Measuring State-owned Health Care Organisations Board Performance, Accounting for National Culture: The Case of Greece

A thesis submitted to Middlesex University in partial fulfilment of the requirements for the degree of

DOCTORATE OF PROFESSIONAL STUDIES in Corporate Governance

Leonidas Paraskevopoulos (M00251132)

DSP 5200

NOVEMBER 2018

Abstract

Background and Objective: The performance of public hospitals is a concern to communities seeking to improve the health status of their citizens. Previous research provides support for the argument that at least in some ways organisational effectiveness is related to governance effectiveness, and the strengthening of the board members competencies might improve governance. There is a need for constructing valid and reliable board self-assessment survey instruments based specifically on public (state owned) hospital board competencies models that could be useful for board performance improvement. The main aim of this study is to investigate board performance and cultural issues. The ultimate aim is to develop board performance models considering public hospitals, taking into account cultural differences, suitable for improving governance.

Methodology: A questionnaire survey was conducted to gather data related to board competencies in public hospitals in Greece, and to national culture. Board competencies models were developed, and empirically tested, modified and retested using the Structural Equation Modelling (SEM) approach.

Findings: Six valid and reliable self-administered questionnaires were constructed to measure board competencies in public hospitals in Greece, taking into account national culture. The estimated non-culturally invariant board governance competencies average scores would indicate that the public hospital boards in Greece performed well in the analytical arena, were politically sensitive to the various constituencies, were strong from a strategic standpoint, and also, on the interpersonal or nurturing aspects among the board members, as well as in terms of understanding the context of the healthcare environment. There seemed to be less emphasis and less strength in the educational competence, which may indicate a need for greater board instruction and development.

Originality/value: The study is unique in that board performance models taking account of cultural issues for public hospitals have never been developed so far. The product, for practical use, of the research project is the constructed board performance self-assessment survey instruments for improvement measures, to be used for improving governance of public hospitals in Greece.

Table of Contents

List of Tables	vi
List of Figures	ix
List of Abbreviations	xi
Thesis Structure	1
Chapter 1: Introduction	5
Chapter 2: Terms of reference/objectives and review of relevant literatu	
other information	
2.1 Introduction	9
2.2 Aims and objectives	9
2.3 An overview of the subject	11
2.4 Literature review on the role of board of directors in the governance of	
economic organisations	16
2.4.1 Agency Theory (AT)	
2.4.2 Transaction-Cost Economics (TCE)	
2.4.3 Resource Dependence Theory (RDT)	
2.4.4 Institutional Theory (IT)	
2.4.4.1 Institutional Theory and national culture	
2.4.5 Group/Decision Process Theories (G/DPT)	25
2.4.6 Board Development (BD)	27
2.4.7 Stewardship Theory (ST)	27
2.4.8 Managerial Hegemony Theory (MHT)	28
2.4.9. Stakeholder Theory (StT)	28
2.5 Research on Governing Board Competencies	29
2.6 Research on board effectiveness and organisational effectiveness	31
2.7 Culture and governance	36
2.8 Background and context information	43
2.9 Conclusions	47
Chapter 3: Research Methodology	48
3.1 Introduction	48
3.2 Philosophical Paradigms in corporate governance and cultural studies	49
3.3 Methodological research design	53
3.3.1 The choice of quantitative research family	55
3.4 Data collection technique	56
3.5 Data analysis methods	60
3.6 Ethical considerations	63

3.7 The role of the researcher	64
3.8 Conclusions	65
Chapter 4: Research Activity	66
4.1 Introduction	66
4.2 Identification of variables and formulation of analysis hypotheses	66
4.2.1 A board performance conceptual model	66
4.3 Preliminary data analysis	76
4.3.1 Nonresponse effect	76
4.3.2 Screening of data	77
4.3.2.1 Missing data	77
4.3.2.2 Univariate outliers	77
4.3.2.3 Multivariate Outliers	77
4.3.2.4 Non-randomness	78
4.4 Data estimation methods	78
4.4.1 About Exploratory Factor Analysis methods adopted in this research	79
4.4.1.1 Why EFA for the six board competencies	79
4.4.1.2 Adopted measure of association	
4.4.1.3 Adopted method for factor extraction	
4.4.1.4 Appropriateness of data for factor analysis	
4.4.1.5 Adopted method for factor retention	
4.4.1.6 About questionnaire validity and evaluation in EFA	
4.4.2 About Confirmatory Factor Analysis methods adopted in this research	
4.4.2.1 About model fit and fit indices	
4.4.2.2 Tests of absolute fit	89
4.4.2.3 Tests of Relative Fit	
4.4.2.4 About model modification	92
4.4.2.5 Application of CFA to test model validity	
4.4.2.6 Measurement model invariance across cultural groups	
4.5 Conclusions	96
Chapter 5: Research results and analysis	97
5.1 Introduction	
5.2 Preliminary results	
5.1.1 Demographic data	
5.1.2 Descriptive map of the board of directors in public hospitals in Greece	
5.1.3 Descriptive statistics of the board competencies, and national culture dimension statements	
5.3 Board Performance Competency Questionnaires Factor Analyses	. 112
5.3.1 Contextual Competency	
5.3.1.1 Exploratory Factor Analysis	
5.3.1.2 Confirmatory Factor Analysis	
5.3.1.2.1 Construct validity	
5.3.1.2.2 Monitoring and accountability function of the board of directors and	110
uncertainty avoidance	116
	0

5.3.1.2.3 Re-specification of the CC model for taking into account national	
5.3.1.2.4 Construct validity	122
5.3.1.2.5 Measurement (M1) CC model invariance	123
5.3.2 Political Competency	126
5.3.2.1 Exploratory Factor Analysis	126
5.3.2.2 Confirmatory Factor Analysis	128
5.3.2.2.1 Construct validity	129
5.3.2.2.2 Connection to community of the board of directors and collectivis	
5.3.2.2.3 Re-specification of the PC model for taking into account national	
5.3.2.2.4 Construct validity	
5.3.2.2.5 Measurement PC model invariance	
5.3.3 Strategic Competency	
5.3.3.1 Exploratory Factor Analysis	
5.3.3.2 Confirmatory Factor Analysis	
5.3.3.2.1 Construct validity	
5.3.4 Analytical Competency	143
5.3.4.1 Exploratory Factor Analysis	
5.3.4.2 Confirmatory Factor Analysis	
5.3.4.2.1 Construct validity	
5.3.4.2.2 Consultation in group decision making and power distance	
5.3.5 Interpersonal Competency	
5.3.5.1 Exploratory Factor Analysis	151
5.3.5.2 Confirmatory Factor Analysis	154
5.3.5.2.1 Construct validity	156
5.3.5.2.2 Group interactions of board members for group problem solving a	and
femininity	157
5.3.5.2.3 Re-specification of the (M2) IC model for taking into account nation	onal
culture	161
5.3.5.2.4 Construct validity	162
5.3.5.2.5 Measurement (M3) model invariance	163
5.3.6 Educational Competency	166
5.3.6.1 Exploratory Factor Analysis	166
5.3.6.2 Confirmatory Factor Analysis	168
5.3.6.2.1 Construct validity	170
5.4 Measuring board competencies in public hospitals in Greece	171
5.5 Conclusions	172
Chapter 6: Conclusions and Recommendations	174
6.1 Introduction	174
6.2 Evaluation of empirical findings	174
6.2.1 Public hospital board competencies models	
6.2.2 Public hospital board competencies data collection	
6.2.3 Effects of national culture on the board competencies models	
6.2.3.1 Uncertainty Avoidance and board's monitoring function (Contextual	
Competency)	177
6.2.3.2 Individualism / Collectivism and board's connection to the community	(Political
Competency)	179

6.2.3.3 Power Distance and consultation in decision making (Analytical Compete 6.2.3.4 Masculinity / Femininity and interpersonal relations among board direct (Interpersonal Competency)	tors
6.2.4 A tool to be used for strengthening Greek public hospital board governance	100
competencies	181
6.2.5 Implications for Greek public hospital boards' performance improvement	181
6.3 Policy Recommendations	185
6.4 Areas of future research	189
Chapter 7: Epilogue – Reflections on Impact and professional learning	192
7.1 The impact of the research	192
7.1.1 Contribution to innovation	192
7.1.2 Board self-assessment instrument's impact	192
7.1.3 Board self-assessment instrument's implementability	193
7.2 Reflections on professional learning and development	194
Endnotes	199
References	203
Appendix I: Forms of Approval by Greek Health Authorities (in Greek)	
Appendix II: Questionnaire of the Pilot Study (in Greek)	
Appendix III: Data analyses methods	
Appendix IV: The datasets	240
Appendix V: Descriptive statistics, Pilot Study	251
Appendix VI: Normality Check. Skewness and Kurtosis of the Variables o	of the
Six Board Competencies	256
Appendix VII: Culturally invariant questionnaires of public hospital boar	·d
competencies (in Greek)	259
Appendix VIII: Questionnaire of the Survey Research	261
Appendix IX: Glossary of Terms	276
Appendix X: Board Self-Assessment Questionnaire (in Greek)	279

