed that the company takes steps to boost sales by developing new markets and finding niche markets which other printers either do not want to do or have no expertise to do them. The owner-manager pointed out that the company has found a niche market in 'numbering' job which other printers consider to be very difficult. Therefore, other printers would outsource this job to this company rather than do it themselves. The owner-manager explained it as follows:

> *"We try to develop new markets. We don't do a market research as such. Not properly. We try and find a niche markets that other printers can't do or other printers don't want to do that kind of work. So they would send to us to be done rather than for them to do it themselves. We try to develop one range of the market rather than the end use of printing" [Third Interview - 7/4/99].*

During this discussion the owner-manager also disclosed that as part of their marketing technique the company sends out leaflets periodically. They also advertise in trade press, which they find very good and in Yellow Pages, which they regard as a total waste of money. The owner-manager also disclosed that telesales or 'cold calling' is another form of marketing adopted by the company which he found to be working very well. This is followed up with personalised letters from the database of names and addresses every three months with new information and information which is relevant to what they want. The owner-manager emphasised:

> *"We learn by our mistakes. We learn to send out direct mails to people. We learn to follow it up. Once you have got the name you keep going, banging on the door" [Third Interview].*

Whist discussing marketing, the owner-manager revealed that company uses cost-plus pricing for their pricing decision working out the cost and then adding a suitable margin. The price is then manipulated depending on a number of things. Firstly, it depends on how valuable the customer is likely to be at the end of the day. A very large company which is likely to be impressed by the company's products and which has the potential to

give a lot of business are obviously charged a lot less initially than "someone who just walks through the door and wants that done and the other done". The owner-manager stressed that pricing decisions are made "strategically or tactically" using market segmentation i.e. charging different prices to different customers.

When asked to what extent investment decisions were planned in this company the owner-manager revealed that they are not planned, but that there is a clear and logical forward thinking, albeit very short. It is a sort of quasi planning:

"We decide what we want and then we work out whether we can afford it, whether we can afford not to have it. They are not planned that in a year's time we are going to or we want to buy a printer. We would not do that. At the moment we have decided we need a machine. We haven't decided what we want to buy exactly. So we are looking around for what fits the criteria we expect. We will take a decision when we have found it, depending on the market [needs] at the time. So we won't dogmatically say in a year's time we will buy it. If we did that, in a year's time, the way we work, we would say do we really still need it? It is a sort of hybrid of planning, not planning - very reactive" [First Interview 1/4/98].

The owner-manager revealed that uncertainty is the main reason for not being able to plan for investment in this company: "It depends on external influence, such as changes in market needs". The owner-manger explained that he might decide that he wants to buy a new Two Colour printing machine at a certain time but he might see that the market is going in a different direction, thus forcing him to change "direction". Therefore, planning in this company "is very, very subjective. It is not a constructive planning process as such".

Investment Financing Process

The owner-manager revealed during the first interview that the main investment constraint for this company is finance and the main sources of investment finance are as follows:

[i] Finance companies: These refer to Hire Purchase (HP) and Leasing, but the owner-manager emphasised that company does not make much use of leasing for the simple reason that "you are paying for something that is not yours". He revealed that the company uses HP because it attracts lower interest than bank loans. It also has tax advantages and the company owns the asset in the end. However, the owner-manager believed that the major disadvantage of HP is that it is not very flexible. "Once you 're in, you 're locked in it".

[ii] Bank loans: The owner-manager saw bank loans as being simple to organise with no penalty if they want to pay up early but the major draw-backs are high interest rates and collateral.

The owner-manager explained that to come to the decision to use HP as the main source of investment finance he took advice from their external accountant to a certain extent by asking questions. The owner-manager also pointed out that because the banks are doing what the HP companies are doing he would ring up the bank to ask what they would charge him for a particular transaction; what the monthly payment would be "so as to compare like with like". He would also ask what the terms would be at the end of the period. He would not ask for the rate of interest because "that is difficult to judge since there are many ways of calculating APR". The owner-manager disclosed that the company has no major difficulties in raising investment finance from the finance companies. However, he explained that the banks are very reluctant to lend sizeable amounts that will be adequate for investment purposes. This is because "the banks consider the printing industry to be a bad risk". He argued that the shortage of investment finance would have a devastating effect on the company in the long term, but at the moment there was no such problem. He also explained that although banks are not very helpful, his company is reasonably satisfied with bank services except that they always insist on "cast iron guarantees" in the form of personal guarantees:

"Not helpful. They 're okay but they are not very helpful. If you want to take a loan from them they want security on it, triple guaranteed. They want the guarantee on houses. They want too much security. When we sought a loan for the Macintosh system they wanted the guarantee of my house. We took it from another company [the finance company]" [First Interview - 1/4/98].

When they owner-manager was asked in the third interview why the bank would not ask for the business building as the security, he replied that it is because they have already used their business premises to secure their overdraft facilities. They have never had any difficulties caused by excessive use of borrowing. The owner-manager stressed that his choice of investment finance is influenced by this experience with the bank. The owner-manager also explained that company has never obtained any financial assistance from the government and has not sought such assistance simple because they don't know of any. However, the company is vaguely aware of only one government financial assistance scheme, possibly Regional Selective Assistance (now withdrawn), through the Business Link. The owner-manager indicated that it was not particularly helpful:

"There is one, not for capital projects. I can't think of the capital one. There is one which is a part of the regeneration programme. You have to guarantee to employ an extra number of employees. If you can't guarantee an extra number of employees you can't get it. It's not very helpful. That's the only one I can think of. I didn't know that, Business Link told me" [Second Interview - 1/10/98].

Cash Flow Management

The owner-manager revealed during the second interview that the company has no cash flow problems because of what he referred to as "years of prudence" because he has realised that they can not spend what they have not got. The owner-manager also revealed that the company has a good up-front credit control in that "small customers" do not have any credit. A half of the money must be paid up-front and the balance on delivery. If it is a company, a view is taken on that and credit references (not bank references) are taken. The owner-manager believed that bank references are no good. He

explained that the credit period allowed depends on whether the company is an established company or a new one. Some companies are allowed 60 days whilst others are allowed 90 days, depending on what is agreed. The average collection period is 84 days. New companies would be allowed 30 days. The owner-manager explained the process as follows:

> *"Period to allow depends on the references. It depends on their track records as well. Once you get to know somebody, you know what they are doing and why they are doing it, you learn to trust them or not trust them. The industry norm is 90 days which is too long" [Second Interview - 7/10/98].*

In addition to the above, owner-manager also explained that the company takes steps to ensure that payments are made in time by running up a credit list every month of what they are expecting which are on the computer. The customers would then be phoned up and if they don't pay the company would keep phoning them up. If they still haven't paid after 14 days a letter of warning would be sent out. After a certain period (another 14 days), depending on the response received the matter would be put in the hands of a solicitor or a collection agency. The owner-manager revealed that the company does not protect itself against possible default by way of insurance because it is too expensive. The company also does not use factoring or invoice discounting because of a possible loss of control of the customers although the owner-manager accepts that invoice discounting is a bit better in this respect. Another reason why the company does not use factoring is that factoring companies are heavy handed. The owner-manager pointed out that every customer is treated the same by them:

> *"There may be a reason why customers don't pay up, but a factoring company will not find out why they are not paying. You could lose the customers. Invoice discounting is better because you still have control of the customers" [Second Interview].*

COMPANY 4

Historical background

The company was established in 1991 as Printers-Designers-Pre-press. It is a limited company undertaking commercial printing such as magazines, brochures, company stationery, packaging, catalogues, leaflets, etc. It has 6 employees with a turnover of £500,000. The director who is the sole owner of the business is 54 years of age with 'O' Levels and a City and Guilds qualification from London School of Printing. He has a background in printing and had worked in the printing industry for a long time as director of a publishing company before starting his own business for satisfaction. The overall objective of the company is profitability. When the owner-manager was asked how this translates into practice, he replied:

> *"With difficulty. We have to work extremely hard to make a profit. It is extremely difficult. We still make small profits at the end of the year, but certainly it's not worth the effort. It's the only thing I know. I mean, I like computers, the joy of computers, I like working on them. It's too hard the money you make. You don't gain enough rewards. It's hard"* *[Third Interview -6/4/99].*

Data Source

The owner-manager was the only source of data in this company and was interviewed three times, longitudinally at six months intervals over a period of twelve months.

Capital Expenditure

Capital expenditure means basically computers and the printing equipment in this company. The main equipment used in this company include:

[i] Computers which are used for artwork, typesetting, scanning, colour retouching,

word-processing and pay slips for the company. The computers cost £1000 each and the shelf life is 3 to 4 years.

[ii] Imagesetter, 2 Scanners and Apple-Mac and PC Bureau for design purposes. The imagesetter was purchased for £5000. One Scanner cost £9000 and the other was purchased for £2000. The Apple-Mac was about £3000 whilst the PC Bureau was for £1000. The imagesetter and the Scanners have a shelf life of 10 years.

[iii] 2 Single Colour Presses for the printing work, one small and one big. The small one cost £3000 whist the big one was bought for £18000. Their shelf life is 30 years.

[iv] 1 Guillotine machine for paper cutting which was bought for £750 and which has a shelf life of 30 years.

[v] Plate-making machine for plate-making service. This was purchased at the cost £2000 and has a shelf life of 15 years.

[viii] Repro-Camera and Film Processor for photography which is almost worthless because they are not using it. It has a shelf life of 15 years.

The owner-manager revealed that all the machines were purchased in the last 5 years. The oldest machine in the company is 5 years and the computers are 18 months to 2 years old. The owner-manager buys all the computers new as a matter of policy, but the printing equipment is bought second-hand. When asked for the rationale for buying the printing equipment second hand, the owner-manager disclosed that it is cheaper for the company to buy second hand equipment. The owner-manager pointed out that a new single-colour Heidelberg machine costs between £50-70,000 whereas the second hand costs between £10-20,000. He emphasised that there is a vast difference of cost and that the cost of repairing and updating the machines are irrelevant since they are insured. He

also disclosed that the rationale for buying computers new is that the shelf life of computers is not very long and it is therefore better to know that there is the necessary guarantee since:

> *"the mechanics of it is something you obviously can't really control. If there is something wrong with it, you send it back. It's not something you can repair yourself unlike the mechanics of the printing machines" [Second Interview - 7/10/98].*

During the first interview the owner-manager revealed that the write-off period for his computer equipment is 3 years. The company has, in the last one year, bought a high resolution Scanner for £2000. As to the frequency of making investment decisions the owner-manager revealed that "there is no hard and fast rule", but on the average every 2 years. During this discussion it also emerged that the owner-manager was not considering making any major investment at the moment, but was likely to invest in the next one year.

It emerged in the first interview that the company has spent approximately £40,000 in the past two years on production equipment. The owner-manager believed that there is no relationship between the cost of equipment and sales revenue or it is difficult to work it out since the pieces of equipment are not used to full capacity, not even to half capacity:

> *"No relationship because you can't work it out. We are not big enough company to keep the machines running 10-15 hours a day and making extra money. The machines are not running long enough to have any detailed analysis on it. We are not even running them to half our capacity. You can't. You are not making a lot of money" [Third Interview - 6/4/99].*

When the owner-manager was asked the extent to which investment decisions were planned in this company, he disclosed that they are not planned. He pointed out that the decision to invest in capital equipment depends on the economic activities and therefore to a greater extent on the confidence of the owner-manager:

> *"Basically, if we are making money, making profits, and we are*

confident, we will invest the money. It's not, it's never long term planning. Nothing is these days. You can't guarantee yourself anything. It's the lack of confidence [First Interview - 2/4/98].

When asked why it was so difficult to plan, he replied:

"Money. If I had a small company like this, I 'd probably spend £50-100,000 on more equipment which I would use but it would take, may be, 6 months to a year to fill up the contact clients for work. You can't get enough work. Lack of confidence, I suppose" [First Interview - 2/4/98].

During this interview and discussion the owner-manager made it apparent that computer and information technology affect his company significantly as all designs are now done on computer and the printing machines have gone digital. He explained:

"We are in the fore front of all that. Within the last 15 years it [IT] has turned the industry around automatically. To keep in front you need computers especially on the Repro side. I like using computers, I have been in it for 8 or 9 years. Within the 8 or 9 years I have followed the trend to see how it has changed. The biggest thing on the IT side is the Internet - the way it changes it" [First Interview].

The owner-manager also revealed that the company uses computers significantly for administrative purposes such as job specification, pay slips, etc. All designs are carried out on computers and a good part of the manufacturing is also computer controlled. The company does not, as yet, use computer for quality control nor for sales and distribution. The most technologically sophisticated equipment in this company are the computers, the Apple-Mac system used at the pre-press. The owner-manager revealed that some 90% of work is carried using this equipment. He also pointed out that the machines in this company are "added purchases to the existing ones". In other words, they are for increased capacity. At the moment the company uses the conventional press because, according to the owner-manager, "it produces better quality of work and have long-run capability". Explaining the effect of the development of digital printing technology in the industry, the owner-manager commented that it has made it difficult for this company to

compete since they cannot offer just-in-time printing of short run nature and they cannot undertake work that requires individual personalisation on each page of the job.

As regards the improvements in communications technology, the owner-manager revealed that the company has got the ISDN and the Internet. Explaining the advantages of these communications technology the owner-manager indicated that they help the company's communications to get faster, cheaper and more reliable, thus reducing operating costs. It also allows customers to access the company directly. He explained that although the company has the CD-Rom and the Internet, it does not yet have Web-sites. Asked how this affected the company, he explained that the effect was indirect. For example, rather than printing brochures it might be put on the Web. On the Internet it might be a cut down version of the brochure, making it cheaper and easier to access. However, he indicated that the company responds to these technological developments by contracting out digital work that they can not do themselves. The owner-manager commented: "We still take on work where we could, digital work, and we send it out and put a mark-up on it".