List of Tables

Table 2.1: Board Governance Theories	11
Table 2.2: Hofstede's Cultural Variables and links to organisational behaviour	14
Table 2.3: Board Performance Models for Non-profits	16
Table 2.4: Hofstede's Cultural Dimensions	38
Table 3.1: Population of the study	59
Table 5d.1: Public Hospitals in Greece, by size (beds number), 2013	99
Table 5d.2: Women participation in the Boards of public hospitals in Greece, 2013	100
${\it Table 5d.3: Women \ participation \ in \ the \ Boards \ of \ public \ hospitals \ in \ Greece, \ by \ hospital}$	size (ir
beds number), 2013	100
Table 5d.4: Man participation on the Boards of public hospitals in Greece, 2013	100
${\sf Table\ 5d.5:\ Man\ participation\ on\ the\ Boards\ of\ public\ hospitals\ in\ Greece,\ by\ hospital\ size\ (}$	in beds
number), 2013	101
Table 5d.6: CEOs professions in NHS public hospitals, Greece, 2013	101
Table 5d.7: CEOs professions in NHS public hospitals, Greece, by hospital size, 2013	102
Table 5d.8: CEOs professions in NHS public hospitals, Greece, 2010-2014	102
Table 5d.9: Structure of public hospital boards in Greece, by board members professions	, 2010
2014	102
Table 5d.10: Contextual Competency statements	104
Table 5d.11: Political Competency statements	105
Table 5d.12: Strategic Competency statements	106
Table 5d.13: Analytical Competency statements	107
Table 5d.14: Interpersonal Competency statements	108
Table 5d.15: Educational Competency	109
Table 5d.16: Individualism/Collectivism dimension statements	110
Table 5d.17: Power Distance dimension statements	110
Table 5d.18: Masculinity/Femininity dimension statements	111
Table 5d.19: Uncertainty Avoidance dimension statements	112
Table 5.1: Univariate descriptive statistics for the 12 Contextual Competency statements .	117
Table 5.2: Adequacy of the correlation matrix of the CC statements	
Table 5.3: Overall Factor Analysis statistics of the CC statements	
Table 5.4: Factor loadings of the CC statements	
Table 5.5: Significant factor loadings based on sample size	
Table 5.6: Chi-square difference test CC model	
Table 5.7: Factor loadings by UA Group of the CC model	
Table 5.8: Chi-square difference test CC model	
Table 5.9: Univariate descriptive statistics for the eight Political Competency statements	
Table 5.10: Adequacy of the correlation matrix of the PC statements	
Table 5.11: Overall Factor Analysis statistics of the PC statements	
Table 5.12: Factor loadings of the PC statements	
Table 5.13: Significant factor loadings based on sample size	
Table 5.14: Chi-square difference test PC model	
Table 5.15: Factor loadings by I/C Group of the PC model	
Table 5.16: Chi-square difference test PC model	
rable 5.25. cm square affective test i e model	±50

Table 5.17: Univariate descriptive statistics for the 12 Strategic Competency statements	138
Table 5.18: Adequacy of the correlation matrix of the PC statements	139
Table 5.19: Overall Factor Analysis statistics of the SC statements	139
Table 5.20: Factor loadings of the SC statements	140
Table 5.21: Significant factor loadings based on sample size	140
Table 5.22: Univariate descriptive statistics for the 9 Analytical Competency statements	143
Table 5.23: Adequacy of the correlation matrix of the AC statements	
Table 5.24: Overall Factor Analysis statistics of the AC statements	144
Table 5.25: Factor loadings of the AC statements	
Table 5.26: Significant factor loadings based on sample size	144
Table 5.27: Chi-square difference test AC model	
Table 5.28: Factor loadings by PD Group of the AC model	151
Table 5.29: Univariate descriptive statistics for the 10 Interpersonal Competency statement	ts 152
Table 5.30: Adequacy of the correlation matrix of the CC statements	
Table 5.31: Overall Factor Analysis statistics of the IC statements	
Table 5.32: Factor loadings of the IC statements	
Table 5.33: Significant factor loadings based on sample size	
Table 5.34: Chi-square difference test IC (M ₂) model	
Table 5.35: Factor loadings by M/F Group of the IC (M ₂) model	
Table 5.36: Chi-square difference test CC model	
Table 5.37: Univariate descriptive statistics for the 12 Strategic Competency statements	
Table 5.38: Adequacy of the correlation matrix of the PC statements	
Table 5.39: Overall Factor Analysis statistics of the SC statements	
Table 5.40: Factor loadings of the EC statements	
Table 5.41: Significant factor loadings based on sample size	
Table 5.42: Average scores on the six board competencies, public hospitals in Greece and di	
non-profit organisations in the USA	
Table 5.43: Culturally invariant questionnaires of public hospital board competencies*	
Table IV.1: Polychoric correlation matrix of the 12 Contextual Competency statements	240
Table IV.2: Polychoric correlation matrix of the 12 Contextual Competency variables in EFA	
Table IV.3: Polychoric correlation matrix of the 6 Contextual Competency variables in CFA	241
Table IV.4: Polychoric correlation matrix of the 5 CC variables	
Table IV.5: Polychoric correlation matrix of the 5 Contextual Competency variables of the	
Uncertainty Avoidance Group	_
Table IV.6: Polychoric correlation matrix of the 5 Contextual Competency variables of the	
Uncertainty Avoidance Group	
Table IV.7: Polychoric correlation matrix of the 8 Political Competency statements	
Table IV.8: Polychoric correlation matrix of the 8 Political Competency variables in EFA	
Table IV.9: Polychoric correlation matrix of the 7 Political Competency variables in CFA	
Table IV.10: Polychoric correlation matrix of the 7 Political Competency variables o	
Individualistic Group	
Table IV.11: Polychoric correlation matrix of the 7 Political Competency variables o	
Collectivistic Group	
Table IV.12: Polychoric correlation matrix of the 12 Strategic Competency statements	
Table IV.13: Polychoric correlation matrix of the 12 Strategic Competency variables in EFA.	
Table IV.14: Polychoric correlation matrix of the 8 Strategic Competency variables in CFA	
Table IV.15: Polychoric correlation matrix of the 10 Analytical Competency statements	
Table IV.16: Polychoric correlation matrix of the 9 Analytical Competency variables in EFA	

Table IV.17: Polychoric correlation matrix of the 5 Analytical Competency variables in CFA245
Table IV.18: Polychoric correlation matrix of the 5 Analytical Competency variables of the High PI
Group245
Table IV.19: Polychoric correlation matrix of the 5 Analytical Competency variables of the Low PI
Group246
Table IV.20: Polychoric correlation matrix of the 10 Interpersonal Competency statements246
Table IV.21: Polychoric correlation matrix of the 10 Interpersonal Competency variables in EFA
246
Table IV.22: Polychoric correlation matrix of the 10 Interpersonal Competency variables in CFA
247
Table IV.23: Polychoric correlation matrix of the 10 Interpersonal Competency variables of the
Masculine type Group24
Table IV.24: Polychoric correlation matrix of the 10 Interpersonal Competency variables of the
Feminine type Group24
Table IV.25: Polychoric correlation matrix of the 12 Educational Competency variables in EFA 248
Table IV.26: Polychoric correlation matrix of the 12 Educational Competency variables in CFA248
Table IV.27: Runs Test, 84 variables (SPSS)
Table V.1. Contactual Competency statements, pilot study
Table V.1: Contextual Competency statements, pilot study
Table V.3: Strategic Competency statements, pilot study
Table V.4: Analytical Competency statements, pilot study
Table V.6: Educational Competency, pilot study
Table V.7: Reliability statistics, pilot study
Table V.8: Runs Test, pilot study
Table VI. 1: Skewness and Kurtosis for Analytical Competency Items256
Table VI. 3: Skewness and Kurtosis for the Contextual Competency Items
Table VI.4: Skewness and Kurtosis for the Educational Competency Items
Table VI.5: Skewness and Kurtosis for the Interpersonal Competency Items
Table VI.6: Skewness and Kurtosis for the Political Competency Items
Table VI.7: Skewness and Kurtosis for the Strategic Competency Items
Table VI.7. Skewiless and Ruitosis for the strategic competency items
Table 6.1: Hofstede's culture indices for Greece

List of Figures

Figure 5d.1: Respondents, in age categories, in percent	98
Figure 5d.2: Respondents, in years of formal school education, in percent	98
Figure 5d.3: Respondents, in categories of paid job, in percent	
Figure 5d.4: Structure of public hospital boards in Greece, by sex, 2010-2014	
Figure 5d.5: CEOs professions in NHS public hospitals, Greece, 2010-2014	
Figure 5d.6: Structure of public hospital boards in Greece, by board members profe	
2014	103
Figure 5.1: Contextual Competency measurement model with six statements iden	tified in EFA
	115
Figure 5.2: Contextual Competency (Mo) GLS model	116
Figure 5.3: Contextual Competency High UA Group GLS model	118
Figure 5.4: Contextual Competency Low UA Group GLS model	118
Figure 5.5: Constrained CC measurement model	119
Figure 5.6: Constrained GLS model – High UA Group	120
Figure 5.7: Constrained GLS model – Low UA Group	120
Figure 5.8: Contextual Competency (M ₁) GLS model – UA Invariant	122
Figure 5.9: Contextual Competency UA Invariant GLS model – High UA Group	123
Figure 5.10: Contextual Competency UA Invariant GLS model – Low UA Group	124
Figure 5.11: Contextual Competency UA Invariant Constrained GLS model	125
Figure 5.12: Political Competency measurement (M_0) model with seven statements	identified in
EFA	128
Figure 5.13: Political Competency (M ₀) GLS model	129
Figure 5.14: Political Competency GLS model - Individualists	131
Figure 5.15: Political Competency GLS model - Collectivists	131
Figure 5.16: Political Competency constrained measurement model	132
Figure 5.17: Political Competency constrained GLS model – Individualists	133
Figure 5.18: Political Competency constrained GLS model – Collectivists	133
Figure 5.19: Political Competency GLS model – I/C Invariant	135
Figure 5.20: Political Competency I/C Invariant GLS model – Individualists	136
Figure 5.21: Political Competency I/C Invariant GLS model – Collectivists	137
Figure 5.22: Political Competency I/C Invariant Constrained GLS model	137
Figure 5.23: Strategic Competency measurement (M ₀) model with eight statements	identified in
EFA	140
Figure 5.24: Strategic Competency (M _o) GLS model	141
Figure 5.25: Strategic Competency (M ₁) GLS model	142
Figure 5.26: Analytical Competency measurement (M ₀) model with five statements	identified in
EFA	145
Figure 5.27: Analytical Competency Initial (M ₀) GLS model	146
Figure 5.28: Analytical Competency Modified (M ₁) GLS model	147
Figure 5.29: Analytical Competency (M ₁) GLS model – High PD Group	148
Figure 5.30: Analytical Competency (M ₁) GLS model – Low PD Group	149
Figure 5.31: Analytical Competency (M ₁) constrained measurement model	149
Figure 5.32: Analytical Competency (M ₁) constrained GLS Model – High PD	150
Figure 5.33: Analytical Competency (M ₁) constrained GLS Model – Low PD	150

Figure 5.34: Interpersonal Competency measurement model with six statements identified in EFA
Figure 5.35: Interpersonal Competency re-specified (M ₁) model154
Figure 5.36: Interpersonal Competency re-specified (M ₁) GLS model155
Figure 5.37: Interpersonal Competency Modified (M ₂) GLS model156
Figure 5.38: Interpersonal Competency (M_2) GLS model - Masculine type Group158
Figure 5.39: Interpersonal Competency (M ₂) GLS model - Feminine type Group158
Figure 5.40: Constrained IC measurement (M ₂) model159
Figure 5.41: Constrained (M ₂) GLS model – Masculine type Group160
Figure 5.42: Constrained (M ₂) GLS model – Feminine type Group160
Figure 5.43: Interpersonal Competency GLS (M ₃) model – M/F Invariant162
Figure 5.44: Interpersonal Competency M/F Invariant (M ₃) GLS model – Masculine type Group 163
Figure 5.45: Interpersonal Competency M/F Invariant GLS (M ₃) model – Feminine type Group
Figure 5.46: Interpersonal Competency M/F Invariant (M3) Constrained GLS model – Masculine type Group
Figure 5.47: Interpersonal Competency M/F Invariant (M3) Constrained GLS model – Feminine type Group
Figure 5.48: Educational Competency measurement model with eight statements identified in EFA
Figure 5.49: Educational Competency (M _o) GLS model
Figure 5.50: Educational Competency re-specified (M ₁) GLS model170
Figure 6.1: The initial models of public hospital board competencies, taking into account national culture
Figure 6.2: Culturally invariant models of Greek public hospital board competencies178

List of Abbreviations

AC	Analytical Competency
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of MOment Structures
AT	Agency Theory
AU	Uncertainty Avoidance
AVE	Average Variance Extracted
BD	Board Development
CC	Contextual Competency
CEO	Chief Executive Officer
CFI	Comparative Fit Index
CLM	Classical Linear Modelling
CIT	Critical Incidents Technique
CR	Composite Reliability
GSAC	Governance Self-Assessment Checklist
DF	Degrees of freedom
EMU	Economic and Monetary Union
EU	European Union
G/DPT	Group/Decision Process Theories
GFI	Goodness of Fit Index
GLOBE	Global Leadership and Organizational Behaviour Effectiveness
GLS	Generalised Least Square
GSI	Group Styles Inventory
I/C	Individualism vs. Collectivism
IMF	International Monetary Fund
IT	Institutional Theory
KMO	Kaiser-Meyer-Olkin test
M/F	Masculinity vs. Femininity
MIs	Modification Indices
МоН	Ministry of Health
MoU	Memorandum of Understanding
MRFA	Minimum Rank Factor Analysis
MSA	Measure of Sampling Adequacy
NHS	National Health System
NATO	North Atlantic Treaty Organisation
OECD	Organisation for Economic Co-operation and Development
OSCE	Organisation for Security and Co-operation in Europe
PA	Parallel Analysis
PCA	Principal Component Analysis
PD	Power Distance
RDT	Resource Dependence Theory
RHA	Regional Health Authority
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling

SPSS	Statistical Package for Social Sciences (IBM Corp., 2012)
TCE	Transaction Cost Economics
TLI	Tucker-Lewis Index
UN	United Nations

Thesis Structure

Chapter 1: Introduction

The first chapter outlines the reasoning behind the selection of the subject area of this research and presents its main aims and objectives. The current study intends to extend the governance research on public organisation boards, especially in the area of strengthening board competencies. The main objective of this study is to develop board performance models considering public hospitals, taking into account cultural differences, suitable for improving governance. The product, for practical use, of the research project is constructed valid and reliable board performance self-assessment survey instruments for improvement measures, to be utilised in the future for improving governance of public hospitals in Greece.

Chapter 2: Terms of reference/objectives and review of relevant literature and other information

The second chapter sets the research objectives which needed to be carried out to realise the aim, an overview of the subject, and the literature that influenced the research. The research study is about governing boards. Boards exist in the corporate, non-profit and public sectors, acting on behalf of shareholders, stakeholders, and stakeholders with close relationships and accountabilities to the state, respectively. The literature survey centres on the theoretical perspectives that intent to explain the role of the board of directors in the governance of economic organisations.

Chapter 3: Research Methodology

The third chapter describes and justifies the research approach and the data collection technique. It also provides a detailed description of the data analysis methods and explores the role of the author as a researcher. Corporate governance research has been dominated by the quantitative research approach within the positivist scientific paradigm. The proper nonexperimental design is survey research which is outcome oriented and assumes natural laws and

mechanisms, with the primary mode of the research inquiry being theory-testing or deduction. This research uses theories and hypotheses that are based on current thinking and at the same time this Researcher has direct experience of the phenomenon for a thorough understanding and less requisite in generating detailed information (e.g. with in-depth interviewing and other qualitative methods), which in the boardroom context is not practically feasible. When complex phenomena have already been sufficiently understood to warrant an attempt at generalisation to a population rather than to a theory, then Structural Equation Modelling (SEM) may be the only appropriate quantitative technique to use. The statistical methods in SEM allow modifications of the model and retesting, with the final goal, as in this research, of constructing research instruments for measuring board performance in public hospitals. This study involved the researcher as an outside observer with no intention to influence any variables, but only to measure them.

Chapter 4: Research Activity

The fourth chapter provides a detailed look at the exploratory research phase and describes the investigation process for the identification of the research constructs, the variables, and the initially hypothesised measurement models. It also includes a detailed description of the data estimation methods throughout the research. The research constructs and their related statements were identified for which discernible patterns must statistically be researched for. For every construct, an exploratory investigation of the underlying pattern of relationships among the statements would reveal if the questionnaire is uni- or multi-dimensional and, therefore, the hypothetical and measurement models can be designed. Factor analysis can be done in an exploratory fashion to reveal patterns among the inter-relationships of the statements. These statements reflect the causal impact of the 'latent' underlying board competencies. In measurement research for validating a questionnaire with a given or hypothesised factor structure, Confirmatory Factor Analysis (CFA) is used.

Chapter 5: Research results and analysis

The fifth chapter includes the results of the various analyses conducted for this study. The main section consisted of the results of exploratory and confirmatory factor analyses and invariance tests between culture groups, for constructing valid and reliable questionnaires to measure board competencies in public hospitals in Greece, taking into account national culture. The results of the CFAs and the invariance tests between the relevant cultural groups on the measurement instruments of public hospital board competencies in Greece indicated six culturally invariant self-assessment questionnaires as valid and reliable (see Table 5.43). When a board has knowledge of what competencies are essential for improved performance, plans can be developed and implemented to enhance behaviours and competencies. By conducting the self-assessment culturally invariant questionnaires they can be instrumental in developing improvement plans for board performance, resulting in stronger organisational performance.

Chapter 6: Conclusions and Recommendations

The sixth chapter provides the conclusions drawn from the research results and addresses the terms of reference/objectives set in chapter 2. Policy recommendations related to this research product are also discussed along with some areas for further research that have emerged from this research. The board competencies of public hospitals were found to be related to particular dimensions of national culture. To mitigate shirking from monitoring by the board in high Uncertainty Avoidance cultures detailed administrative rules should be written proscriptively. In collectivist constituencies, healthcare system reforms concerning public hospitals should not be attempted without securing well in advance the widest social acceptance possible to be implemented successfully. In feminine cultures, the general conclusion of the Group/Decision Process Theories that the effectiveness of an organisation's governance system relies on an effective board operating well together as a team is probable to be realised. Women participation in the board enhances femininity and, also, protects the

decision-making process from the pathology of 'groupthink'. Public hospital boards should engage in programmes of ongoing development and improvement using well tested, evidence-based tools, as part of the governance processes that are formulated and specified in governance guidelines.

Chapter 7: Epilogue – Reflections on Impact

This final chapter summarises the research's impact and discusses the implications for the main stakeholders. Finally, a holistic reflective review of the author's personal learning and professional experience gained throughout the research process is also provided. The board competencies models have been enriched to be useful for any sector and cultural setting. The research dimension of the project is significant in the context of public hospital governance and, also, of great interest to the Greek Ministry of Health since it is ultimately accountable for Health System's governance. The research instrument and documentation for implementation in the Greek language will be available to the Greek public hospital boards, and their executive directors to self-evaluate board competencies. Self-evaluation gives the board a means to comply with the requirements of legitimacy. The Middlesex University DProf program of studies gave me the opportunity to apply my academic knowledge and professional experience to analyse the problem of the ineffectiveness of control, monitoring, and oversight over the public hospitals of the Greek National Healthcare System in a broader scientific topic. As a practitioner on governance and as a researcher I've learned how to apply and justify aims and objectives, evaluate theories and research methodologies, analyze and synthesize data, ideas, theory, and proper research tools, create new understandings of economic problems, understand the underpinning values, manage my own learning, realize the weaknesses of own research, argue for alternative approaches, and communicate the research results.

Chapter 1: Introduction

The performance of public hospitals is a concern to communities seeking to improve the health status of their citizens. Research provides support for the argument that at least in some ways organisational effectiveness is related to governance effectiveness, and the strengthening of the board members competencies might improve governance (Bradshaw, Murray, & Wolpin, 1992; Green & Griesinger, 1996; Jackson & Holland, 1998; Gill, Flynn, & Reissing, 2005; Herman & Renz, 2008). Although the relationship of board performance to a hospital performance is, therefore, an issue of concern, very few studies have been conducted on the governance of public (state owned) healthcare services organisations.