During the first interview the owner-manager indicated that the main reason for investing in capital equipment in this company is to save on labour cost. He explained:

> *"To save taking on extra staff because you do it yourself. We can actually start typesetting our work, colour separation, scanning, cover every thing to the final printing job. And its just six of us" [First Interview - 2/4/98].*

The owner-manager also disclosed that equipment is also acquired in this company for increased capacity. He stressed that they can only buy equipment if they have more work. He also pointed out that the main investment constraints for this company are lack of consistency in work, economy and recession. He explained that because of these constraints "the company, year on year, is slowly making money and earning a living and investing some money but very, very slowly".

Investment Decision-making Process

Right from the first interview the owner-manager indicated that the company does not use any formal method or technique for its investment decision-making. To assess the benefits that will be generated from the machines the owner-manager relies on experience. The following accounts provides an insight into the process used by the owner-manager to acquire new computers and computer systems:

"I would make sure that I visit all the dealers in, for example computers, make sure that I have the best value I can get from that equipment - the best price. There is nothing you can do other than buying a computer with the best memory, the biggest hard disk. We are guided by experience, yes, and following what is going on, reading about the latest equipment, waiting for new developments coming up. You have to follow what the trends are. For example, when the first CD came out, I had to wait and wait for the Apple Mac to be available in the shops, and the moment they were there I didn't plan what to do because I had waited long enough and without going too technical, I was using that to save money on conventional scanning because I would scan with the CD. It's all area you have to weigh up" [First interview - 2/4/98].

Asked if he uses the same process for the decision-making of all types of equipment, he replied:

> *"Printing equipment is more difficult because you are spending more money. I would buy equipment with a good name on it, good second-hand value. You weigh up the pros and cons. Again, it is experience. You have to follow what's going on. What equipment does what" [First Interview - 2/4/98].*

By the third interview stage, other stages of the investment decision-making process in this company emerged. The owner-manager revealed at this stage that the investment decision-making process in this company starts from the identification of needs. When the owner-manager was asked how investment needs in this company is identified, he replied:

"by the work load, i.e. how much work we have. If it is constantly up we would buy equipment" [Third interview - 6/4/99].

Then he would sort out the supplier, which normally would be the cheapest. He explained that this requires comparing specifications from about 4-5 suppliers. Again, asked if he uses this process for all types of investment decisions, the owner-manager disclosed that he uses this process when he is buying computers as opposed to buying second-hand printing presses:

"If you are buying computers, you make the decision that you need the computer depending on your work load. Then, you sort out the supplier, normally, the cheapest. This will require comparing specifications from about 4-5 suppliers. I will make sure that the hard disk is the right size, the right ram. These are the things I will look at. And then I will do all the installation myself to save money" [Third Interview].

The owner-manager also revealed during the first interview that the company does not use business consultants or any external advice for their investment decisions and would not consider its' use as they are too expensive. The company is not a member of the BPIF but the owner-manager has "been thinking of joining the BPIF" but has "not yet got around to doing it". He thinks it is good to join because they are small and it would help a lot on advice. He disclosed that the company belongs to the local Chamber of Commerce but does not find them useful. However, by the third interview stage it emerged that the influence of equipment suppliers in this company was rather subtle. The owner-manager admitted that equipment suppliers do influence the choice of computers with the biggest hard disk and memory.

The owner-manager also stressed that apart from the price quoted by the suppliers the price of the equipment obviously includes delivery and installation costs. It also includes breakdown cost and insurance cost from the finance companies side of it. Other factors the owner-manager took into consideration when making investment evaluation are the size of the company in terms of numbers of employees and more importantly, the amount

of turnover:

> *"If we had say 10-15 employees and assuming we had a turnover of £1m, we would be specialising in types of work, for example magazine. We would be going into magazine work and buy equipment to do magazines only. Unfortunately, we are not big enough to concentrate on any particular area of work. But we have the equipment to produce the work which will take a lot longer than other things we do with one colour machine. We have one colour machine and do any thing on it. So all this planning does not apply" [First Interview].*

The owner-manager revealed during the second interview that the major sources of risk and uncertainty for this company are bad debts and "cocking up work" i.e. not being paid for work done. The owner-manager indicated that he takes this risk into consideration by investing to alleviate some of the risk. To reduce the uncertainty the owner-manager pointed out that the company spent "double the amount on advertising in 1999 in Yellow pages and Thompson". The owner-manager also indicated the use of 'cold calling' and following it up as part of the advertising process. However, apart from advertising in Yellow Pages, the owner-manager found this to be a waste of time. He considered advertising in Yellow Pages to be cheap and useful. The owner-manager disclosed that the company does not under-take any form of market research and that pricing decision depends on the market price which the owner-manager used as a guide to work out the profit:

> *"If it is too big you cut it. Basically, every job you put a decent mark-up on it. If it is a customer you think you can build up a relationship then you know what to charge, but it's all different. There is no consistency" [Third Interview - 6/4/99].*

Asked what might prevent him from using new technology, the owner-manager replied: "money". The owner-manager indicated that the company would like to improve upon their printing presses since the industry has now completely gone digital, and the company needs to keep pace:

"...In the printing side we are fairly uptight, running out of films, we 'll soon run out of plates because we haven't enough turnover. We are not big enough. The equipment is expensive. The only area we can improve on is the printing presses which are digital these days. They cost £0.5m, lot of money that" [Second Interview - 7/10/98].

Investment Financing Process

The owner-manager disclosed during the first interview that the main sources of investment finance for the company are leasing and hire purchase. However, the owner-manager emphasised that the company uses more of leasing than hire purchase. Asked what are the advantages of leasing to this company, the owner-manager explained that it provides an easy way of raising investment finance with no hidden costs and fixed deposit. It also provides small helps and there are also tax advantages. As far as the disadvantage is concerned, the owner-manager explained that the only disadvantage is that the company does not own the asset in the end. The owner-manager also disclosed that the company also uses bank overdraft for investment purposes. It does not, however, use bank loans because the banks are too greedy:

"They [the banks] are too greedy. They want my house to allow £5-10,000. It's pathetic. The banks are pathetic. And any opportunity they just screw you" [First Interview - 2/4/98].

During the third interview the owner-manager summed up his past experience with the bank in this way:

"The banks won't lend you the capital. Any money you want from the bank, they want to have your house, to lend you any money. They want blood. They want any particulars to secure an overdraft" [Third interview - 6/4/99].

When it was put to the owner-manager whether he has actually been to the bank before to ask for a loan an they want his house, he replied in the affirmative:

"They want security to extend the overdraft further. This is ludicrous! £400,000 house! Do you think I 'm going to put that on the line for the company debt. They are mad" [Third Interview].

The owner-manager disclosed that the main reason why this company has a problem with collateral security is that their business premises is a rented property and the banks understandably would not accept it as an ideal collateral. The owner-manager explained why the bank requires his house as collateral as follows:

"Easy way out for them. The bank manager doesn't want any black marks against him. The banks are disgusting. They are greedy, greedy to extreme. The bank manager doesn't give a damn whether you go ahead with that or not. He doesn't. You bank with them for ten years and you think you would get more feedback. The business premises is not ours. We are only renting these premises. So, they wouldn't accept it" [Third Interview].

When asked whether he has ever had any financial difficulties caused by excessive use of borrowing, the owner-manager replied:

"No. We are very careful. We don't want to buy equipment and can't get enough work to generate more turnover, to make the profits we should be making" [Third Interview - 6/4/99].

However, the owner-manager stressed that his general past experience has affected his choice of finance. Because of his past experience he avoids using bank loans for investment purposes. The owner-manager disclosed that in comparing investment financing alternatives the company does not involve the banks. He compares it with the interests from the finance companies, looking for whether they can afford to pay the deposit or not. The owner-manager cited capital banks, Lombards, etc as being such finance companies. To encourage this company to use bank loans the owner-manager suggested that the banks should be prepared to take calculated risks, and they should occasionally give interest free loans when one has been with them for a long time, say 10 years. The company had never obtained any grants from the government nor was it aware

of any government financial assistance schemes available. The company suggests that these schemes should be brought to their attention through the accountants. In order to help small businesses in their investment decision-making and to give confidence and a boost to small firms the owner-manager suggested that the government should make sure that interest rates are more realistic, and should not keep worrying about inflation.

Cash Flow Management

The owner-manager revealed that the company does not have cash flow problem because they keep their overheads low:

> *"We do make profits. It might appear to be a bit tight overall, but no we don't have cash flow problem. We keep our overheads quite low" [Second interview - 7/10/98].*

The owner-manager also revealed that the company does not generally give credit to small customers. Money is collected on delivery on the basis of "cash on delivery". However, credit may be given for amounts over £1000, in which case the company would take credit and bank references.

> *"We check them out. It depends on how much is involved. We don't give credit on small amounts. If the money involved is over £1000, we check them out. If they are known companies or are recommended, we don't. We get money on COD (cash on delivery)" [Second Interview].*

The credit period normally allowed in this company is 30 days, although they could be flexible: "If they want 60 days and we want to deal with them we give them 60 days, but normally we want 30 days". According to the owner-manager, this is the company's standard and not the industry norm which is "60 to 90 days". For the company to ensure that payments are made in time, the customers would be phoned up "nicely". However, it is rare for the customers not to pay up and for this reason, the owner-manager did not see the need to insure itself against possible default nor do they use factors and/or invoice

discounting for credit management or as a source of finance.

COMPANY 5

Historical Background

This company is basically a lady fashion company which was incorporated in 1982 as a limited company. It has a turnover of £10 million and 50 permanent employees. The main product is specifically ladies wear but it has just started to branch into property business as a result of a long term strategic decision to invest spare retained profits. Their major customers are Bhs, Marks and Spencer, Tesco, Littlewood, Debenhams and Evans. The biggest customer is Bhs which accounts for approximately 50% of their business.

The company's shares are owned by three directors which consist of two males and one female, comprising the chairman, the managing director, and the sales director. They are all members of the same family except the sales director who is not a member of the family but was given shares in gratitude for her services to the company and she only owns a very small percentage. The chairman is 45 years of age whilst the managing director is 50. The directors are not particularly well educated but they are very shrewd entrepreneurs. The managing director by trade is a mechanic and the chairman has been in the fashion industry for a very long time and knows the business "inside out, back to front". The facilities manager who was also interviewed has a degree in Aircraft engineering and is aged 34. He is involved in decision making process right through the whole operation.

The company was established by the chairman as a modelling agency. He branched out in to the production side of it. The modelling agency went burst but the manufacturing side continued. The company has three main departments, namely, the Design and Sales Centre, the Production factory, and the Warehouse and Processing Centre. At the Design and Sales Centre are routine designers who design the fabric and garments. Those designs are patented so that no one can copy. The designs are then made up as samples and sent to the showrooms where the Sales team will show the new designs and the new

products in the form of samples to clients and customers. The customers will then make the decision there and then as which design they like and what quantities they want. The designs are then sent to the factory for production. Some of the designs are also sent to their factories in Bulgaria and Turkey. The garments that are made in Bulgaria and Turkey are shipped to London either pre-packed or hung. If they are pre-packed it pushes the production costs up. If they are pre-pressed and hung it keeps the production costs to an absolute minimum. The garments are then sent to the Warehouse and the Processing Centre for digital processing and hand finishing process. They then go through quality control inspection, labelling, putting on price tags and packaging. Once the packaging is finished it is stocked in the warehouse until it is called off on order. An order can consist of a single garment, 1000 garments or 20,000 garments. Whatever the order, the company uses an allocation process, picking the garments off the rails, packaging it into the correct packaging or specific order and labelling it. The labels are supplied by the customer and they tell the customer where that particular package is to go. So, when it gets to their depot it goes through an automatic sorting process and that package gets sent to the right shop.

The quality control always reveals some damages and the most common problems are button-holes, missing buttons, labels or stains on the fabric. Garments with such problems are sent back to the sewing area (factory) for repairs. The company has also got their own dry cleaning facilities to get rid of any stains. Any garments that are damaged beyond repairs are sold to the public as damages. The company also has a system of dealing with returns. If a customer for whatever reason is not happy with the final product they have to send it back to the company and their money is refunded but the company is not allowed to sell it for a period of six months because the customers do not want to see their product on the market selling at, say £5 when they are selling it at, say £30. The objective of the company is to make money.

Data Sources

The main sources of data in this company were the owner-manager, the facilities manager and equipment supplier. The owner-manager was interviewed three times over a period of twelve months at six months intervals, whilst the facilities manager and the equipment supplier were each interviewed once.

Capital Expenditure

Capital expenditure in this company means the purchase of new equipment, and new property. In this company everything of capital nature is capitalised. This includes desks and other fixture and fittings because of tax advantages. The main equipment that are used for production in this company are:

[i] Steam tunnels: The steam tunnels are used for getting greases out of garments and, in some cases, used for finishing as well, depending on the finishing requested by the customer. At the time of the study the company had 3 steam tunnels but one was about to be shipped out to their new factory in Turkey. Two of these machines were only 3 years old. The third machine was only 3 months old. The investment in the new steam tunnel was a replacement because "by purchasing a new one the process is speeded up and a better finish is achieved". The steam tunnels cost £60,000 each with a shelf life of over 25 years and can last even longer if properly maintained.

[ii] Compressors: The compressors are use to supply compressed air to the steam tunnel and the bagging systems. The compressors are rented and have been owned for 4 or 5 years. There are 4 Air compressor sets in this company.