Previous research has identified board competencies that seemed to capture the elements essential to effective governance in non-profit organisations in general (Holland, Chait, & Taylor, 1989) while they are supported by the manifold governance theoretical perspective (Brown, 2005). The current study intends to extend the governance research on public organisation boards, especially in the area of strengthening board competencies. There is a need for constructing valid and reliable board self-assessment survey instruments based specifically on public hospital board competencies models that could be useful for board performance improvement.

Governance research on public hospitals could use the information from non-profits. Board competencies models have been used successfully in a particular context (non-profits in the USA), although they do not take into account complicated constraints across sectors and societies (Jackson & Holland, 1998; McDonagh, 2006). Notwithstanding, due to the fact that work has already been done for non-profits, to build a framework, such as board competencies for public hospitals, may not need a grounded theory study. The basic idea of this research is to use the competencies of effective board performance of non-profits for constructing board performance models for public hospitals, suitable for improving governance, taking into account national culture. By enriching board

competencies models to take into account cultural values and creating a research framework for testing and modifying for certain sector and cultural setting, the models become universal. In such a case, however, until the different aspects are empirically tested, no evidence can be supported. The argument is that the developed picture from a literature review facilitates validation research of the board competencies developed for non-profits, taking account of the cultural differences, by using public hospitals country specific data. Such public hospital competencies models can be developed, and empirically tested, modified and retested using the Structural Equation Modelling (SEM) approach, with data from public hospitals operating in Greece.

State-owned healthcare services organisations in Greece are administered by a semi-independent board of directors, composed of executive and nonexecutive members appointed by the government, and also of elected personnel representatives. The fact is that public hospitals in Greece are inadequate today, monitoring and oversight within the system are insufficient, the control of medical professionals is loose, and public hospitals face both administrative and financial problems (Mossialos & Allin, 2005).

The main aim of this study is to investigate board performance and cultural issues. The ultimate aim is to contribute to the understanding of governance competencies in public healthcare services organisations, for cultural groups that have not been sufficiently explored. The main objective of this study is to develop board performance models considering public hospitals, taking into account cultural differences, suitable for improving governance. The product, for practical use, of the research project is constructed valid and reliable board performance self-assessment survey instruments for improvement measures, to be employed in the future for improving governance of public hospitals in Greece.

The methodological framework of this research includes two research phases (i.e. the exploratory, and the confirmatory). By this methodological research design, ample information from the non-profit sector in the USA national culture was culturally modified to study a relevant sector in a different national culture.

In the first phase (i.e. exploratory) by applying an investigation process (i.e. literature review) the research constructs and the initially hypothesised measurement models were identified, and by collecting survey data from certain sector (i.e. public hospitals) and national culture (i.e. Greek), the strength of the measurement models was possible to be accessed and the final theoretical models to be developed.

The second phase (i.e. confirmatory) of the research framework includes a testing process in which empirical testing was conducted, one for the overall dataset, and a second for each cultural variable group created, for verifying or disconfirming the hypothetical board competencies models. The sample was segmented into groups by national culture variable levels (i.e. high and low). This categorization of the sample allowed the understanding of the board performance perceptions within a cultural context. The statistical methods used allowed modifications of the models and retesting for goodness of fit, with the final goal to construct research instruments for measuring public hospitals board performance in the certain national culture context.

The scope of this research is constrained to study one particular aspect of culture which is national identity (Hofstede, 1980). Board members from a single country (i.e. Greece) were employed in the survey. Another approach for studying the effect of culture on board performance would be to include board members from various countries known to be of different cultural characteristics. This project does not involve itself in providing a means of comparison between countries in terms of board performance.

The scope of this research is also limited by applying already established models of the concepts of interest (i.e. models for board performance, and the national culture model), rather than seeking an understanding of them from scratch. Both categories of models treat the concepts of interest as measurable variables through the use of scores.

This research will contribute to the empirical literature on public hospitals by developing board competencies models to be used as board improvement

measures. The study is unique in that board performance models taking account of cultural issues for public hospitals have never been developed so far. The produced valid and reliable board performance instruments will be available for public hospital boards in Greece to implement. This approach intends to give to the Boards options for board development that they offer greater promise than traditional, regulatory, prescriptive approaches (e.g. those developed by BoardSource - https://boardsource.org). The economic and social importance for Greece of such models has never been greater, considering the currently Greece's public finance straits. The Greek Ministry of Health intends by using the product of this research to provide public hospital boards with educational information on the factors that contribute to positive board effectiveness. This information is essential for planning strategies to strengthen board performance that could result in stronger organisational performance, which includes better quality patient care, improved productivity, improved efficiency, and stronger financial results.

Chapter 2: Terms of reference/objectives and review of relevant literature and other information

2.1 Introduction

The second chapter sets out the terms of reference of this research, what was investigated, the research boundaries, and the background and context information. The literature review explains how the research was influenced.

2.2 Aims and objectives

The main aim of the research is to investigate board performance and cultural issues. Specifically, to investigate how culture determines board performance. The ultimate aim is to contribute to the understanding of governance competencies in public hospitals, for cultural groups that have not been explored. The research objectives which need to be carried out to realise the aim, are:

- 1. To hypothesise board competencies models;
- 2. To develop a base of information about board competencies, drawn from actual experiences of board directors in Greek public hospitals;
- 3. To design a research framework to study the effect of national culture on board competencies;
- 4. To empirically assess the effect of national culture on the hypothesised models;
- 5. To equip public hospital boards with tools to be used for strengthening board governance competencies;
- 6. To describe implications, that emerge from the research in public hospitals for board performance improvement.

The first objective above was carried out in the exploratory research phase. Applying an investigation process the research constructs and the initially hypothesised measurement models were identified. The second objective was achieved by collecting survey data from certain sector (i.e. public hospitals) and national culture (i.e. Greek). By achieving this objective, the strength of the measurement models was possible to be accessed and the final theoretical models to be developed.

The third objective concerns the issue of avoiding using national culture measures at the individual level, because of statistical problems. With the adopted methodological framework the sample of the second objective was segmented into groups by national culture variable levels. This categorisation of the sample allowed the understanding of the board performance perception within a cultural context.

The fourth objective was carried out in the second phase (i.e. confirmatory) of the research framework in two stages; one for the overall dataset and a second for each cultural variable group created (i.e. the third objective). The statistical methods used allowed modifications of the models and retesting for goodness of fit, with the final goal to construct research instruments for measuring public hospitals board performance in a national culture context, which is the fifth research objective. These tools are going to be freely available to public hospitals boards in Greece to be used for strengthening their governance competencies. The variable estimators produced by the statistical analyses in this research phase made possible a description of the implications for board performance improvement in public hospitals, which is the sixth objective of the research project.

By meeting the first five of the above research objectives, the board competencies models have been enriched to be useful for any sector and cultural setting. Additionally, by meeting the sixth objective, a contribution to the understanding of governance competencies in public hospitals has been made.

The scope of this research was constrained to study one particular aspect of culture which is national identity. Board members from a single country (i.e. Greece) were employed in the survey. Another approach for studying the effect of culture on board performance would be to include board members from various countries known to be of different cultural characteristics. This research does not involve itself in providing a means of comparison between countries in terms of board performance.

The scope of this research was also limited by applying already established models of the concepts of interest (i.e. the competencies models for board performance in non-profits, and the Hofstede's cultural model), rather than seeking an understanding of them from scratch. All models treat the concepts of interest as measurable variables through the use of scores.

The competencies models for board performance have been used successfully in a particular context (non-profits in the USA) but do not take into account complicated constraints across sectors and societies. By enriching competencies models to take into account cultural values and creating a research framework for testing and modifying for certain sector and cultural setting, the models become universal. This is the benefit gained by having culturally informed board competencies models.

2.3 An overview of the subject

The research study is about governing boards. Boards exist in the corporate, non-profit and public sectors, acting on behalf of shareholders, stakeholders, and stakeholders with close relationships and accountabilities to the state, respectively. Several theoretical perspectives (see Table 2.1) help explain the role of boards in the governance of economic organisations.

Table 2.1: Board Governance Theories

Theories & Main Contributors The Role of Board of Directors **Agency Theory (AT)**. The agency The governing board of an economic relationship is defined as a contract organisation or institution acts on under which one or more persons behalf of the principal (i.e. owner or (the principals) engage another (the equity holder or the state) to control agent) to perform some service on the agent (managing director) by means their behalf which involves delegating of monitoring his actions or behaviour, some decision-making authority to and incentive alignment (of an ex-ante the agent. type). The assumption is that the directors of the board, inserted Berle & Means (1932), Jensen & between the principal and the agent, Meckling (1976) act in the best interest of the principal, fulfilling their legal and fiduciary duties.

Note: The theory did not predict the corporate scandals that swept the USA in 2002 (e.g. Enron, WorldCom) or the subprime mortgage crisis during 2007-2009 in the USA (Financial Crisis Inquiry Commission, 2011) and it has been argued that it should be augmented with additional theoretical explanations.

Transaction-Cost Economics (TCE).

The essence of economic organisation is to craft governance structures that economise on bounded rationality while simultaneously safeguarding transactions against the hazards of opportunism.

Coase (1937), Williamson (1985)

The board of directors arises endogenously as a control instrument that should be aligned with and serve as an instrument of the residual claimants – namely, the equity in organisations in which investments in durable, specialised (nonredeployable) physical assets are significant.

Note: Williamson considers that TCE joins economics with organisation theory and selected aspects of the law (Williamson, 2007).

Resource Dependence Theory (RDT). Suggests that organisations are not autonomous, but rather are constrained by their institutional environments including such societal institutions as governments, financial institutions, and other important external stakeholders.

Pfeffer & Salancik (1987)

The resource dependence tasks entail board directors acting as boundary spanners who link the organisation and its environment. Board directors can deliver information to influence exogenous decisions, thereby helping to create favourable environmental contexts. Moreover, the need for external financial capital involves relationships between those inside the organisation and others outside.

Note: In many ways, the predictions of RDT are similar to those of TCE, but it also shares some aspects of Institutional Theory.