[iii] Boilers: The boilers provide steam to the steam tunnels and the hand presses. There are 2 Boiler plants, one recently purchased and the other one is about 10 years old. The recent one was bought second hand but is only 2 years old. Both are regularly maintained

and they are both "up to scratch". The boilers cost between £5-10,000 each and last for many years.

[iv] Hand Presses: The hand presses are used for ironing clothes. There are 40 of this equipment. They vary in age. Some of them are only one year old. Some are 5 years old. They cost about £2000 each.

[v] Bagging Machines: There are 4 of these machines and they are between 1-10 years old and cost £14,000 each. Like other machines in this industry they last for many years when properly maintained.

[vi] Sewing machines: These include overlockers, button sewers, cutting machines, etc. They are more than 10 years old and last for many years. The owner manger was unable to cost these machines.

[vii] Design machines: These include 12 Lectra computers which sketch the pattern and the operator does the designing. They also include digitizers which enable the operators to copy someone else's designs but without infringing upon their copy right. These machines were purchased at a cost of £5000 each and have a shelf life of about 5 years.

[viii] Dry Cleaning: They are 3 of this equipment which have been owned for about a year. They cost £20,000 each.

[ix] The Rail Systems: The rail systems are also a major part of the company's assets. There are two types of the rail system, comprising storage rails which are 100 of units, and the speed rails or the rail transfer system to move the stock round. The old part of the rail transfer system is about 3 years old. The new part is only 6 months old. The storage rails are all new as part of "investment in infrastructure" and have replaced the old ones because they were dirty and wearing out. The speed rails cost £100,000 whilst the storage rails cost £200,000. They last for many years.

[x] Other equipment include Labeller used for labelling orders, Heaters which were bought with the premises, Garment hoists which were supplied by a client and used to speed up production, Bellows conveyor belt system for taking boxes to other parts of the building.

The company tries to buy equipment new as much as possible. Three years previously the company was buying second hand equipment but the facilities manager has been able to point out to the directors that buying second hand equipment is "a waste of money because you have to pay that much more on maintenance". In the case of the second boiler referred to above which was installed 3 months ago, it was fully reconditioned and it came from a contract dealer they trusted. "So, in that case because it was only a couple of years old and it was fully re-conditioned so we said ok because we can save a bit of money on that". Equipment in this company is not written off. When they do not use it any more they send it to their factory in Turkey. "So, it doesn't get written off it gets exported and continued to be used in Turkey for as long as it is needed. But the life cycle at the moment seems to be about every three years we send them back to Turkey because equipment that is no longer up to scratch here is more than up to scratch in Turkey because they are 10 years behind us".

The firm has recently purchased the steam tunnel and the boiler which were purchased and installed in the last 3 months. The purchase of equipment in this company "is a continuous assessment and they purchase as and when they need to". The firm is considering the acquisition of other equipment for the new factory in Turkey. The company has spent approximately £4 million in the past 2 years and £700,000 of it is approximately on production equipment. The relationship between cost of equipment and the sales revenue is that if the process is cost-effective they get better and bigger profit margin.

The company is very much affected by computers and information technology. Apart

from the computers used for design purposes most of their orders come through modem systems. They have an internal e-mail systems so they are constantly communicating and sending documents and data by computer. They also have a data transfer system which allows them to send data out to their factory in Turkey. These include the design information, design specifications, fabric information and so on. Everything in this company is on the computer system. The company does not have CAD on site at the moment and have therefore contracted out that aspect of the work. However, computer aided design is something the facilities manager has been asking for but has "not yet been able to justify". Quality control is to a greater extent manual, and to some extent computerised. There are a couple of computers, which contain quality control information and they have been continually used for references. However, for quality control purposes the main source of information is the approved sample. The approved sample is the sample that the customer sees at the showroom which is stored separately from anything else and at any time the quality control staff can pick it up and compare with the product and if it doesn't match that product will not go ahead. Sales are all done on computer, but the distribution is mostly manual.

The most technologically sophisticated equipment is the steam tunnel which is all computer controlled. The proportion of work carried out using the steam tunnel depends on the client or customer requirement and on the finish that the customer requires. Basically, they have a fast tract and a slow tract. If it is a fast tract 100% goes through the steam tunnel. If it is slow tract it could be 30-40%. The major factor that might prevent the company from using new technology is the 'year 2000' issue. This was an issue that was being addressed in the company at the time of the third interview because they had discovered that a large area of their design equipment was not yet 'year 2000' compliant. They were therefore considering upgrading it. They had actually spoken to the suppliers about it and they also wanted "the next generation of design equipment". The only problem with new technology, according to the facilities manager, is being able to justify the benefits:

"On the whole, we accept new technology. We are happy to work with it if we can show and justify the benefits. That's the most important thing. All the time we have to be able to justify it" [Second Interview - 13/10/98].

Investment Decision-making Process

Both the owner-manager and the facilities manager informed the researcher that they did not use any formal methods for investment decisions. They both revealed that in addition to the use of some form of budgets, they also used a tendering process. The, facilities manager explained that they "always have a figure in mind" and that normally, they would need about 5 tenders or 3 as a minimum. When they receive the tenders their method "which is reasonably accepted across the board" is to eliminate the cheapest one because they are not going to give them the service that they want; eliminate the most expensive one because they are charging too much; and then consider what is left. Using the new steam tunnel which costs between £50-80,000 as an example, the owner-manager explained that the first stage was to call for tenders of which 3 were received quoting the prices and the specifications. The reason they were interested in the specifications is because a top of the range steam tunnel uses a lot of steam and therefore needed its own boiler to supply that steam. Having got the specifications and the prices they carried out an assessment and the facilities manager had to come up with a recommendation to the board of directors, giving reasons for his recommendation and being able to "justify it and being able to explain it in full". If the managing director likes the idea, as explained by the facilities manager, he would call in the supplier and negotiate for a better price which normally means that they want 10% off because they can get the equipment cheaper from other suppliers. Once that is done the facilities manager would go into the installation side and would decide where it is going to be installed, how they are going to install it, what ancillary equipment it needs, and how many people are needed to do the job.

When asked how he justifies the investment, the facilities manager explained that he has to be able to show the need for the equipment. He also has to show the benefits in terms

of cost savings:

> *"It doesn't matter what it is I 'm trying to justify, I must, must show an ultimate cost saving. In the case of the new steam tunnel at the end of the day it cost us £60,000 plus another £5,500 for the boiler but it has paid for itself in 3 months" [Facilities Manager - Second Interview - 13/10/98].*

A typical example of the investment decision making process used by this company can be seen in the following document examined by the researcher during the second visit to the company. The document relates to the decision-making process in respect of the acquisition and installation of a telephone system in the company's premises.

THE DOCUMENT

Contents

1. Introduction
2. The Companies
3. Specification
4. System Comparisons
5. Quotations
6. Costs

Introduction

As part of the refurbishment work at [the company], it is necessary to install a new communications system. Twelve ISDN 30 lines and two analogue lines have already been ordered from British Telecom to serve as the main lines. The analogue lines are the emergency telephone and [the Chairman's] private line. To that end, a number of companies were invited to quote to supply a telephone system. The two most reasonable prices are discussed here in more detail.

The Companies

A number of companies were invited to quote for the supply and installation of a telephone system. These included:-

Wellcom.

Siemens.

Network Installations.

AB Services Plc.

British Telecom.

The most reasonable quotes were provided by Network Installations and AB Services Plc, and are discussed in more detail here.

Specifications

Quotes are based on the following requirements:-

2nd Floor Showrooms

One extension in each showroom and a further extension in the lift lobby for use as a courtesy phone, all of a basic type.

Ist Floor Offices

Three executive phones, preferably cordless for the enclosed offices.

One basic phone for the Chairman's private line.

Twenty basic phones for office staff.

Ground Floor Design Centre

One extension in the sewing room, one extension in each office, and five extensions on the main floor, all of a basic type.

Basement

One extension in the main store room, one in the kitchen area, and one in the main plant room, all of a basic type.

Reception

One PC based switchboard with handset, one basic phone for the emergency line. Call logger and CD music on hold are also required.

Cabling

All cabling to be completed by the supplier, routed through the floor grid and main duct from the patch panel (supplied by BT) in the computer room. Cables may be routed through ceiling cavities where cable trays exist. All lines to terminate in approved quick release boxes in floor boxes where available, or wall mounted at low level. All cabling is to be of Category 5 type.

System Comparisons

AB Services Plc propose a Philips Imagination system, while Network Installations propose an SDX Index 200 system.

A full comparison of the two systems is given on the chart [below].

System Comparison Charts

CO.	SYSTEM	EXT	CORD LESS	CAT 5 CABL.	CALL LOGG	CD MUS.	PC SWITCH BOARD
AB SERVS.	PHILIPS IMAG.	42	3	YES	YES	YES	NO
AB SERVS.	SDX 200	40	YES	YES	YES	YES	YES
NW INSTAL	SDX 200	40	YES	YES	YES	YES	YES

CO.	SYSTEM	EXT	CORD LESS	CAT 5 CABL.	CALL LOGG	CD MUS	PC SWITCH BOARD
AB SERVS	PHILIPS IMAG.	42	3	YES	YES	YES	NO
NW. INSTAL	SDX 200	40	YES	YES	YES	YES	YES

Costings

A comparison of costs is given below.

COMPANY	SYSTEM	CABLING COSTS	SYSTEM COSTS	TOTAL COSTS
AB SERVICES	PHILIPS IMAGINATION	£5284	£8401.60	£13686.60
AB SERVICES	SDX 200N	£5284	£14334	£19618
NETWORK INSTALLATIONS	SDX 200N	£4800	£12646	£17446

COMPANY	SYSTEM	CABLING COSTS	SYSTEM COSTS	TOTAL COSTS
AB SERVICES	PHILIPS IMAGINATION	£5284	£8401.60	£13686.60
NETWORK INSTALLATIONS	SDX 200N	£4800	£12646	£17446

The owner-manager revealed that benefits are assessed based on the specifications of the equipment as provided by the equipment supplier. In the case of the steam tunnel the owner-manager explained that they "worked" their garments through the old steam tunnel

at the rate of about 1000 garments an hour. With the new steam tunnel they pushed that up to 2,200 garments an hour. He explained that it is also a higher quality finish which means that they do not need so many people to run it, they do not need to do so much hand finishing. Therefore, they were "able to lay off a third of the workforce based on the purchase of that one machine and that of course reduces costs and makes the whole business more cost effective". The owner-manager also disclosed that he relies on the use of business publications to give him an idea of what is available on the market, where the market is going and "what the average cost of things are going to be" and then uses the tendering process to complete the evaluation process:

> *"That gives us some idea and then the tendering process really completes that evaluation process. If I go out for 3 tenders for the same piece of equipment and one of them comes back 20% cheaper than the others, which one am I going to go for" [First Interview - 13/4/98.*

When asked whether he uses the same decision-making process for all types of asset, he explained that they use this process for equipment of high technological value. The process is different when investing in property and motor vehicles. In the case of property he explained that the board would meet to decide how to spend any spare money they have had, mostly from retained profits, since they are not going to need any more equipment for the business at that moment because they are doing "nicely and there is no foreseeable problem". The owner-manager would then approach an estate agent and inspect some property and take a decision based on what they want to do with the property. Once a decision has been taken regarding which property they wanted the company secretary would be instructed to "arrange for some money". This would mean arranging for the retained profits to be used either as deposits or for full payment and in some cases arranging for mortgages through the tendering process. The facilities manager would then be instructed to fit out the property according to requirements such as leasing to tenants or for business purposes. Again, the owner-manager indicated that the fitting would normally be done through a competitive tendering process. The replacement policy for motor vehicles is also different in terms of the determination of the need and

the decision making process. For motor vehicles the replacement policy is based on when the maintenance costs become unreasonably high or "unbearable". It is not based so much on age or mileage. It is based on cost-effectiveness. The facilities manager explained this as follows:

> *"Basically, we have one that is old now and it has started to cost a lot on maintenance so I have said to the MD we need to replace this. But it hasn't failed yet. It probably has about a year left. But we need to replace it. We need to be planning for the replacement of it" [Second Interview - 13/10/98].*

The need for production equipment is identified in this company through changes in quality control standard which normally changes upwards and the company has to keep up with it. If the company is not reaching their quality control requirements then they know that they have got a problem. For example, in 1998 the company discovered that the reason they were failing to meet their quality standard was because the steam tunnels were not "really up to the job, they were not coping properly due to the work load". Therefore, that is the main reason they had the new steam tunnel fixed. The company ascertains the standard of quality of their product through a continuous feedback process between the customers and sales team and the rest of the management. For example, if the number of returns goes up the company then knows that they are not reaching quality control standard. They can predict it, to a large degree, because the sales team, the sales director in particular, the chairman and the production manager, are always dealing with customers and if they express dissatisfaction with the quality of the product or would like some improvements in certain areas then the company knows they have got a problem. The board meets regularly, at least once a week, to discuss problems and ways of resolving them.