Institutional Theory (IT). Views organisation as a social entity integrated into the institutional and value structures constituting the culture of a society, yet seeking legitimacy, resources, and ultimately survival by conforming its structures to institutional norms.

Meyer & Rowan (1977), DiMaggio & Powell (1983)

A key assumption is that organisations of the same type become increasingly isomorphic, or similar, to those in their environment over time. Therefore, the board of directors is the result of institutional forces.

Note: Institutional isomorphism occurs through coercive, mimetic, or normative processes.

Group/Decision Process Theories (G/DPT). Research has identified a number of styles to characterise the dimensions of interpersonal and group interaction (i.e. constructive, passive, and aggressive), that have been measured with the Group Styles Inventory.

...

McGrath (1984), Cooke & Laffety (1988), Cooke & Szumal (1994)

Groups and their interactions have been shown to have an impact on the effectiveness of group problem-solving. In the Decision Process Model, the effective organisation is defined as one that optimises the process of getting, storing, retrieving, allocating, manipulating, interpreting, and discarding information. The rationale is that if certain internal processes are performed successfully, then the desired ends will more likely result. Seashore (1983)

The model focuses on the decision processes used by organisations to achieve their purposes and has been used to assess board performance (Green & Griesinger, 1996).

At the board level, if the correct procedures and processes are fulfilled the board will add value to the organisation.

Note: Most of the research focused on work groups and self-help groups, but the reported research on peer groups that resemble the board of directors is sparse. Peer groups are one particular type of group where the members are in effect similar in skills and abilities and/or social status and power (Hare & O'Neill, 2000).

Board Development (BD). Based on human resource management (i.e. human capital development) and volunteer management literature, board development activities have been developed concerning, among others, recruitment, orientation, and evaluation.

A broad range of books and articles offer job descriptions, definitions, models and templates related to board structures and processes.

Carver (2006), Block (1998)

Note: All are based on practitioner experience, not empirically tested.

While AT, TCE & RDT, and IT have persuasive points about the existence and the role of boards, there has not been any research to support that one theory is superior to the others. Yet, research on groups and decision process theories might provide evidence to support the opinion that the effective oversight of an organisation exceeds the capabilities of any individual and that collective knowledge and deliberation are better suited to this task (Forbes & Milliken, 1999). Consequently, the interest for board development is reasonable, because effective governance might be enhanced by board development practices.

Interestingly, an empirical study (Li & Harrison, 2008) provides strong support for the argument that norms embedded in a society's culture, affect organisational structure at the board level and that IT is a framework for analysing board composition and leadership structure across national cultures. IT identifies formal norms about board structure — as components of national culture. My

argument is that if a board's structure expresses the culture of a society, then it should be related to the cultural dimensions identified by Hofstede (1980). Hofstede has identified four major dimensions of national culture (see Table 2.2) and has linked these cultural dimensions to organisational behaviour (Hofstede, Hofstede, & Minkov, 2010).

Table 2.2: Hofstede's Cultural Variables and links to organisational behaviour

Variable	Interpretation			
The extent to which the members of a culture feel threatene				
	by uncertain or unknown situation	ons.		
Uncertainty Avoidance	<u>High UA</u>	Low UA		
(UA)	- emotions to be shown	- emotions not to be shown		
(37.1)	- expressive people	 quiet/controlled people 		
	-what is different is dangerous	- what is different is curious		
	a formalisation organisation stru			
The state of the s	and records to limit discretion and	a monitor activities (Horstede,		
1980; Hofstede, Neuijen, Oha	•			
The extent to which the less powerful members of institutions				
	and organisations within a co	untry expect and accept that		
Power Distance	power is distributed unequally.			
(PD)	<u>High PD</u>	<u>Low PD</u>		
	- centralized power	 decentralized power 		
	- tall hierarchies	- flat hierarchies		
	- superior/subordinates	- equal		
	unequal			
	anisations prefer strong authority	= 1		
	ng social order and its related di	•		
	ures organisations are more dec	entralised, and there is more		
consultation in decision makir	ng (Hodgetts & Luthans, 1993).			
	The extent to which individuals are integrated within			
	Groups.			
Individualism vs.	<u>Individualism</u>	<u>Collectivism</u>		
Collectivism	- right to privacy	- group invades private life		
(I/C)	- individual decisions	- group decisions		
	- laws and rights same for all	- laws and rights per group		
	- everyone looks after himself	- group protect individuals		
Note: Collectivist values have	been linked to preferences for g	roup consensus over individual		
decision making (Hofstede, 19	980).			
	The extent to which roles of women versus men are different in			
	the society.			
Masculinity vs. Femininity (M/F)	Masculinity	<u>Femininity</u>		
	- focus on work goals	- focus on personal goals		
	- assertiveness/competitive	- modesty		
	- concern for material success	- concern for quality of life		
Note: Quality of work–life issues and attention to interpersonal relationships are consistent				
with a 'feminine' culture (Schuler & Rogovsky, 1998).				
with a fermine culture (Schulet & Rogovsky, 1990).				

He found that high uncertainty avoidance is associated with formalisation and that high power distance is associated with strong authority and steep hierarchies. Hofstede's framework has been widely validated (Sondergaard, 1994) and provides a reasonable representation of national cultural attributes (Hickson, 1996).

Governing boards are under increased scrutiny because of failures of corporations and an erosion of public trust, and the issue of board governance effectiveness or the extent of fulfilment of key functions by the boards is the focus. The performance of public hospitals, which are the type of economic entities under the focus of this research, is a concern to governments seeking to improve the health status of citizens. The board performance of a public hospital is possibly related to organisation's performance. It is empirically supported that ineffective governance results in inefficient financial and resource use and, therefore, the community's needs are inadequately served (Bradshaw, Murray, & Wolpin, 1992; Green & Griesinger, 1996). The majority of board research appears to be focused on the corporate sector and the non-profits while fewer studies have been conducted on public boards. To our knowledge, research on the desired characteristics of boards in state-owned hospitals doesn't exist.

In non-profits, the most comprehensive literature on board competencies (i.e. of a group-level type, as opposed to individual board member type mostly common in the practitioner's empirical literature) evolved from Holland, Chait, & Taylor (1989). They identified six competencies of the effective board (see Table 2.3). Their studies focused on non-profits operating in the USA. Drawing on specific practices recorded from structured interviews with trustees, they developed the self-administered Board Self-Assessment Questionnaire (BSAQ) composed of six questionnaires that tapped the six board competencies.

Table 2.3: Board Performance Models for Non-profits

Variable	Interpretation
Contextual	The board understands and takes into account the culture, values, mission,
	and norms of the organisation it governs.
Educational	The board takes the necessary steps to ensure that members are well
	informed about the organisation, the professions working there, and the
	board's roles, responsibilities, and performance.
Interpersonal	The board nurtures the development of its members as a group, attends to
	the board's collective welfare, and fosters a sense of cohesiveness and
	teamwork.
Analytical	The board recognises complexities and subtleties of the issues it faces, and it
	draws upon multiple perspectives to dissect complex problems and to
	synthesise appropriate responses.
Political	The board accepts that one of its primary responsibilities is to develop and
	maintain healthy two-way communications and positive relationships with
	key constituencies.
Strategic	The board helps envision and shape institutional direction and helps ensure a
	strategic approach to the organisation's future.

The BSAQ is the only empirically tested instrument available for practitioners and researchers to objectively assess the performance of a board. In a study of non-profit hospital boards in the USA, McDonagh (2006) found that the six competencies of the BSAQ are all important for effective boards. Strategic focus, in particular, was found to be related to the measure of organisational effectiveness. Hence, Chait, Holland, & Taylor (1993) have suggested that those competencies, identified in their studies, could have implications for boards of public, state-owned, institutions. In a research funded by the National Institute for Health Research (NIHR) Health Services and Delivery Research (HS&DR) (Mannion et al., 2016), the six dimensions of the BSAQ were validated by doing a factor analysis applied to ordinal data, justifying its use in the context of the English NHS. The authors believe that 'the availability of contextually-validated instruments such as BSAQ has the potential to stimulate better grounded research on Board governance' (p. 285).

2.4 Literature review on the role of board of directors in the governance of economic organisations

Since Ronald Coase's famous article *The Nature of the Firm* appeared in 1937, mostly economists and legal scholars have devoted considerable attention to the internal governance of the economic organisation. The governance of economic organisations and institutions by boards of directors is an important dimension

of civil society although the influence of boards or groups of decision makers often goes unnoticed. Boards exist in the corporate sector (acting on behalf of shareholders), the non-profit sector (acting on behalf of stakeholders), and in the public sector (acting on behalf of stakeholder with close relationships and accountabilities to the state). Several theoretical perspectives help explain the role of the board of directors in the governance of economic organisations. Next, the relevant theories will be presented, in brief.

2.4.1 Agency Theory (AT)

The modern economic organisation has been described as a nexus of contracts (written and unwritten) among various parties (stakeholders), each contributing one or more factors of production (e.g. labour, land, capital in its various forms, raw materials) in exchange for a claim of one sort or another on the organisation's cash flow (Jensen & Meckling, 1976). If all the stakeholders' actions could accurately be observed, or if perfectly enforceable contracts could be written that delineate the responsibilities of each stakeholder to the others in the contract nexus, under all possible future contingencies, there would be no scope for hidden, self-interested action or opportunistic exploitation of hidden information by anyone stakeholder, at the expense of others. Unfortunately, people are not sufficiently foresighted, nor are careful monitoring a sufficiently low-cost activity, to bring about these ideal circumstances. Hence, controlling and coordinating the actions of various stakeholder groups - preserving, in other words, the nexus of stakeholder contracts - constitutes one of the chief challenges facing economic organisations operating around the world, and the so-called corporate governance problem (i.e. identifying and balancing competing stakeholder claims).

Problems of co-ordination and control can be separated into two broad categories, though; those associated with the separation of ownership from control and those associated with a contractual exchange among separate economic organisations. Problems of the first type are the main focus of the so-called agency theory (AT) literature, mostly associated today with the writings of

Michael Jensen and William Meckling (1976) and, before them, with that of Adolph Berle and Gardiner Means (1932). The agency relationship is defined as 'a contract under which one or more persons (i.e. the principal(s)) engage another person (i.e. the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent' (Jensen & Meckling, 1976, p. 308). The principal faces two problems with the agent: moral hazard and adverse selection. Moral hazard is the lack of effort put forth by the agent or the misuse of principal's recourses to cater the agent's interests. In other words, 'managers who pursue their own best interests may select different strategies than managers who pursue the interests of shareholders and maximize firm value' (Hoskisson & Turk, 1990, p. 462). Adverse selection is the misrepresentation of ability by the agent. Agents are motivated to misrepresent their private information to achieve their own goals. Solving these problems results in agency costs by the principal. Monitoring can solve both moral hazard and adverse selection, but it may be costly. Principals minimize agency costs by balancing the cost of monitoring, the cost of risk shifting (in contracting), and the cost of unresolved agency problems. The governing board of an economic organisation or institution acts on behalf of the principal (i.e. owner or equity holder or the state) to control the agent (i.e. managing director) by means of monitoring his actions or behaviour, and incentive alignment (of an ex-ante type). Without a governing board, one ends up with a never-ending series of monitors monitoring lower-level monitors since all members of the hierarchy are themselves agents of the organisation with incentives to shirk. The assumption is that the directors of the governing board, inserted between the principal and the agent, act in the best interest of the principal, fulfilling their legal and fiduciary duties. In other words, the board of directors acts as an internal control mechanism addressing the conflicts of interests among the manager and the shareholders to bring their interests into congruence (Hoskisson & Turk, 1990, p. 423). In public (state-owned) organisations the agency theory link between principals and agent is broken down into two relationships: (1) the citizens to the politician; (2) the politician to the manager. Buchanan (1972) and Niskanen (1971) have argued that politicians impose objections that might help them to

gain votes, but that might conflict with efficiency. The public board's role is to balance its functions from undue political influence (W. F. West & Durant, 2000). Agency literature, therefore, focuses on the internal management of the organisation. Linkages, or contracts, among other stakeholders, particularly those between the organisation and its counterparts in commercial trade (e.g. customers, suppliers, and subcontractors) are relegated to the domain of arm's-length market transactions where it is implicitly assumed that they will be properly controlled so long as markets are reasonably efficient and competitive. Agency theory is the dominant theoretical perspective in corporate governance and board research (Hoskisson & Turk, 1990).

2.4.2 Transaction-Cost Economics (TCE)

The economics literature, then, dealing with problems of the second type, socalled transaction-cost economics (TCE), and setting of central importance the continuity of commercial relationships, is most commonly associated today with the work of Oliver Williamson (1985) and, before him, that of Ronald Coase (1937). The origins of the TCE approach lie in the 'Coase Problem' of firm boundaries, that is, how to explain why vertical integration (i.e. hierarchy) rather than markets characterize the organisation as an economic entity and places greater emphasis than AT (the nexus of contracts approach) on bounded rationality and opportunism. Bounded rationality, a term coined by Simon (1955), observes that human decision makers simply can't process all of the information available to them. Opportunism arises when one party exploits its advantage, arising from the nature of the situation or from the information available unilaterally. According to Williamson, incomplete contracting is a consequence of the first, while added contractual hazards result from the second. Court enforcement of contracts is slow and costly to uphold original agreements. Absorbing important upstream suppliers or downstream customers provide greater control over the transaction stream and relieves some of the hazards of self-interested opportunism, but often at the expense of efficiency. The highpowered incentives provided by competitive markets cannot be replicated inside the organisation, while 'bureaucratic disabilities' (i.e. internal politicization of decision making, or overexpansion of managerial capabilities), as Williamson labels them, may emerge. The essence of economic organisation is thus to 'craft governance structures that economize on bounded rationality while simultaneously safeguarding the transactions in question against the hazards of opportunism' (Williamson, 1988, p. 569). This approach focuses on ex-post governance structures to ensure the integrity of the (typically incomplete) contract. Therefore, the board of directors arises endogenously as a control instrument and that should be aligned with and serve as an instrument of the residual claimants - namely, the equity in organisations in which investments in durable, specialized (not-redeployable) physical assets are significant. Specialized investments in support of the contract are for the TCE approach the condition of bilateral dependency and for taking transactions out of markets and organise internally (i.e. hierarchy). In this respect, TCE approach resembles 'Resource Dependence Theory' (RDT), which comes from Organisational studies. Actually, Williamson considers that TCE joins economics with organisation theory and selected aspects of the law (especially contract law) (Williamson, 2007). The procurement of external resources is an important tenet of both the strategic and tactical management of any economic organisation. A theory of the consequences of this importance was formalized with the work of Pfeffer & Salancik (1987). RDT has implications regarding the optimal divisional structure of the organisation, recruitment of board members and employees, production strategies, contract structure, external organisational links, and many other aspects of organisational strategy. RDT is one of many theories of Organisational Studies regarding the behaviour of organisations.

2.4.3 Resource Dependence Theory (RDT)

RDT suggests that organisations are not autonomous, but rather are constrained by their institutional environments including such societal institutions as governments, financial institutions, and other important external stakeholders (Pfeffer & Salancik, 1987). One way to respond to constraints caused by environmental dependence is to control the source of that dependence (J. D. Thompson, 1967). The most extreme way to control the source of the

dependence is to absorb it through merger or acquisition. Organisations also use less extreme strategies for managing their dependence by modifying the environment through lobbying, associations, or consortia (Finkelstein & Hambrick, 1996). According to RDT, the resource dependence tasks entail board directors acting as boundary spanners who link the organisation and its environment. For example, in an environment where political and legal forces are strong, directors may have to deal with authorities such as local and federal governments (Burns & Wholey, 1993). Board directors can deliver information to influence exogenous decisions, thereby helping to create favourable environmental contexts. In this respect, a board of directors is considered to be a 'cooptative' mechanism to form links for accessing valuable resources and to buffer the organisation against adverse environmental change (Hendry & Kiel, 2004, p. 503). Moreover, the need for external financial capital involves relationships between those inside the organisation and others outside. Organisations frequently invite onto their boards of directors representatives of banks to which they are heavily indebted (Mizruchi, 1996). Directors who have powerful outside contacts can provide needed financial capital to the organisation (D'Aveni, 1990). It has been advocated that appointed board directors representatives of important external constituencies serve as resource providers of the following types: (a) advice and counsel, (b) legitimacy, (c) channels for communicating information to other organisations, and (d) assistance in obtaining resources or commitment from important outside elements (Hoskisson & Turk, 1990). In many ways, the predictions of RDT are similar to those of TCE, but it also shares some aspects with Institutional Theory (IT) (DiMaggio & Powell, 1983; Boyd, Haynes, & Zona, 2011, p. 1901)

2.4.4 Institutional Theory (IT)

IT views the organisation as a social entity integrated into the institutional and value structures constituting the culture of a society, yet seeking legitimacy, resources, and ultimately survival by conforming its structures to institutional norms. Such norms are a part of the external social environment in which organisation is embedded and arguably the institutional forces in a society lead

to the emergence of organisational structures that 'make organisations more similar without necessarily making them more efficient' (DiMaggio & Powell, 1983, p. 147) or even get in the way of effective organisational performance (D'Aunno, Sutton, & Price, 1991). A key assumption of IT is that organisations of the same type become increasingly isomorphic, or similar, to those in their environment over time. Institutional isomorphism occurs through coercive, mimetic, or normative processes (DiMaggio & Powell, 1983). Coercive isomorphism occurs as a result of explicit regulative processes. Fear of sanction serves as a powerful constraint on behaviour. Sources of coercive pressure to conform come from mandates in the organisational, legal, and funding environments. Mimetic isomorphism occurs when one organisation copies a course of action from another organisation because the imitating organisation is uncertain about how to proceed in a given situation. Organisations mimic the behaviour of others that they perceive to be more legitimate or successful (Miller-Millesen, 2003). It has been argued that the 'average non-profit organisation must manage itself as well as the best-managed ones do' (Drucker, 1998). Normative isomorphism stems from the pressure to professionalize. Professionals play an important part in developing the normative basis for a wide range of organisational structures and processes that signal operational legitimacy. Organisations engage in behaviours that enhance normative approval and legitimacy (Meyer & Rowan, 1977). The growing representation of nonshareholder stakeholders on the corporate board of directors (Luoma & Goodstein, 1999), and reliance on governance consultants to learn about good governance practices are examples of normative isomorphism. The underlying rationale for such behaviours is to develop operational procedures that legitimate the board activities. The overall legitimacy of business is derived from the perceived legitimacy of corporate governance practices within a nation (Judge, Douglas, & Kutan, 2008, p. 769). Moreover, the practitioner-oriented literature places a great deal of responsibility on the board by insisting that the organisation fulfils its basic legal and ethical responsibilities (i.e. coercive isomorphism). Finally, a board of directors may create subcommittees not because there is evidence that this is an effective method of organising but rather because committees are considered to be the appropriate way to structure the work of the board (i.e. mimetic isomorphism).

2.4.4.1 Institutional Theory and national culture

IT identifies formal norms about board structure — as components of national culture. As indicated previously (i.e. section 2.3), if a board's structure expresses the culture of a society, then it should be related to the cultural dimensions identified by Hofstede which he has linked to organisational behaviour. He found that high uncertainty avoidance is associated with formalization and that high power distance is associated with strong authority and steep hierarchies. Hofstede's framework has been largely validated (Sondergaard, 1994) and provides a reasonable representation of national cultural attributes (Hickson, 1996).