During the first interview the owner-manager made it apparent that investment decision in this company is made for the reason of cost-effectiveness and also for increased capacity or "basic infrastructure" in order to able to offer services to clients:

> *"We have to have the infrastructure and so therefore we have to continually invest in the infrastructure to be able to provide the service to the clients. A classic example of that is the investment in the steam tunnel" [First Interview - 13/4/98].*

The owner-manager also disclosed that the company plans for investment both short- and long-term. The long-term plans cover a period of two years as they "normally start looking at long term strategic decision at least two years in advance". This covers major decisions such as whether the building is satisfactory, whether it is still going to be satisfactory in two years, and whether they need to add on to it. However, the owner-manager revealed that equipment purchases tend to be client driven "quite a lot", and because it is client driven it is not planned, "it can happen any time". During the second interview the extent of planning was taken up with the facilities manager since he claimed to take part in the planning process. When asked about the nature of planning in their company, the facilities manager provided an insight into the process:

> *"Basically, the board sits down and the head of departments will sit down with them and will tell them where we are now, what position we are going to be in or where we see ourselves in a year's time or two years' time, or whatever. The board will listen to us, takes it on board and they are likely to give us the go ahead to start planning. It's their decision. If the board says start planning then that's when we get into the real depth of the stuff. In my case I will normally be liasing with either the managing director or the chairman and we will be meeting on a regular basis making decisions, making purchases or whatever. That depends on the project" [Second Interview – 13/10/98].*

Similar to the explanation given by owner-manager, the facilities manager stressed that investment in production equipment tended to be more spontaneous, with little or no planning. Whilst investment in warehouse extension, for example, tended to be planned for at least a year:

> *"But the major project is this warehouse extension here which was being planned for a year before we actually broke grounds and started work. But what that did was that it meant that the down time for the building, the building time was kept to a minimum because we had everything*

ready, so it took six months instead of taking 12 months" [Second Interview].

During the discussion with the owner-manager, he indicated planning is also done through the use of budgets as "everything has to be budgeted for". In the first interview the owner-manager stressed that the company does not use any consultants or external advice for investment in equipment apart from seeking specialist advice for buildings because the buildings would have to be surveyed before hand. When pressed during the second interview why they would not seek advice for the purchase of equipment the owner-manager replied:

"Most of the time we know what we want. We may consult with the suppliers in terms of sighting the equipment and what services it needs, etc, etc. But normally we know what we want before we start looking" [Second Interview – 13/10/98].

However, during the third interview it was observed that equipment suppliers affect the decision making to the extent that they bring information about the equipment to the attention of the company through their leaflets and information package, after which they are invited to tender. When this observation was put to the owner-manager, he agreed:

"They affect the decision making with their tenders. The very first thing we receive from suppliers is a leaflet or information package. So, we see the information package, they get invited to tender" [Third Interview - 13/4/99].

Another area where equipment suppliers had impact in the decision-making process was the "promises that they make in respect of the follow-on service" [Facilities Manager]. Giving more insight into what this meant, the owner-manager explained that the price quoted by the suppliers is obviously the first thing he considers because "if he is going to give me this machine for this money then I 'm going to look at it closely". He also explained that the second thing he considers is the services the machine will need, where they are going to get these services from, how much it is going to cost them to install and

maintain these services and the piece of equipment in terms of spare parts. The owner-manager, therefore, revealed that equipment suppliers influence the decision-making process not only in terms of the price of the equipment but also in terms of installation, maintenance and spare parts. He concluded:

> *"I don't just buy a machine and put it in and hope for the best. I buy a machine knowing anything and everything that is likely to go wrong with it" [Third Interview - 13/4/99].*

When the owner-manager was asked about extent to which the facilities manager's opinion and assessment was taken into account, as well as the opinions of other key employees in terms of their contribution to the investment decision-making process, he replied:

> *"Two heads are better than one, you know. We learn from our individual experiences. ...We would not invest without consulting with the company secretary to find out whether it is viable and whether it is worth doing, or without asking the facilities manager what he thinks of it" [Third Interview].*

In the previous interview the owner-manager explained that there were two major sources of risks and uncertainty, which constituted major concerns for the company as they affect sales significantly. The first and the most serious one was the weather. He explained by way of example that in 1998 there was no summer and the company therefore had no work. The factories had still turned out summer and autumn wear in an anticipation that the weather would change and people would start buying them, but it did not change and as a result the company ended up with about 300,000 garments stacked in the warehouse for 6 months. The owner-manager emphasised:

> *"If we don't have summer or we miss a season for whatever reason whatsoever we 've got problems. It affects turnover in a big way because people are not buying" [Second Interview – 13/10/98].*

The second source of risk and uncertainty for this company was changes in fashion and

styles, which was particularly acute with ladies wear. The owner-manager explained this point as follows:

> *"With ladies fashion of course styles are changing all the time. If we start producing something for a customer and it doesn't sell, they would (a) return the stuff that they have got and (b) cancel the rest of the order" [Second Interview].*

Asked how the company takes risks and uncertainty into consideration in their decision making process, the owner-manager explained by way of example that the weather problem they had in 1998 during which "things were not selling" was the main reason they started looking at ways of stream-lining the workforce and reducing overheads. He explained that they laid-off a number of staff because the orders were decreasing but at the same time they examined two alternative methods of production, one of which was the idea of a new steam tunnel which has increased the production capacity but has decreased overheads. When asked about the main investment constraint in this company, the owner-manager replied simply "money", whilst the facilities manager expatiated:

> *"When we are doing our assessment we have to decide what is reasonably practical and what isn't [in terms of cost]. If it is reasonably practical and we can justify then chances are we are going to get it. If I can't justify it or if the managing director or the chairman thinks that it is not reasonably practical I have got no chance. It's not going to happen" [Second Interview – 13/10/98].*

Investment Financing Process

Right from the first interview the owner-manager disclosed that the main source of finance for investment in this company is retained profit "from the fashion end of the business". Another source of investment finance is "personal investment by the board". The facilities manager explained:

> *"They are for ever putting money back into the infrastructure which is the main reason why this company is so much more successful than our*

competitors" [Second Interview - 13/10/98].

Asked whether he has experience difficulties in raising finance for investment, the owner-manager replied that there were no such difficulties because the company's "credit line is so good" that they can get money whenever they need it. The major problem, according to the facilities manager, is persuading the board in terms of the need for a particular asset. The owner-manager also explained that the company raises a lot of loans from the bank regularly, mainly for investment in property and that the company is reasonably satisfied with the services they get from the bank because it is all done through a tendering process:

> *"We don't take a loan without knowing exactly what we are getting into, and at the best possible rates and that's, again, through a tendering process. They want our business let them compete for it" [First Interview – 13/4/98].*

He also explained that the policy of the company regarding the ideal mix for capital structure is to keep loans to an absolute minimum and that an outright purchase is the preferred method of purchase:

> *"We don't like lease purchase, not at all. We don't like leasing equipment from other companies. We like to own everything" [First Interview].*

The owner-manager emphasised that investment in this company is "driven from the board". Therefore, they would not invest without having the spare capital available and without consulting the company secretary to find out whether it is viable and whether it is worth doing. Similarly, they would not invest without asking the facilities manager what he thinks of the building; whether it is a good investment, structurally sound and whether they are likely to find new tenants. The owner-manager explained that "all these things are done before we even go near the bank". He also explained that the company is not aware of any government financial assistance scheme available and that they have never sought or obtained any financial assistance from the government.

Cash Flow Management

During the second interview the owner-manager revealed that the company does not have cash flow problems. He also disclosed that the decision of how much credit the customers get is negotiated at the time of contract. For this company all their customers were big companies and therefore the owner-manager believed that there was no way they would want to damage their reputation by not paying. The average credit period is not more than 14 days which is the industry norm. The company has a credit controller to ensure that payments are made in time by sending customers reminders and the company is prepared to take them to court if necessary. However, the owner-manager believed that this is very unlikely as all their customers pay up in time so as not damage their reputation. He also disclosed that market traders who buy returned items from them do not get any credit whatsoever. For them it is all cash on delivery.

When asked about the use of factoring it became apparent that the company had used factoring before but got rid of them because they were expensive and they were not helpful. The owner-manager explained:

"We had an argument with these people and we told them where to get off because they wanted too much rates, too much interest and they were not helpful and we told them to go away. We have saved money by doing it ourselves. Basically, we got rid of them" [Second Interview - 13/10/98].

COMPANY 6

Historical Background

This company was established in 1993 as a limited company (with 35 employees and £700,000 turnover in 1998). The company engages in the manufacturing of ladies wear including skirts, blouses, waist coats and jackets. The owner-manager, who is 57 years old, has a background in business and finance having obtained a diploma in finance from an American College. The business was started to enable the owner to be independent, having worked for several years in a similar clothing factory. As in the previous case study, this company was run informally with the owner-manager as the sole decision-maker. It was common for staff to change over time, and use was made of casual staff. Making money and having a "legacy to pass on" to his son was also the motivation for the establishment of this business. The firm's main objective was stated to be survival.

Data Sources

In common with other companies in the study data was collected using 'insider accounts' as the qualitative research method as previously described. The main source of data in this company was the owner-manager since he was the sole decision-maker without consulting with any key employee. The owner-manager was interviewed three times at six months intervals. Information was also collected from an equipment supplier as a key informant. The collection of data longitudinally from these two sources using each of the methods previously described including interviews and observations contributed to the validity of the findings that emerged.

Capital Expenditure

For this firm capital expenditure means such things as machinery, a motor vehicle (van), furniture, cutting tables, hanging rails, fax machines, calculators, etc. For the production

process the company uses the following machine tools:

[i] 2 Cutting machines which are used for cutting garments;

[ii] 3 Over-locking machines. Overlocking machines are used for overlocking the edges of materials to prevent them from peeling off. The 4-Thread Overlocking machines are special types of machine for elasticated fabrics. They can also be used as a 3-Thread machine.

[iii] 13 Flat machines (also known as sewing machines), used for sewing, putting zips, putting waist-bands and for finishing;

[iv] 1 Buttonholing machine.

[v] 1 Button sewer for sewing buttons;

[vi] 1 hemming machine;

[vii] 1 Covering Stitch Machine - stitches both outside and inside and overlocks as well. This machine is mainly used for elasticated stretching materials.

[viii] 3 Pressing machines for pressing garments.

The company acquired almost all its equipment in the last six months and was therefore not considering the acquisition of new equipment in the near future as these machines were said to last for "donkey" years. However, the owner-manager revealed that if there was any 'new model' of machines that proves to do the job better then the company would not hesitate to purchase it:

> *"If there is any new model [a more modern machine] the company will go for it. Of course, if a supplier came to demonstrate any new model I would go for it. I like a bit of demonstration" [First Interview - 1/4/98].*

During this interview it also emerged that the company now buys all its equipment new and the write-off period in respect of the equipment is 4 or 5 years:

> *"In the past we used to use old machinery, but now they [customers] expect us to get better [new] machines. If a needle is broken due to the age of the machine and goes into the customer, he may sue you for*

compensation. So that is why we are very careful and we don't use old machines any more. It has to be new" [Second Interview - 15/10/98].

The owner-manager revealed that in the past two years the company has spent approximately £20,000 on production equipment.

5.3.4 Investment decision making process

During the first interview of 1/4/98 the owner-manager stated that the company did not use any formal evaluation method to appraise investment decisions. However, he said that he considers the price and the reliability of the equipment, when making his purchase decisions. He also claimed that the company seeks advice from equipment suppliers and from maintenance engineers, asking for their recommendations regarding the reliability of the equipment because they (the advisers) know what is good. This frank admission of the involvement of the equipment supplier in the decision-making process of this company was uncharacteristic of the other owner-managers in the study who, initially seemed hesitant to reveal their role.

However, during the second interview on 15/10/98 the researcher saw the owner-manager receive an order for casual wear, which required the use of Twin-Needle machines, which the company did not own. The researcher observed the owner-manager sit in silence for brief moment, then thinking aloud, wondered how he was going to deal with such a demand. As he sat there pondering over this matter an equipment supplier came to see him, and the owner-manager, temporarily suspending the interview, seized the opportunity to arrange for the purchase of one Twin-needle machine and leasing of 3 others. This was clearly a situation where a change in the requirement of a single customer had a major impact on the firm.

This observation simply confirmed how investment decisions were made as a reaction to an event. It showed that the owner-manager was adapting to a situation - albeit a response to customer demand - without enough time for proper planning, otherwise he would lose

the custom of an important customer. The observation gives validity only to the claim during the interview that the owner-manager had neither the time nor the ability to assess the future cash flows and to carry out financial analysis of the investment. Nevertheless, it contradicted the claim that he would consider the price of the equipment and the reliability of the equipment, as well as seeking advice from equipment suppliers and from maintenance engineers and ask for their recommendations.

The visit of this equipment supplier provided an opportunity for the researcher to ask him about his actual role in the decision-making process of this company. The owner-manager did not object to this separate interview with the equipment supplier. In his reply, the equipment supplier was eager to point out the depth of his involvement in the decision-making process of not only this particular company but also other clothing companies with which he makes contacts:

> *"First of all, we bring different models of equipment to the attention of business owners through our brochures and through demonstrations. We would go through the price and specifications of different equipment. We would sit down with them to decide which equipment would be suitable for them. We also service the machines for them, so there is an on-going relationship"[Interview Notes – 15/10/98].*

When asked whether he influences the decision-making process all the time, the equipment supplier explained that occasionally the customer would say that he prefers "equipment from 'A' rather than from 'B', but most of the time the owner-manager would say, 'if that is what you recommend, your job is to supply a machine that will satisfy me', and this throws the responsibility back on the supplier that the equipment has to be suitable for the purpose". He suggested that they are used to customers who:

> *"know what they want in 'market place' terms but not in 'engineering' terms and he would say, 'I don't mind what the machine looks like, this is the piece of work that has to come out at the far end'" [Interview Notes – 15/10/98].*

The equipment supplier stressed that owner-managers who say 'we know what we want, here are our specifications, match our specifications, we will not discuss it with you' are often the ones who offer poor value because they base their decisions on what they have seen or what existed in the past. In this sense, an equipment supplier can be of real help to the customer i.e. owner-managers and the customers who get the best value are the ones the machine dealers "talk to" most.

Since the owner-manager of this company obtained the order for the Twin-Needle casual wear first before looking around for a suitable machine to do the work, it was pertinent to find out during the third interview the extent to which this hurriedly acquired equipment was employed again after the completion of the initial contract. When asked specifically about this, he replied:

> *"Not a lot. [name of company] is our major customer. This was a big order we couldn't afford to lose. There will always be an opportunity to employ the equipment, I hope" [Third Interview – 13/4/99].*

Asked whether he thinks that this was a good investment decision, his reply suggested an experiential learning process:

> *"ehm, I think I have learnt from my experience. If I suddenly find myself in such a situation I would find an alternative method of producing that style because there is always more than one way of doing something. It may be more labour-intensive, though" [Third Interview – 13/4/99].*

During the second interview, as part of the deepening process, the owner-manager was asked how he assessed the benefits from investment. In his reply it was made clear that he has neither the time to carry out any financial analysis nor the ability to assess future cash flows due partly to the fact that they are a necessity and partly because of uncertainty. As a necessity and on the lack of financial analysis skills the owner-manager remarked:

"If you need something you 've got to buy it. For instance, that pen you

are writing with [pointing with his finger], you need that pen, you 've got to buy it. If you don't buy a Parker Pen then you buy a cheaper pen for the time being, that sort of thing. You get benefits on the longer period. You can't assess the benefits. You see, because these are essential machines that you have to get, it doesn't matter whether you use them once a month or once in six months" [Second Interview – 15/10/98].

As far as uncertainty was concerned the owner-manager emphasised:

"You must have them because otherwise you don't know what orders are going to come in. You see, it may be three or six months before the orders start coming in. You must have the equipment. You don't know what's going to come in... And you don't know how many of these dockets you are going to get. There is no guarantee, partly because of overseas competition with cheap labour" [Second Interview – 15/10/98].

Similarly, on the lack of time to carry out financial analysis the owner-manager pointed to a pile of papers on the table and commented:

"You get these dockets from companies such as [name of company]. It specifies the completion date. You must have it ready by then If you don't have them ready, they speak to buyers and they turn round and say 'Oh! well, you are late, you haven't kept your promise'. What do you do? You have to work day and night to finish the order. Otherwise, the middleman doesn't care. He's not going to lose a single penny. You are the one who's going to lose" [Second Interview - 15/10/98].

In common with other owner-managers, the owner-manager of this company revealed the main sources of risk and uncertainty in the company are sales: "If sales are slow then the business is slow". This has significant impact on the company's investment decisions and is the main reason why the company can not plan nor assess the cash flows. Discussing the price of the equipment as part of the decision-making process, the owner-manager indicated that in considering the price of the equipment he includes transport or delivery costs and installation costs.

When asked for what purposes the company invests in capital equipment, the owner-

manager revealed that the company invests for survival as well as for quick customer demands, but generally investment is for replacement purposes. He also made it apparent that the company is not affected in any way by computers and information technology. The owner-manager emphasised:

> *"Those things do not affect us. What affects us is competitors' approach" [First Interview – 1/4/98].*

It also emerged during the discussion that the company invests in capital equipment mainly to keep up with competitors both in the UK and overseas:

> *"Our main competitors are abroad with cheap labour such as Morocco, Yugoslavia and Rumania" [First Interview – 1/4/98].*

Representing the views of other owner-managers in the study, the owner-manager made it apparent in a subsequent meeting that although he thinks through investment decision-making process a proper planning is not possible because of the rapid changes in fashion:

> *"For instance, now the fashion industry is changing to casual wear which requires Twin-Needle machines for double stitching, etc. Of course we are not manufacturing for ourselves, we are CMT, manufacturing for big retailers in the West-end. You see, they give orders and we deliver them. Now they are asking me to do casual wear with Twin-Needle machines. You see, you might bring the [Twin-Needle] machine here and fashion changes again. It's silly trade, this is [looking concerned]. Fashion changes everyday. So because of fashion changing rapidly you can't plan ahead. It's a bit difficult" [Second Interview - 15/10/98].*

He also revealed that the main investment constraints for the company are the price of equipment and limited finance as there is "no sufficient support from the government". This was explored deeper in the following section.

Investment Financing process

During the first interview the owner-manager revealed that the main source of investment finance for his company is 'own finance', i.e. the company's retained profits (or savings). He also revealed that the company makes use of leasing for investment. When asked what are the advantages of using these types of finance for investment, the owner-manager was quick to point out that the main advantages for this company of using own finance is that it saves money on interest payments on hire purchase and bank loans, but that the major disadvantage is the loss of company savings. He also pointed out that the merits of using leasing are firstly, it is quick and easy to arrange, and secondly, if the business is not busy the machines can be returned:

> *"If the machine is expensive we rent it, and after the period we just give it back to save money, or if the business is not busy the machine can be returned" [First Interview – 1/4/98].*

In this discussion the owner-manager revealed that the company has never raised a loan from the bank for investment purposes, nevertheless, it has used overdraft facilities. He also revealed that although he was completely satisfied with the bank services he would not, in common with other owner-managers in the study, use bank loans for fear of "taking up too much overheads" in case the business dries up as it does from time to time:

> *"You see, nobody guarantees you work. Now it is ok, everybody is busy in the factory as you can see [pointing to the manufacturing section of the factory], but what if it suddenly switches off like a tap? What are you going to do?" [First Interview - 1/4/98].*

Asked if loss of control contributed to his apathy towards bank finance, his reply is representative of the attitude of each of the owner-managers in the study:

> *"It is not the loss of control as such, but the sort of experience we had in the early 1990s, the recession, these things scare you and you stop borrowing for fear of losing your home" [Second Interview – 15/10/98].*

Cash Flow Management

The owner-manger admitted in the second interview that the firm had cash flow problems from time to time, which affects the firm's ability to pay its bills and also reduces the ability of the firm to invest in plant and machinery. He also made it apparent that the main cause of the cash flow problem is lack of work caused by cheap competition abroad. When asked how he deals with this problem, the owner-manager revealed that he deals with the problem when it occurs by keeping it going from his personal savings and falling back on overdraft facilities. He made it apparent that the company does not give credit to customers as all payments are made on delivery.

COMPANY 7

Historical Background

The firm was incorporated in 1974 as a limited company with all the shares owned by one owner. The company manufactures ladies clothing, with the main products being ladies fashion wears. It has 20 employees and a turnover of £0.5 million. The company overall objectives are profitability, expansion and growth. The Managing Director is 50 years of age with a University education, and holds a BSc in Economics. He worked for a number of years in a large firm of Chartered Accountants before taking over the family business in 1989.

Data Sources

The owner-manager was the main source of data in this company since he was the sole decision-maker without consulting with any key employee. He was interviewed three times after six months intervals over a period of twelve months. The equipment supplier interviewed in company 6 also supplied equipment to this company. Therefore, information collected from him was also relevant to this company and provided the necessary triangulation and validity of the findings that emerged.

Capital Expenditure

The expenditure capitalised in this company are production equipment, computers, building and motor van. It does not capitalise furniture and computer software or indeed any item of expenditure, which is below £1000 since the owner-manager considered such items as revenue expenditure. The company uses the following machine tools for its production process:

[i] 24 Sewing machines, including Overlocking machines, Buttonholing machines, and

Button sewing machines, all used for sewing;

[ii] 6 Cutting machines for cutting garments;

[iii] 6 Pressing machines for pressing garments; and

[iv] 3 Hemmers for hemming.

The owner-manager indicated that the shelf life of equipment in this company is "indefinite because they are constantly being repaired and updated". The whole factory's machinery is being valued at about £100,000. The owner-manager found it very difficult to break down this value into individual equipment. It was equally difficult to say when each piece of equipment was purchased. The owner-manager can only estimate that they were purchased over the last 20 years, with the oldest equipment being 15 years and the latest equipment being 2 years old. The company buys its equipment new as a matter of policy. The rationale for this is because it is in the long term cost effective. For accounting purposes, equipment is written off in the year in which the expenditure is incurred. However, the company continues to use the equipment until the end of its useful life. The company has spent approximately £20,000 in the past two years on total investment. A half of this amount is for production equipment whilst the other half is for office equipment. The actual relationship between the cost of equipment and sales revenue is difficult to establish in this company but the owner-manager commented: "We expect our machines to have a payback value within 2 to 3 years". The firm only uses computer for administrative purposes as the production side of the business is not affected by computers. Therefore, the most technologically sophisticated equipment used for the main production is sewing machine. The company does not design the products as that stage of the manufacturing process is contracted out.

Investment Decision-making Process

It emerged during the first interview that this company does not use any formal evaluation process or technique. The owner-manager disclosed that investment in this company is based solely on "need" or necessity, and that he does not liase with any one as every

decision is up to him only. He emphasised that does not need to justify any expenditure he makes to anyone else neither does he have the time to employ any formal techniques. When the researcher realised that he was not prepared to discuss the matter any further, he decided to defer it to the second interview. However, during the second interview when the matter was revisited he disclosed that in the decision making process would consider the price of the equipment (which consists of the price as quoted by the suppliers and also transport and installation costs) as well as the use to which the machine will be put. He explained:

> *"If you need to use it, then you buy it. If you are not going to use it then you don't buy it because we don't have so much money to spend for nothing. You haven't got enough time to think about it. If fashion changes and we 've got a docket and we need a certain machine, we haven't got the time to think. We just have to get it because every docket we have is a contract that has got to finish by a certain date and those dates we have got to meet" [Second Interview – 15/10/98].*

Realising the incremental way in which the information was released the researcher decided to probe deeper during the third interview. When asked to take the researcher through the stages of investment decision making the following process emerged. The investment decision-making process starts in this company with identification of needs. The owner-manager revealed that investment needs in this company are identified "if there is a particular bottleneck in production. This means that we need investment in that area". The owner-manager would then speak to their machine suppliers to see what machines are available which can help. The owner-manager indicated that usually he has a good idea of what he is looking for at that stage. Then he would compare the specifications and prices of whatever the suppliers are offering him. If the company can finance it he would go ahead but if not he would not borrow money to buy it. When asked if he uses the same process for all types of asset, it became apparent that the owner-manager uses this process for all major investment except motor vehicles "which are of very low priority at the moment". He revealed that the replacement policy for motor vehicle is on its ability to do the job.

During this discussion the owner-manager disclosed that the benefits to be derived from equipment are difficult to assess due to uncertainty of orders, and can only be guided by experience. Asked about the main sources of risk and uncertainty in this company, the owner-manager replied, "diminishing orders". He explained that investment decisions are, to a very large extent, influenced by the order book:

> *"If the standing orders are quite large we consider investing. If, on the other hand, the order book is not looking good, then we will not invest" [Third Interview – 30/3/99].*

When pressed further during the discussion to establish how he deals with the situation, the owner-manager disclosed that to reduce the uncertainty of sales he finds more customers through 'net-working'. He also revealed that the company neither carries out any form of market research nor carries out any other form of marketing than 'net-working'. He explained:

> *"There are no steps I can take. We try and find more customers but that is getting more and more difficult. Sales generally are diminishing. We can not do a market research. As regards marketing, the clothing industry is very much a 'net-working' - who you know type of situation. We are quite widely known through 'net-working' and that's really the only sort of sales marketing that we can actually do" [Third Interview - 30/3/99].*

Asked about the effect of pricing decision on customers, the owner-manager stressed that pricing decision is becoming less and less under their control. As sales drop they become less and less strong to negotiate prices. So, they tend to take the prices offered to them. He explained that the firm is a CMT firm, therefore the relationship with customers "is very critical, so critical that if any one customer takes his custom elsewhere, the impact is disastrous" for the company. It also emerged in this discussion that investment decisions are not planned due to "fluctuating orders".

During the first interview the owner-manager was asked about external inputs into the investment decision-making process. Initially unsure about whether to reveal the actual role equipment suppliers, the owner-manager indicated that he does not use the services of consultants or those of equipment suppliers because he does "not believe that they will be useful". Asked whether he has actually received any advice about investment decisions, he replied, "nope!, never!". As the relationship between him and the researcher developed, the matter was discussed again during the second interview during which the owner-manager revealed that in his company the role of equipment suppliers is limited to provision of information on the different equipment models available and the prices:

> *"The only input they have in the decision making process is only in so far as showing the different models, perhaps, that they do. But I will decide what machine we need. We go to the particular suppliers that we have for those machines. Their expertise is limited to the availability. I may not be up to date on the latest model. So, when I want to buy sewing machine, for example, I will phone them, they will come and see me. They will show me what is available at that time and the prices and I make my decision then based on the information, which they give me but the basic specifications of the machine I already know"[Second Interview – 15/10/98].*

However, when the matter was returned to during the third interview, the owner-manager was quite prepared to reveal that equipment suppliers actually influence the investment decision-making process through the provision of repairs and maintenance service. He explained:

> *"We have certain equipment suppliers that we use for replacing our machines. And those suppliers also service the machines, so there is an on-going relationship" [Third Interview - 30/3/99].*

Since the owner-manager had decided at last to reveal the actual input of equipment suppliers into the decision-making process, the researcher was eager to know how useful their input had been perceived. When asked, he responded:

> *"Oh! they are okay. There are always one or two new things to learn*

from these people. You know, in this business we are learning all the time" [Third Interview - 30/3/99].

It was also established during the discussion that the main reason for investing in capital equipment is to facilitate production by providing the necessary equipment. The owner-manager disclosed that some sewing machines were for increased capacity whilst the rest were for straight replacements or "updating". However, he was unable to put his "finger on which one is for which". As for whether the sophisticated equipment (in this case the sewing machines) added value to existing capacity, the owner-manager argued that:

"the more sophisticated a machine is the greater its manufacturing capacity. As we replace machines they become more modern, more efficient, therefore our capacity is increased" [Third Interview].