In particular, the Hofstede's concept of UA is a lack of tolerance for ambiguity and concerns response to unstructured and ambiguous contexts. People in high UA cultures perceive a higher level of risk and uncertainty in a given situation (Nooteboom, Berger, & Noorderhaven, 1997), yet there is greater need to seek out information to reduce ambiguity and, therefore, detailed controls are more likely to conform to the societal norms than vague or informal controls (Hofstede, 1980). In such a situation, a formalisation organisation structure provides legitimacy as it relies on rules, procedures, and records to limit discretion and monitor activities (Hofstede, 1980; Hofstede et al., 1990). For a society with high UA cultures, the societal norms would imply that a board of directors has more outside members to appear legitimate by incorporating a broader range of expertise, and, therefore, access to more varied sources of information than insiders, for managing uncertainty in its formal governance structure (Li & Harrison, 2008). Also, group/decision process theories research support the argument that more diverse groups have more skills and abilities with which to solve complex problems and consequently have greater information processing capabilities. In his review of studies in social phycology about individual and group performance, Hill (1982, pp. 524-525) concluded that group productivity

seemed to be determined by the most competent member, plus 'assembly effects' when group members pooled their resources and corrected each other's errors. Consistent results with the group research and with implications to top teams and strategic decision making were reported by Haleblian & Finkelstein (1993, pp. 857-859). They found that a large team as an important informationprocessing variable brings increased capabilities and resources to the strategic decision-making process. In such a situation aggregate interests tend to prevail over autonomous ones, while loyalty, equality, and concern for group's welfare are prominent (Schuler & Rogovsky, 1998). On the other hand, Hofstede's concept of PD describes a preference for, or tolerance of, inequality. Power distance is 'the extent to which the less powerful members of institutions and organisations . . . expect and accept that power is distributed unequally'. As it was referred to in section 2.3, in high PD cultures organisations prefer strong authority and steep hierarchies because they help preserve the existing social order and its related distribution of power while in low PD cultures organisations are more decentralised, and there is more consultation in decision making. It follows, therefore, that in high PD cultures, a board with fewer inside directors appears to be more legitimate and a consolidated chair and Chief Executive Officer (CEO) position, which represents a steeper hierarchy, exemplifies high PD and gives the CEO greater stature and political influence over the board (Zajac & Westphal, 1996, p. 74). Similarly, in high UA cultures, societal norms also suggest a preference for a consolidated leadership structure to convey a clear message of an established locus of command at the top of the organisation and unambiguous decision-making authority, sending reassuring signals to uncertainty-averse stakeholders in the society (Kim & Buchanan, 2008).

As far as Hofstede's I/C cultural dimension, in a context emphasising collectivist values group affiliation and interpersonal relationships are highly valued. The self is defined as a part of the group, which means that one's group membership is a manifestation of identity and achievement. In such a situation aggregate interests tend to prevail over autonomous ones, while loyalty, equality, and

_

¹ Defined as an increase in group effectiveness resulting from efficient group interaction.

concern for group's welfare are prominent (Schuler & Rogovsky, 1998). In organisational terms, collectivist values have been linked to preferences for group consensus over individual decision making (Hofstede, 1980). Similarly, a value orientation with more emphasis on caring for others is described as more feminine (Hofstede, 1980). Schuler & Rogovsky (1998) developed culture-specific propositions for compensation practices and found support for the proposition that quality of work—life issues and attention to interpersonal relationships are consistent with a 'feminine' culture. On the contrary, management by objectives, which is a popular management technique in the U.S.A., as well as merit pay, and performance-contingent rewards all task-oriented are practices consistent with a 'masculine' culture (Jaeger, 1986, p. 185).

While AT, TCE & RDT, and IT have persuasive points about the existence and the role of boards of directors, one theory is not better that the others. At least, there has not been any research to support that one theory is superior to the other theories. Hence, the question 'Are boards of directors mere historical anachronisms – creatures of a long-dead era of formalism – or do they have an efficiency rationale?' (Bainbridge, 2002, p. 3), comes out naturally and brings the point of interest on how groups can best make decisions. Group research and decision process theories might provide evidence to support the opinion: 'The very existence of the board as an institution is rooted in the wise belief that the effective oversight of an organisation exceeds the capabilities of any individual and that collective knowledge and deliberation are better suited to this task' (Forbes & Milliken, 1999).

2.4.5 Group/Decision Process Theories (G/DPT)

A profusion of Group research has been completed in a variety of areas. Legal scholars are clear that it is the group with the power to make decisions (Bainbridge, 2010). Cognitive psychology has a long-standing tradition of studying individual versus group decision-making while with the emergence of behavioural economics experimental economists have begun looking at similar questions, shedding light on the role of the board of directors (Bainbridge, 2002). Groups

and their interactions have been shown to have an impact on the effectiveness of group problem solving (McGrath, 1984; Cooke & Lafferty, 1988)². Research has identified a number of styles to characterise the dimensions of interpersonal and group interaction (i.e. constructive, passive, and aggressive), that have been measured with the Group Styles Inventory (GSI) (Cooke & Szumal, 1994). Most of the research focused on work groups and self-help groups and supported the constructive interaction style as the most significant for group problem-solving effectiveness, but the reported research on peer groups that resemble the board of directors is sparse. Peer groups are one particular type of group where the members are in effect similar in skills and abilities and/or social status and power (Hare & O'Neill, 2000). The GSI instrument has not been tested in a peer group's actual problem-solving situation.

A theoretical model which focuses on the decision processes used by organisations to achieve their purposes (Seashore, 1983) has been used to assess board performance (Green & Griesinger, 1996). In the Decision Process Model, the effective organisation is defined as 'one that optimises the process of getting, storing, retrieving, allocating, manipulating, interpreting, and discarding information' (Seashore, 1983, p. 60). The rationale is that if certain internal processes are performed successfully, then the desired ends will more likely result. At the board level, if the correct procedures and processes are fulfilled the board will add value to the organisation.

Conclusively, there is strong and growing evidence that the effectiveness of an organisation's governance system relies on an effective board operating well together as a team. Consequently, the interest for board development is reasonable, because effective governance might be enhanced by board development practices. Indeed, the importance of board development as a way to strengthen governance has been identified consistently in the literature (Carver, 2006; Chait, Holland, & Taylor, 1996; Leblanc & Gilles, 2005, Brown,

_

² On the other had other major disciplines, including psychology (Davis et al., 1997), sociology (Pfeffer, 1973), and economics (Eisenhardt, 1989a), highlight important behavioral factors thought to influence good board decision making and effective personal action.

2007). Therefore, the intermediary assessment of governing board competencies logically follows from the use of board development practices.

2.4.6 Board Development (BD)

Strengthening the governing board competency might improve governance effectiveness. Recent research on the competencies that distinguish effective boards can inform approaches to defining and strengthening board effectiveness (Axelrod, 2005). Based on human resource management (i.e. human capital development) and volunteer management literature, board development activities have been developed concerning, among others, recruitment, orientation, and evaluation. A search of the board development literature reveals a broad range of books and articles that offer job descriptions, definitions, models and templates related to board structures and processes, all based on practitioner experience (Carver, 2006; Block, 1998). Whereas the literature offers great detail on structural issues pertaining to board development, there is less discussion of the socio-relational and contextual aspects of governance learning (Holland, 2002; Gill, 2001). Board members' sense of governance tends to develop most effectively when they personally commit to the social, relational and learning aspects of the work of the board (Houle, 1989).

The presented above theories is not a comprehensive list of the many theories apparent in the corporate governance literature with profound insights on the role of boards in the governance of economic organisations since this researcher's intention was to focus on those theoretical perspectives that are most relevant within the scope of this research project. However, for the sake of completeness three more theories are briefly discussed next.

2.4.7 Stewardship Theory (ST)

Based on sociological and psychological approaches to governance the stewardship model depicts managers as collectivists, pro-organisational, and trustworthy (Davis, Schoorman, & Donaldson, 1997). Managers are motivated by 'a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby

gain recognition from peers and bosses' (Donaldson, 1990, p. 375). Stewardship theory argues that 'managers are good stewards of the corporation and diligently work to attain high levels of corporate profit and shareholder returns' (Donaldson & Davis, 1994, p. 159). Proponents of the stewardship model then prescribe a service role for the board of directors for managerial empowerment through a board-management collaboration (Sundaramurthy & Lewis, 2003).

2.4.8 Managerial Hegemony Theory (MHT)

Managerial hegemony shares the same perspectives as the AT but differentiates on the role of the board of directors (Mace, 1971). First, the information asymmetry extends to the non-executive directors putting the board at a disadvantage (Hendry & Kiel, 2004, p. 502). Second, the CEO selects and compensates the directors (Pfeffer, 1972, p. 220). The loyalty to the CEO favours director's re-election to continue collecting fees (Hart, 1995, p. 682). Third, in profitable companies, the CEO can reduce his dependence on shareholders for capital, by financing investments with the retained earnings (Mizruchi, 1983). The net effect is that the board is self-refrained from taking up an active role, being instead a tool of a powerful CEO for satisfying the requirements of company law and actually functioning as a 'rubber stamp' (Herman, 1982). The criticism of managerial hegemony is that ignores the capacity of the board to fire the CEO (Mizruchi, 1983). Also, that information availability is increased to non-executives that sit on multiple boards (i.e. interlocking directorates) decreasing the information asymmetry with top management (Gulati & Westphal, 1999).

2.4.9. Stakeholder Theory (StT)

The term 'stakeholder' was coined by philosophers inside Stanford Research Institute (now SRI International, Inc.) in 1963 'to generalize the notion of stockholder as the only group to whom management needs to be responsible.' (Freeman, 1984, p. 31). They view a stakeholder as 'any group or individual who can affect, or is affected, by the achievement of a corporation's purpose' (e.g. employees, customers, suppliers, shareholders, banks, competitors, governmental bodies, trade associations, communities, trade unions,

environmental activists, political groups). However, the stakeholder approach or approaches, since there are several - offer no criteria for choosing and measuring the choice of different stakeholders (Jensen, 2002). But then, stakeholder theory is incompatible with good corporate governance (Sternberg, 1997, p. 5). In other words, 'For whom do board members work? To whom should they be accountable? Above all, who are the ultimate beneficiaries of their governance?' (Pichet, 2011, p. 361). In that dead end, Jensen (2002) with his proposed 'Enlightened shareholder theory' clarifies the duties of board members to defend the organisation's long-term social interests.