The main investment constraint for this company is finance. The owner-manager described it as "the only thing that can prevent us from buying equipment".

Investment Financing Process

The owner-manager disclosed right from the first interview that the main source of investment finance for this company is retained profits because the factory has been in existence for a long time and has finally "homed in" to the need that the company would have in terms of machinery. The owner-manager emphasised that it is highly unlikely that they would suddenly need a different machine that would require borrowing from the bank especially as the company does not use any external finance for its investment. The owner-manager explained:

"We fund all our investment internally i.e. through retained profits. No external finance is used. The reason for this is that whenever we decide we need any equipment we look at all the options and go for the cheapest" [First Interview –6/4/98].

He explained that the major advantage of using retained profits for investment purposes is

that it reduces the amount of capital debt. Asked about the disadvantage, he replied:

> *"It depends on to what degree this is going to happen. We wouldn't over stretch ourselves" [Second Interview – 15/10/98].*

Since the main source of investment finance in this company was retained profits the owner-manager indicated that he did not have the need to compare alternative sources of funds. He also indicated that he has never raised a loan from the bank for investment purposes because in his experience he finds the bank "less useful than they have ever been in the past". Asked what he meant by this, he explained that the movement away from branch-based managers, who know the customers, to "computer-managed" branches means that it is very difficult to have a one to one relationship with the bank because the bank manager has left the branch. For this reason, he tried as much as possible to avoid any contact with the bank in terms of investment. However, the owner-manager emphasised that he would have no problem obtaining investment finance from the bank if he wanted to:

> *"There are no difficulties in raising money from the bank. We only decide not to use it. We would use it if we needed to. If there is any shortage of internal finance then we will have to borrow from the bank" [Third Interview - 30/3/99].*

When asked about his awareness of government financial assistance schemes, the owner-manager explained that he was vaguely aware them from general knowledge, but had not used any government grants before for the simple reason that they did not need it. He believed that in order to help small firms in their investment decision-making the government should restrict imports rather than provide financial packages because small businesses in the UK are hardest hit by off-shore competition:

> *"I don't think there is an easy option. There are, however, ways that the government can help the small business and they are not the ways that they are trying to at the moment. They should encourage small businesses to exist by restricting imports. Small businesses in the UK are hardest hit by competition off-shore. It is no good offering small*

businesses special finance packages or consultancy through these quangos like Business Links and Chambers of Commerce and so on, and so forth, if the bases for those small businesses are not secured because they cannot compete with off-shore competitors" [Second Interview - 15/10/98].

He doubted whether the government could do this because, as he put it, "government policy is one of an open economy". Asked what he meant by this he explained:

"Small businesses have to compete. If they can't compete they can't exist. Taxing the imports might perhaps help, at least to discourage, but then that would mean protecting the home market and the government is not prepared to do that" [Second Interview].

Cash Flow Management

The owner-manager disclosed that the company has cash flow problem from time to time when they don't have the orders. He explained that when this problem occurs it affects the company "greatly" and that it also constitutes a "100%" constraint on investment decisions. Asked about the cause of cash flow problem in his company, he replied, "lack of orders or fluctuating orders which is a direct result of government policy to allow cheap imports". When asked about how he deals with this problem, the owner-manager explained that the company tries to find orders, albeit with difficulty:

"What can you do. Very little you can do. Try to alleviate the problem by trying to find orders. The problem is getting more and more serious" [Second Interview - 15/10/98].

In terms of credit decision, the owner-manager uses the industry standard to decide how much credit to give a particular customer, which is 7 to 14 days. However, he explained that the company has no problem of late payments since all customers pay up in time, which means that there is no need to protect the company against possible default. He also revealed that the firm does not use factoring or invoice discounting.

COMPANY 8

Historical Background

This clothing company was incorporated in 1991 as a limited company. Its main product is designer club wear. In 1998 it had 11 employees and a turnover of £1m. The owner-manager of the firm, is 29 years of age with a background in the clothing industry where he worked for his father after leaving school with no qualification. In 1991 he started his own business with a burning desire "to make money". The main objective of the company is expansion, profitability and growth and to bring 'own brand' label to the level of other big names in the industry such as Versace and Gucci.

Data Sources

As with previous cases, the researcher spent twelve months of contact time with this company during which time he employed the variety of methods described in the methodology chapter to collect data from the owner-manager who was the sole decision-maker. He was interviewed three times after six months intervals. Equipment supplier who supplied equipment to Company 6 and 7 also supplied to this company and was interviewed once. The collection of data using these various methods previously described allowed the researcher to triangulate his comparison of data and consequently to ensure the validity of the findings that emerged.

Capital Expenditure

For this company capital investment means expenditure on all items of capital nature, including machinery, building, computers and software, the company car, furniture, and also calculators. The company uses the following machine tools for its production process:

[i] 6 Flat-bed sewing machines for sewing

[ii] 4 Overlockers for safety stitching

[iii] 1 Button Sewer for sewing buttons

[iv] 2 Pressing Units for pressing garments

[v] 2 Cutting Machines for cutting fabrics

[vi] 1 Button holes machine for making button holes

In terms of the shelf life of the machines the owner-manager indicated that "they last indefinitely". Although he was unable to be more specific with respect to the age of each piece of equipment he pointed out that some machines were 30 years old whilst others were 10 years old. He revealed that all the machines were purchased second hand at a cost of £4000 each and that the company has been buying equipment over the years since they started in 1991, adding to it every year. Asked whether he buys second hand machines as a matter of policy he replied that he buys them not as a policy but because they are cheap compared to the price of new machines. When asked about the difficulty of repairing and maintaining old machines, he replied:

> *"They are industrial machines, and it does not matter how old they are. Not many parts need to be changed. They are as good as new" [First Interview - 6/4/98].*

He added that these machines have no write off period as they tend to be used "for ever". It was established during this exploratory interview that the company has spent approximately £55,000 in the past 2 years on total investment and approximately £45,000 of this expenditure is for production equipment. It was difficult for the owner-manager to estimate the relationship between the cost of equipment and sales revenue since:

> *"Much of the machines are left here when we don't have large orders because our work is seasonal. When we are busy they are busy, but, I mean, each produces, when they are operated, 5000 units a day and generate £2500 profit a day. But they might only work two months in a year" [First Interview - 6/4/98].*

When asked about the frequency of purchase, the owner-manager revealed that he buys equipment only when it is necessary. Asked what he meant by this, he replied, "when we require it and when we can afford it". He also revealed that they had not purchased any major equipment recently. However, he disclosed that he was considering having a new floor built in the next few weeks which would enable them to buy new equipment in the autumn.

The company's production process was not affected by computers or information technology as "it is still a very old fashion industry". However, the company used computers and information technology for "sourcing clients" (i.e. sales through computer links with garment retailers in the UK and abroad) and for administrative purposes such as wages design, etc. When asked about the most technologically sophisticated equipment in the company, the owner-manager replied:

> *"The computers, I suppose. There is no most technologically sophisticated equipment. We don't use them. If you go to the big companies, they do. They use computerised laying table, cutting table, laser cutting pattern, etc. We don't use them. We are very basic. We do our design by hand" [Third Interview - 30/3/99].*

Investment decision-making process

It was established during the first interview with the owner-manager that investment decisions in this company are based on necessity. Therefore, there is no clearly defined process in reaching such decisions. The owner-manager explained:

> *"We don't have a big chain of command, being a small company. It's necessity. It's either you need it, you buy it or you don't. If you can get by with what you 've got, you stay as you are" [First Interview - 6/4/98].*

However, it took a second interview for the owner-manager to begin to 'open up' because the relationship between him and the researcher had started to develop. During this interview the owner-manager started to discuss more freely and revealed that in the

investment decision-making process he has to consider whether they can afford the machine, whether they can sell the extra product that the machine will produce ("can we sell that much?"), and whether they can finance the extra work the machine will do ("can we get the extra fabric?"). When asked how he decided whether or not they can afford the machine, the owner-manager explained that the price of the equipment is taken into consideration which usually includes the delivery costs. He also explained that to assess the extra product or the benefits to be derived from the new machine the owner-manager looked for the increase in production:

> *"You know how many garments are produced per machine. If you produce 10 garments a day on one machine, two machines will produce 20 garments a day. If you want to increase production, you buy more machines" [Second Interview - 14/10/98].*

Asked to explain what he meant by financing the extra work the machine will do, the owner-manager responded:

> *"Say, you bought a laying machine for example. If you can lay a hundred garments per hour by hand, and you can lay 500 garments an hour by a computerised machine, have you got the money to buy the extra fabric, employ extra machinist to machine the work, and all these questions. It's no good having a new machine of huge capacity if you can't afford to use the machine to its maximum. It's pointless, isn't it?" [Second Interview - 14/10/98].*

It was made apparent during this conversation that as part of the process of decision-making the owner-manager uses some form of budget, albeit in s simple mental calculation. The owner-manager explained this as follows:

> *"It is a sort of budget, you do it in your head. You might write it down or scribble it on a piece of paper but generally it is in your head. You do the calculation in your head. You may discuss it with your colleagues" [Second Interview].*

Realising how the owner-manager was beginning to open up and that the relationship

between him and the researcher had fully developed, the owner-manager was asked during the third interview to take the researcher through the different stages of the decision-making process. The owner-manager explained that because investment in his company was based purely on necessity the most important aspect of the decision-making process was the identification of investment need. Asked how investment need was identified, he explained that it was identified from the size of the order and whether or not they have the equipment to do the work. Specifically, the owner-manager explained:

> *"If we get a big order that we have got a date line we calculate how many units we can produce a day. Obviously, if it's not enough we buy the additional machinery. It is both customer driven and for increased capacity. We know the need from the orders. We know what we can produce a day" [Third Interview - 30/3/99].*

When asked if he uses the same decision-making process for all types of asset, the owner-manager replied: "only for major production equipment". He explained that the need to replace motor vehicles in this company was based on mileage of 60,000 miles. The owner-manager argued: "that's when the problem starts". Therefore, irrespective of whether or not the car is running perfectly well, it is replaced when that target mileage is reached. The owner-manager explained that since he buys second hand equipment the stages of the decision-making process is quite simple. Once the need for the equipment is identified they simply purchase the same type of machine that they have already got from retained profits. The owner-manager explained:

> *"For example, we know we are going to get a big order and orders are fourth coming from the clients at the end of the month. We then purchase the machine in advance, having them ready before the order comes in. So we are ready to go from day one. We read the literature from the manufacturers. As I said to you before we keep the same brand, the same type of machines. All we need is extra. Deciding on the investment finance, you 've got no choice. If you have the order you have to have the finance for the machinery. If you haven't got the money then you have to borrow. But we are not in that position. We don't have a cash flow problem" [Third Interview - 30/3/99].*

As with other cases in the study the extent of external inputs into the investment decision-making process was fully appreciated after a number of interviews, discussions and observations. During the first interview the owner-manager stated emphatically that external advice has never been used by this company for their investment decisions. Asked why not, he replied: "because we know what we are looking for". During this discussion the owner-manager argued that equipment suppliers play no role whatsoever in his investment decision-making. He explained:

> *"The machines we want are the one type we buy. Because we 've got eight already at one time we only stick to the one machine that we know" [First Interview - 6/4/98].*

During this interview the owner-manager disclosed that the company was considering having a new floor built in the next few weeks which would enable them to buy new equipment in the autumn. At the time of the second interview the researcher observed that the new floor had been built and that they had actually purchased 4 second-hand machines (2 Flat bed Sewing machines and 2 Overlockers). These were additional machines to increase capacity and exactly the same brand and type as their previous ones. When asked again about the decision-making process and specifically about the role of equipment suppliers, the owner-manager responded:

> *"As I said to you before we keep the same brand and the same type of machines because we are familiar with them" (tone suggests he is a little fed up with the question) [Second interview - 14/10/98].*

However, during the subsequent interview and observation, after the company had owned the additional machines for about 6 months, it became apparent that since these machines were additional machines then buying more of the same was not just a learning experience, it also had very tangible benefits in terms of maintenance and being able to switch parts between different machines, particularly as they buy second hand machines. By sticking to what they know and what they have got already, it is easier for them to repair and maintain because they are familiar with the equipment. The owner-manager

stressed:

> *"It's easier for the mechanic of the parts. When we want parts it will fit any of the machines. If we 've got different makes and models they won't fit the spare parts" [Third Interview - 30/3/99].*

In terms of planning it transpired that investment decisions in this company were not planned, but there was a clear and logical forward thinking, albeit for a very short period. The following remarks from the owner-manager explained the point:

> *"No, we don't plan as such. We don't have long-term plans, being a small company. You adapt to situations rather than plan so far ahead" [Second Interview - 14/10/98].*

It was also established during this discussion with the owner-manager that the main reason for investing in capital equipment in this company was "to increase production and turnover". The owner-manager stressed that all the machines in this company were for increased capacity. He pointed out that apart from the cutting machines

> *"there are no newer, better technology. They are all standard machines and they are used for increased capacity" Second Interview].*

It also emerged during the discussion that the sources of risk and uncertainty in this company are what the owner-manager described as "orders" and the company incorporates these risks and uncertainty into their investment decisions by considering how long their contracts have got to survive and if they cover the cost of spending extra money. He commented:

> *"You are only as good as the orders you get in. Everything else can be solved. Production is no problem" [Second Interview - 14/10/98].*

When asked specifically what the company does to boost sales, the owner-manager explained that the company invests a lot of money in advertising through literatures both

in English and foreign languages in order to reach foreign markets. The owner-manager also disclosed that the company also advertises through direct targeting, but does not carry out any formal market research. The owner-manger's response was:

> *"Well, for us, we have got all our literature in foreign languages trying to get the foreign markets. So, we expand the market we are trading in. So, instead of supplying one country we supply several. All our video promotional stuff is translated in to four foreign languages. We are spreading sales so that when one part of the market is quiet, the other one is busy. We advertise in direct sales through our reps, knocking on peoples' doors, direct targeting" [Third Interview - 30/3/99].*

During this discussion, the owner-manager revealed that the company also uses pricing decision to boost sales. He stated:

> *"Sometimes, you have to adjust the price to get a bigger order. The price is adjusted customer by customer. It depends. If we feel that we need to lower the margin, we will. If we don't think we need to, we keep our margin" [Third Interview - 30/3/99].*

The owner-manager explained it as a sort of market segmentation where the customers are charged not only according to their ability to pay but also according to whether it is the sort of customer that will give their custom on a longer term. He further explained that the company has a set price based on cost plus pricing which they can 'manipulate':

> *"We have our built-in percentage that we know we can drop down. If it is £1, for example, we know we can drop the price by 20% which is needed to get the order" [Third Interview - 30/3/99].*

The owner-manager also revealed that through a combination of informal market research and "knowledge of the market" they have developed a new product which they call "Spacemaker". He described it as a space saving device that doubles the amount of garment people can store in their stock rooms. He explained that this was diversification from the main products which was becoming their main product and "bringing in a lot of cash". In terms of investment constraint, it was made apparent right from the exploratory

interview with the owner-manager that it was finance. The meaning of this was investigated in the next section.

Investment financing process

Since the owner-manager believed that finance was the main investment constraint in this company, the researcher sought to discover the main sources of investment finance. Raising this issue with the owner-manager, it emerged that the main sources of finance for investment were:

[i] Retained profits
[ii] Government grants (Regional Selective Assistance)
[iii] Bank overdraft

When asked about the main advantage to this company of using retained profits to finance investment, the owner-manager revealed that it is a lot cheaper than borrowed money since "you are not borrowing, you are making use of your own money" and for this reason the owner-manager believed that there was "no possible disadvantage". Asked if the use of retained profits for investment purposes depletes working capital, the owner-manager explained that there was no such effect because he usually sets aside money for operational purposes. He disclosed that the only advantage of government grant is that it is free money, with the only string attached being that a certain number of people must be employed but added that "this is a condition the company has already fulfilled". The owner-manager also explained that there is a lot of paper work involved in government grants and that "they [government] are also sticking their nose in all the time". When asked about the advantages and disadvantages of using bank overdrafts for investment purposes, the owner-manager explained that the major advantage of bank overdraft is that "it gives you money when you need it". He pointed out that the disadvantages are that it is "expensive" and there is also "the risk of the bank withdrawing the facility at any time".

It was established right from the first discussion with the owner-manager that the company has never used bank loans for investment purposes apart from the mortgage for the building because they "don't believe in borrowing". The owner-manager believed that a company's growth should come from internally generated finance. He also believed that bank finance was expensive compared to internally generated funds:

> *"We don't borrow. We don't believe in it. We believe your growth should come from your profits, from your own money. There is no problem with the bank. It is only that you won't pay the interest if you have the capital yourself. It is expensive, it is expensive, it is expensive" [First Interview - 6/4/98].*

A subsequent discussion with the owner-manager about the extent to which financing alternatives were compared revealed that he does not compare alternatives but knows from "general business knowledge that bank loans will be more expensive" than using their own money:

> *"The bank rate will be greater than your own money. You know what interest rates are like from the newspapers and all that. I mean, when you 're in business you know what the business rate is. It is a simple thing. The interest rate they charge you will never be lower than the interest that they give you on your money. So, if you have money in the bank on deposit it is better to use that than to borrow" [Third Interview - 30/3/99].*

When asked if the company had ever had any financial difficulties caused by excessive borrowing, the owner-manager responded, "never". He believed that the ideal mix for his firm's capital structure is purely internally generated equity with no debts at all apart from the mortgage. The owner-manager also revealed that he was aware of a number of government financial assistance schemes available, but was only interested in Regional Selective Assistance (RSA, now withdrawn) which they had benefited from. He explained that these schemes were brought to the notice of the company through the local chamber of commerce but he suggested that other ways that such schemes could be brought to attention of the company should include advertisements through the media,

agencies, and VAT forms. Asked about how useful the RSA has been, the owner-manager responded, "very useful, in the sense that it helped us to move to our present premises". However, he complained that:

> *"there is so much paper work to get to that stage. It takes so long. Usually, when you need the money, you need it quickly, so it's the long route round" [Second Interview – 14/10/98].*

Cash Flow Management

As regards cash flow management the owner-manager revealed that at that particular moment the company was experiencing a slight cash flow problem but in general terms they don't normally have any such problems. He explained that the problem was brought about by the recent huge orders delivered by the company which exerted a great deal of pressure on the company's resources:

> *"The cause of this problem at this particular point in time is huge orders. We 've delivered two orders that was a half of our entire year's turnover in one month. So the company had to triple the workforce in the last three weeks by making use of 26 temporary staff" [Second Interview – 14/10/98].*

Asked how he dealt with cash flow problems, the owner-manager explained that in dealing with this problem the company falls back on bank overdraft facilities. He also explained that the company deals with big firms as customers, so there is no credit problems as they pay up in time. However, he pointed out that customers were allowed 30 days credit period, which is the industry norm, at the end of which all payments are made. Therefore, there was nothing like taking insurance to protect the business against possible default, nor was there any need to use factoring or invoice discounting for credit management. Apart from the fact that there is no real need to use factoring, the owner-manager believed that factoring is:

> *"very impersonal because you have another company phoning up the*

company that you have invoiced. It is rude. I think it is rude for another company to be chasing your customers for money" [Second Interview – 14/10/98].

APPENDIX 2

INTERVIEW PLAN

1. INFORMATION ABOUT THE FIRM:

1. Name of firm
2. Business Address
3. Nature of business
4. Main product(s)
5. Annual Turnover
6. Nature of incorporation
7. Year of incorporation
8. Number of employees
9. What is the main objective of the company?

2. INVESTMENT DECISIONS:

10. What type of equipment is mainly used in your production process?

11. Has the firm recently purchased any major equipment/assets?

12. If yes, what type of equipment/asset did you purchase?

13. If yes, when did you purchase this equipment/asset?

14. How often do you make this purchase?

15. Is the firm considering the acquisition of any equipment/assets at the moment?

16. Is the firm likely to acquire any major equipment/assets in the near future?

17. Are investment decisions planned in your company?

18. If yes, how far ahead are the plans prepared?

19. To what extent does the implementation reflect the plans?

20. To what extent is your business affected by computers/information technology?

21. For what purposes (or reasons) do you invest in capital equipment?

22. What are the main investment constraints in your firm?

3. THE EVALUATION PROCESS:

23. What is the process used in reaching the decision to acquire capital equipment?

24. How do you evaluate capital expenditure proposals? What evaluation techniques do you use?

25. How do you assess cash flows used in the evaluation?

26. What factors do you take into account in your investment evaluation?

27. If no evaluation, how is investment decision taken?

28. Do you use this process for all types of capital investment (including new manufacturing technology)?

29. If different, what methods do you use for new technology?

4. SOURCES OF INVESTMENT FINANCE

30. What are your main sources of finance for investment?

31. What are your experiences/difficulties in raising finance for investment purposes?

32. How does the shortage of investment finance affect your business?

33. Have you ever raised a loan from the bank for investment purposes?

34. If yes, to what extent are you satisfied with the services?

35. If no, why do you not use bank loans?

36. What do you see as being the ideal mix for your firm's capital structure?

5. INFORMATION ABOUT THE OWNER-MANAGER:

37. What is the status of the respondent in the firm?

38. How many owners are involved in the firm?

39. How many of these owners are members of the same family?

40. What is the age of the owner manager/director?

41. What is the sex of the owner-manager?

42. What is the level of education of the owner-manager (including management training/management qualification)?

43. What is the owner-manager's background?

44. What job were you doing before starting this business?

45. Why did you start your own business?

APPENDIX 3

FOLLOW-UP INTERVIEW PLAN

Investment Decisions

1. What do you mean by capital expenditure in your firm?

2. Are there any expenditures of capital nature which you do not capitalise? If yes, what are they? What is the rationale for it?

3. Last time you told me the types of equipment that you have:

(a) How old are these pieces of equipment?

(b) Did you buy them new or second-hand? Is this what you normally do? Is it a matter of principle?

(c) What is the period of write-off in respect of each of the equipment?

(d) What precisely is each of the equipment used for?

4. Last time you told me that computers/information technology have significant effect on your business:

(a) To what extent do you use computer systems for administrative purposes?

(b) To what extent do you use CAD/CAM in your business?

(c) To what extent do you use computer systems for quality control/ sales and distribution?

5. What factors might prevent you from using new technology in your company?

6. Have you ever used any consultancy or external advice (including advice from equipment suppliers) for your investment decisions?

7. If yes, which consultancy or advice did you use?

8. If no, would you consider using one if available?

9. How much, approximately, have you spent on total investment in the past 2 years?

10. How much of this expenditure, approximately, is for production equipment?

11. (For Company 3 only) Last time you told me that the main reasons for investing in capital equipment are:

[i] To rationalise production process

[ii] To reduce the unit cost of production; and

[iii] To be more competitive

Can you explain exactly what you mean by each of these reasons?

12. (For Company 3 only) Last time you informed me that the frequency of making investment decisions depend on the market. What did you mean by this?

13. Are investment decisions planned in your company? If yes, how far ahead is the plan made? If not, why not?

The Evaluation Process

14. Last time you informed me that you consider the price of the equipment as part of the investment evaluation process: Apart from the price quoted by the suppliers, do you include other costs as constituting the price?

15. You also consider "the use to which the equipment will be put": How do you do this? How do you assess the benefits?

16. (For Company 3 only) In assessing cash flows you ascertain the following cost per week with an appropriate margin:

[i] operating costs;

[ii] finance costs;

[iii] overhead costs, including energy cost; and

[iv] labour cost

Can you tell me what exactly you consider to form part of these costs?

17. (For Company 3 only) In evaluating investment proposals you specifically ask yourself the following questions:

[i] can the equipment pay for itself?

[ii] what is the fighting chance for it to pay for itself?

[iii] how do you get out of it if it is not going to pay for itself after a period of time -a sort of fall back position?

How does this approach evolve? Is it from experience or by analogy?

18. What are the sources of risk and uncertainty in your company? In your decision to make a capital expenditure do you take risk and uncertainty into consideration?

19. If yes, how do you incorporate risk and uncertainty into your decision? If no, why not?

20. Do you use the same evaluation process (or no formal method) for all types of capital assets, including new technology, buildings and motor vehicles?

Sources of Investment Finance

21. Last time you mentioned finance as being the main investment constraint in your firm. To what extent is this constraint affected by:

[i] interest rate

[ii] collateral security

[iii] bank charges

[iv] economic activity

[v] loss of control

[vi] general attitude of the bank

22. Last time you also mentioned that the main sources of finance for your company are:

[i] Retained profits (Company savings)

[ii] Bank overdrafts

[iii] Bank loans

[iv] Leasing/H

[v] Government grants (Regional Assisted Grant)

What are the advantages and disadvantages of these types of finance?

23. (For Company 2 only) Last time you mentioned "savings" as being an important source of investment finance for your company. What type of savings were you referring to?

24. What steps should the bank use to encourage you to use more of bank finance?

25. Are you aware of any government financial assistance schemes available?

26. If no, in what ways do you suggest they might be brought to your notice?

27. If yes, which of ones are you aware of? In what ways were they brought to your notice? Do you think that there are other ways these could have been brought to your notice?

28. Have you ever obtained financial assistance from the government? If no, have

you ever sought such assistance? If no, why not?

29. If yes, to what extent is/was the assistance useful?

30. How does this assistance help you with regard to other sources of finance (eg LGS)?

31. In your opinion what should the government do to help small firms in their investment decision-making?

32. (For Company 2 only) You mentioned last time that there is no sufficient support from the government as " government grants are only 7%". Which of the government grants were you referring to, and why would you "rather do without it"?

Cash Flow Management

33. Does the firm have a cash flow problem?

34. If yes, to what extent is the firm affected by this problem?

35. To what extent is this problem a constraint on investment decisions?

36. What do you think are the causes of the cash flow problem?

37. How do you deal with this problem?

38. How do you decide how much credit to give a particular customer?

39. What is the average credit period allowed to your customers? How do you decide

what credit period to allow?

40. What steps do you take ensure that payments are made in time?

41. How do you protect the business against possible default?

42. Have you ever used factoring/invoice discounting for your credit management?

43. If yes, how useful do you find it?

44. If no, why not?

APPENDIX 4

FOLLOW-UP INTERVIEW – THIRD ROUND

All Companies:

1. What is the approximate value and shelf life of each piece of equipment?

2. When was each piece of equipment purchased?

3. You said the other time that equipment is purchased new in your company as a matter of policy. What is the rationale for this?

4. What is the relationship between cost of equipment and sales revenue?

5. From the list of your production equipment which ones were straight replacements and which ones were for increased capacity?

6. What role is played by equipment suppliers on choice of particular equipment as opposed to others?

7. How do you decide on the optimal replacement policy for your motor vehicles?

8. What is the most technologically sophisticated equipment used at each stage of your manufacturing process (eg pre-press, press and finishing, in the case of printing industry; design and main production, in the clothing industry)?

9. What proportion of work do you carry out using the type of equipment at each stage of your manufacturing process?

10. Does any of these sophisticated equipment involve more than straight replacement for existing equipment? In other words, does the equipment add some value to the firm's existing capacity?

11. Last time you told me that you don't use bank term loans for your investment. Can you describe your past experience with the bank?

12. Have you ever had any financial difficulties caused by excessive use of borrowing?

13. To what extent does this experience affect your current choice of finance?

14. You told me the other time that the main source of risk and uncertainty in your firm is sales/diminishing or fluctuating orders. What steps do you take to reduce this uncertainty?

15 How do you identify the need for investment in your company?

16. Can you please take me through stage by stage or step by step what you do from the time you identify this need to the time the machine is installed?

17. The main source of finance for investment in your company is retained profits. To what extent are alternatives compared? What methods do you use to compare these alternatives?

All printing firms:

18. You mentioned last time that computer and information technology have a significant impact on your business so much that it is doubtful whether the company would survive without it. How would you classify your present

technological options (eg (i) conventional press, (ii) computer to plate (CTP), (iii) direct digital colour)? Why?

19. Specifically, how do you think your company is affected or likely to be affected by the following:

(i) development in *digital printing technology*

(ii) improvements in communications technology (eg ISDN, EDI, internet and e-mail)

(iii) development in electronic (or multi) media (eg CD-Rom, Web-page, and internet)

20. How do you respond to this technological developments?

21. To what extent is investment in new equipments influenced by its skills requirement? How?

22. You told me last time that your company does not use the services of a consultant. Are you a member of BPIF or the British Chamber of Commerce?

All Clothing firms

23. Last time you told me that investment decisions in your company depend on need. How do you identify this need?

24. Is your firm a CMT firm? If yes, to what extent is your relationship with customers critical?

Company 1

25. Last time you told me that you invest in a major asset every 4 to 5 years. Why is this so? What is the rationale for it?

26. Last time you told me that investment decisions are planned in your company in the form of budgets and cash flow forecasts, involving a team of directors, the owners and the managers. What is the input of the external accountant in the budget process?

27. Does the planning involve estimating the return on capital? How is this estimate done?

28. Last time you informed me that the main investment constraint in this firm is finance and that the lack of finance is the only factor that might prevent the company from using new technology. It was not very clear to me why you would not borrow from the bank in those circumstances?

29. You also told me the other time that the company had used the services of a private consultant once for investment decisions, although "not in a big way" and that you found it useful. Can you tell me in more detail in what way you found it useful?

30. The major part of your capital expenditure in the past two years, about £400,000, is for production equipment. What is the break down of this amount between various items?

31. The main source of finance for the company is the finance house (ie HP). How did you come to select the particular finance house that you are using? Were they recommended, for example, by a particular equipment supplier?

32. You said last time that the reason you don't use bank loans for investment purposes is that you get a better rate from the finance house. How did you investigate what was on offer from various options?

33. The company does not have a formula for investment evaluation, but you "do a

certain amount of planning in that respect". Can you take me through the process and stages of this "planning"?

Company 2

34. I noted the other time that your company is a 'second generation family firm'. The literature indicates that part of the small firms investment finance may come from internally generated funds such as retained profit or it may come from friends or family. To what extent does family dimension affect your investment financing decisions and the way other management decisions are made?

35. Last time you said that the frequency of making investment decisions depends on market needs. What precisely do you mean by 'market needs'? How do you assess market needs? Does it really depend on market needs or does it depend on how equipment is financed or on the cost and the availability of investment finance?

36. The main reasons for investing in capital equipment are to rationalise production process, to reduce the unit cost of production, and to be more competitive. Can you explain these points in more detail by relating them to what the firm is actually doing?

37. You told me that the company uses HP because it attracts lower interest than bank loans and for tax advantages. How did you evaluate alternatives?

38. You also told me that the major draw-backs of bank loans are high interest rates and excessive demand for collateral. I 'll like to know more about your experience in this respect?

39. During the last interview you mention that the banks are very reluctant to lend

sizeable amounts that will be adequate for investment purposes. Can you tell me more about your experience in this respect?

40. You also used the word "ridiculous" to describe the collateral the banks demand. Because other companies are telling me the same problem, can you tell me more about this experience?

41. In evaluating capital expenditure proposal you liase with your co-director and ask "can we afford it?". How do you decide whether or not you need the asset?

42. You also ask yourself "can the equipment pay for itself?". How do you assess this?

Company 3

43. Last time you told me that the overall objective of your company is profitability. Can you tell me how this translates into practice?

44. You also told me that the company buys all the computers new as a matter of policy, but the printing equipment is bought second-hand. Why? What is the rationale behind these different policies?

45. The main sources of investment finance for the company are HP and leasing. From whom do you obtain them?

46. Last time you told me that the banks are too greedy; that they want your house to allow £5000 to £10,000. To what extent is this based on your actual experience? Why would they require your house for a loan of £10,000?

47. You also told me that the shortage of bank finance does not affect the company

because you can borrow from other sources such as friends quite easily. Have you borrowed from friends or family members before for investment purposes? How often do you borrow from them for this purpose?

48. Last time you mentioned that interest rates, collateral, bank charges and the general attitude of the bank affect your decision not to use bank finance. Because other companies are telling me the same problem, can you tell me more about your experience in this respect?

Company 4

49. I noted on the last occasion that you hold a diploma in finance. To what extent do you think this qualification influence your approach to:

(i) financial management, and investment decisions in particular, and

(ii) management more generally?

50. Last time you told me that you do seek advice from equipment suppliers regarding investment decisions. What types of advice, precisely, do you ask from them? Does this include advice on financing? What is the nature of your relationship with them?

51. The last time I was here, you were negotiating with an equipment supplier for a Twin-needle machine in response to an urgent demand from a customer. Did you acquire that machine? To what extent have you used the machine again since then? Do you think there is a possibility of using the machine ever again?

Company 5

52. I noted last time that you have a degree in economics and have worked with a firm of Chartered Accountants before joining your family business. To what extent do

you think this qualification and experience affect your approach to:

(i) financial management, and investment decisions in particular, and

(ii) management more generally?

53. To what extent does family dimension influence decision making in your firm, being 'a second generation family firm?

54. The literature indicates that part of the small firms investment finance may come from internally generated funds such as retained profit or it may come from friends or family. To what extent does family dimension affect your investment financing decisions and the management structure?

Company 6

55. Last time you told me that in evaluating capital expenditure proposals you ask yourself the following questions:

(i) Can we afford the machine?

(ii) Can we sell the extra product that the machine will produce?

(iii) Can we finance the extra work the machine will do?

Can you explain a bit more about how you go about answering these questions?

APPENDIX 5

LETTER OF INTRODUCTION

4 St Andrews Close

London SE16 3BD

Tel: 0171 237 8190

14 March 1998

Dear sir/ madam

As part of my studies for a PhD in Finance at Middlesex University Business School, London, I am undertaking a study into Investment Decision-Making in the Small Manufacturing Enterprises. The study is concerned with how small manufacturing enterprises actually make investment decisions.

Since one of the problems facing small businesses/owner-managers is that of finance, the study will analyse how capital investment is financed; identify alternative sources of investment finance available; examine the advantages and disadvantages of the various sources; and will assess the relationship of these enterprises with their external funding bodies.

I would be very grateful if you could help me in this study by allowing me to come and speak to you about some aspects of your business. Any information you give will be kept confidential to the study and I also wish to assure you that the results of the findings will not bear the name of your company nor will it be possible to identify your company in any way.

If you require more information please do not hesitate to contact me.

I have enclosed herewith a stamped addressed envelope for your reply.

Thank you for your co-operation in this matter.

Yours faithfully

Signed

Ignatius Ekanem

APPENDIX 6

INTERVIEW PLAN FOR BUSINESS CONSULTANTS

1. As a consultant providing business support for employers in the printing industry, what role do you play in investment decisions in small printing firms?

2. What sort of advice do owner-managers seek from you?

3. In what circumstances do they seek advice?

4. What are their concerns and interests?

5. What are the main things that you stress in your advice?

6. To what extent do owner-managers seek your advice regarding their investment decisions?

7. How often do they consult you regarding their investment decisions?

8. To what extent do you think your role influences the decision of small firms to invest in a particular equipment?

9. What are the differences in the marketing strategies adopted by equipment suppliers in respect of small and large firms?

10. For what purposes (or reasons) do you think small firms invest in capital equipment?

11. From your experience of small firms, to what extent are investment decisions *planned*? How far ahead are the plans made?

12. What do you think are the main investment constraints in small firms?

13. What, in your experience, are the main sources of finance for investment in small firms?

14. What, in your opinion, are the difficulties of raising finance for investment purposes?

15. What steps should the banks take to encourage small firms to use more of bank finance?

16. What methods do small firms use for their investment appraisal?

17. What factors do you think owner-managers take into account in their investment evaluation?

18. In your opinion what should the government do to help small firms in their investment decision-making?

APPENDIX 7

INTERVIEW PLAN FOR EQUIPMENT SUPPLIERS

1. As a supplier of equipment, what role do you play in investment decisions in small firms?

2. To what extent do owner-manager seek your advice regarding their investment decisions?

3. How often do owner-managers consult you regarding their investment decisions?

4. To what extent do you think your role influences the decision of small firms to invest in a particular equipment?

5. For what purposes (or reasons) do you think small firms invest in capital equipment?

6. From your experience of small firms, to what extent are investment decisions planned? How far ahead are the plans made?

7. What do you think are the main investment constraints in small firms?

8. What, in your experience, are the main sources of finance for investment in small firms?

9. What, in your opinion, are the difficulties of raising finance for investment purposes?

10. What methods do small firms use for their investment appraisal?

11. What factors do you think owner-managers take into account in their investment evaluation?

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APPENDIX 9

GLOSSARY OF TERMS

ARR Accounting Rate of Return.
Investment appraisal method, which compares the average accounting profits with the book value of the asset acquired.

BOOT-STRAPPING
An approach to decision-making that is grounded in previous experience of key decision-makers and their organisations and the largely informal routines that they develop from this.

BPIF The British Printing Industries Federation.
The business support organisation for employers in the printing, packaging and graphic communications industries.

CAD Computer Aided Design.
Computerised Software for product design.

CAM Computer Aided Manufacturing.
Computerised Software for control of manufacturing operations. It monitors process and provides automatic feedback to control operation.

CMT Cut Make and Trim.
A company which provides quality cut make and trim (CMT) service at the right price. The relationship with its customers is that of sub-contract. The customers who are usually high-class retailers undertake all the design work and buy the cloth.

CTP — Computer to plate.

Presses that enable digital input into the platemaking process and speed up the work flow between pre-press and the press.

DCF — Discounted Cash Flow.

Investment appraisal methods, which take into account the time value of money by expressing future cash flows in their present day value.

IRR — Internal Rate of Return.

A DCF technique, which finds the rate which equates the present value of future benefits with the initial cash outlay.

ISDN — Integrated Services Digital Network.

A communication network, which allows the digital transfer of data between typesetters, reproduction houses, studios, and between printers and customers.

LGS — Loan Guarantee Scheme.

Under the scheme, the government guarantees loans made to small firms by banks and other financial institutions under conditions, which would make conventional lending impossible.

MIS — Management Information Systems.

Systems which assist in the organisation and speed of flow of the digital processes and assess the cost-effectiveness of operations.

NPV — Net Present Value.

A DCF technique, which takes all the cash flows generated by an investment, both negative and positive, discounts them at the appropriate discount rate and sums up the discounted values. If the result is positive,

the project should be accepted. If the result is negative, the proposal should be rejected.

OWNER-
MANAGER

The small business owner with decision making concentrated solely in his hands. The term is also used to refer to entrepreneur. In this study, there were one or two of such people in each organisation who were closely involved in running the business on a day to day basis.

PAYBACK

Investment appraisal technique, which calculates the time taken for an investment to generate sufficient cash flows to recover the initial capital outlay.

POH Pecking Order Hypothesis.

The hypothesis suggests that the financing of investment is undertaken by first using internally generated funds such as retained earnings, then resort to debt when retained earnings are used up, and finally to equity when borrowing limits have been reached.

RSA Regional Selected Assistance (now withdrawn).

A discretional government grant, which can be made available to eligible projects in most manufacturing industries.

SME Small and Medium Enterprises.

Usually defined as one, which has less than 250 employees. For the purposes of this research, a small firm is one, which has less than 50 employees. The term 'small firm' is used in this research interchangeably with small business, small enterprise or small company.

APPENDIX 10

INTERVIEW SCHEDULE/RECORD

Company	1	2	3	4	5	6	7	8
Type of company	Printing	Printing	Printing	Printing	Clothing	Clothing	Clothing	Clothing
1st Interview (dates)	31/3/98	2/4/98	1/4/98	2/4/98	13/4/98	1/4/98	6/4/98	6/4/98
Length of interview	1 hour	55 minutes	1 hour	50 minutes	1 hour	52 minutes	48 minutes	1 hour
2nd Interview (dates)	5/10/98	5/10/98	7/10/98	7/10/98	13/10/98	15/10/98	15/10/98	14/10/98
Length of interview	1hr.20min	1hr.15min	1hr.30min	1hr.10min	1hr.30min	1hr.20min	1 hour	1hr.25min
3rd Interview (dates)	1/4/99	7/4/99	7/4/99	6/4/99	13/4/99	13/4/99	30/3/99	30/3/99
Length of interview	1hr.15min	1hr.05min	1hr.20min	1 hour	1hr.15min	1hr.10min	1 hour	1hr.10min