Public boards are engaged with multiple expectations of different stakeholders (Moore, 1995). Pettersen, Nyland, & Kaarboe (2012) analysing hospital boards in Norway observed that when politicians were included in the boards in 2006, the politicians and the employees constituted a majority in the boards, and the roles of the hospital boards were changing towards the stakeholder perspective. At the same time boards should assume a mediatory role between requests for change from outside and resistance to change from the inside. In a multi-stakeholder system as is a public organisation, board's role is to represent the interests of the different groups for gaining legitimacy and public consensus (Huse & Eide, 1996).

2.5 Research on Governing Board Competencies

The most comprehensive literature on governing board competencies evolved from Holland et al. (1989). As it was indicated earlier, in section 2.3, they identified the six board competencies described in Table 2.3 that seemed to capture the elements essential to effective governance in non-profits. Describing briefly their work, their study began inductively with structured interviews with trustees and then using an objective approach they compared organisational performance indicators to boards that were rated as effective. By using analysis of diverse experts, they identified competencies of effective governance to be compared with those derived more deductively from the literature. The interview protocol consisted of the implementation of the Critical Incident Technique on boards of non-profits (i.e. USA colleges). Subsequent research (Jackson &

Holland, 1998) refined the board competencies and extended the literature on what was known about the boards on non-profits and their effectiveness. The initial 73 item Board Self-Assessment Questionnaire (BSQA) was condensed down to 65 items, with 623 trustees from thirty-four non-profit organisations respondents scoring each item on a four-point Likert-type questionnaire, to represent the overall best case scenario for measuring board competencies. Holland (1991) sought to answer two key questions: 'first, is it possible for a board to measure its own functioning and identify its strengths and weaknesses accurately; and second, what means could a board use to assess its own performance so that the conclusions of the assessment are trustworthy guides to action' (p. 26). The BSAQ was the first empirically tested instrument available for practitioners and researchers to objectively assess the performance of a board. Chait, Holland, and Taylor (1993) suggested that those competencies they identified in their studies could have implications for boards of state-owned institutions although many are elected officials operating within a partisan political arena and usually are reluctant to spend public money to meet privately and consider board performance issues.

Another attempt designed to assist boards of directors of non-profit and public sector organisations in identifying strengths and weaknesses in their governance, educate board members, and improve their governance practices, was the Governance Self-Assessment Checklist (GSAC) (Gill et al., 2005). The GSAC's criteria used and their impact on board effectiveness have been validated, also, using an instrument of 144 items scored on a six-point scale, from 312 respondents of 37 Canadian organisations, including 4 from the health sector. The GSAC covers the good-governance essentials that board members ought to know, their responsibilities, and effective governance practices.

Several other structured instruments³ have been developed to assess board strategic planning and effectiveness, but for no one else has generated validity

³ (a) The questionnaires developed by BoardSource (www.boardsource.org); (b) The Benchmarks of Excellence tool (Mollenhauer, 2000); (c) The Drucker Foundation Self-Assessment Tool

data. Additionally, some authors (Blomberg, Harmon, & Waldhoff, 2004) have taken up an opposing position against the use of ready-made tools. They argue that given the enormous diversity of non-profit organisations, not all criteria will be equally relevant.

2.6 Research on board effectiveness and organisational effectiveness

The majority of research appears to be focused on the corporate sector and the non-profits while fewer studies have been conducted on public boards. The literature on boards in public organisations focuses mainly on the analysis of their formal aspects. The dimensions influencing the governing bodies' effectiveness still remain not investigated (Hinna, et al., 2014, p. 4). Research on the roles of governing bodies in public organisations remains a neglected area (Fields, 2007). Siciliano (2002), West & Durant (2000), and Greer & Hoggett (2000) investigated public board composition but they were not focused on those dimensions influencing board effectiveness. Cornforth & Edwards (1999) refer to competencies (e.g. skills and expertise) of board members. A profusion of literature suggests there are identifiable characteristics that distinguish effective from non-effective boards in non-profits (Holland et al., 1989; Houle, 1989; Herman & Renz, 2000).

Cornforth (2003) showed that the governing bodies of public organisations have many similarities with private boards and non-profit ones and identified six governance models (boards included). Miller-Millesen (2003) drew on the organisational theory literature and investigated the degree to which theories that have been used to understand corporate governance are useful in developing a better understanding of non-profit board behaviour. Using three theory perspectives (AT, RDT, and IT) to understand and frame the assumptions that underpin normative board roles and responsibilities, she developed a theory-based model of board behaviour and a set of testable hypotheses for use in the empirical investigation of non-profit board process and structure.

(Drucker, 1999); (d) The Governance Information Check-Up (Canadian Council on Health Services Accreditation, 1998).

Brown (2005) investigated the six dimensions of effective board performance, as suggested by Chait, Holland, and Taylor (1993), in relation to three theoretical explanations (AT, RDT, and G/DPT) of how board governance activities potentially influence organisational performance. Survey research findings revealed that strategic contributions from the board are more robust in organisations with higher financial performance. In addition, organisations that are judged to be higher performing also reported having high-performing boards across all dimensions. In particular, the interpersonal dimension provided a unique explanation of judgments of organisational performance.

Empirical studies have investigated board structures and board processes in the non-profit context (Harris, 1989; Widmer, 1993; Stone, 1996; Inglis et al., 1999). These studies have found that board structures and board processes are influenced by a variety of contextual factors such as the scale of the organisation, and organisational culture. Tomo, et al. (2014) in a systematic literature review of public boards found that board composition and board diversity often are influenced by the context in which the public organization acts (in terms of gender, professional background, ideologies, etc. ...) (p. 87). Jiang et al. (2008) found that certain board practices were associated with better performance in terms of patient care and mortality, and McFadden et al. (2009) found that CEO leadership style (i.e. board leadership) is linked to patient safety outcomes.

Several studies based on governance and group performance theories, using different kinds of non-profits and different conceptions and measures of board and organisational effectiveness, have found a relationship between board effectiveness and organisational effectiveness. The common assumption is that causation is from board to organisational effectiveness, although the mechanism is not yet understood (Brown, 2005). At the other end are numerous well-documented instances of board failure affecting organisational performance (e.g. Carman, 2011). Further research is necessary, yet the recent research clearly provides support for the conclusion that at least in some ways, board effectiveness is related to organisational effectiveness (Herman & Renz, 2008).

This researcher's intention was not to provide a comprehensive list of the empirical research on board effectiveness, but rather to select and describe those perspectives that are most relevant within the scope of this research project. However, for the sake of completeness, it is next shown that there is a lack of consistent findings for this issue in the empirical research from the corporate sector.

In the academic research, the issue of board effectiveness mainly refers to the search for key attributes of good boards of directors. The search for a measure of effectiveness is usually based on theoretical foundations from the corporate governance theories that view a board of directors as an internal mechanism of corporate governance. Corporate governance theories view the board of directors as the guardian of shareholders' interest but also of additional stakeholders such as customers, employees, and suppliers (Payne, Benson, & Finegold, 2009, p. 707). However, there is an incomplete understanding of what board of directors in the corporate world do exactly and therefore, corporate board research has not provided a unanimous answer to what constitutes an effective board. Agency theory, for example, emphasise the monitoring and control functions of the board of directors. Other theories underline the strategic or the resource dependence roles. By relating board effectiveness to the tasks or roles or functions of the board, directors are expected to perform in order to fulfil their respective roles. Consequently, no convincing evidence is provided on what to look for in assessing the effectiveness of the board of directors.

One stream of board research is for 'objective' measures such as board attributes or structural measures (e.g. board composition namely insider/outsider representation, board size and committees and board leadership structure) assuming to be of importance in enhancing the power of the board to fulfil its duties, and ultimately protect shareholders' interest. In other words, board characteristics are considered antecedents to task performance. In this approach, it is assumed an indirect causal relationship between the board of directors and company performance (Johnson, Daily, & Ellstrand, 1996).

By using the firm's financial performance as a proxy, researchers have tried to empirically test a board's effectiveness as the guardian of shareholders' interest. Most of these studies have shown, however, inconclusive results (Dalton et al., 1998; Coles et al., 2001). Little convincing evidence exists that these structural measures have had a considerable impact on the financial performance of companies. There are diverging findings but no robust evidence on the relationship between structural characteristics of boards and board or company performance. The diverging findings have been attributed to the varying operationalisations of the constructs used in the empirical research. Although some researchers relied on market-based measures, others used accounting measures (Coles et al., 2001) that have been criticised for managerial manipulation to satisfy stockholders (Chakravarthy, 1986, p. 456).

The measurement of performance is also subject to considerable discussions (Hawawini, Subramanian, & Verdin, 2003). Empirical work has focused on structural differences across boards that are presumed to correlate with differences in behaviour. However, Adams et al. (2010) note that 'outside of detailed fieldwork, it is difficult to observe differences in behaviour' (p. 59). Therefore, the appropriateness of these board measures as adequate proxies for understanding board effectiveness has been questioned. It has been argued that there is a need 'to understand better, document and operationalize board variables (...) before normative board models or theories can be advanced' (Zahra & Pearce, 1989, p. 327). Also, that it was given inadequate attention to the potentially large number of intervening variables between board characteristics and performance outcomes (Pettigrew, 1992, p. 178).

Other researchers aiming to obtain insight into the concept of board effectiveness omitted the direct relationship between the board of director characteristics and performance outcome and explored how structural and non-structural factors are interconnected and as a set shape the effectiveness of boards in performing their key roles. Some researchers instead of searching for 'objective' measures have followed the suggestion of Johnson et al. (1996) to research the director's own perceptions of their roles. As determinants of board

effectiveness have been explored: board working style (Gabrielsson & Winlund, 2000), board processes (Cornforth, 2001), individual director characteristics (Walt & Ingley, 2003), dynamics of power and influence plus the behaviour of board members and their relationship with management (Roberts et al., 2005; Huse, 2008; Nicholson & Kiel, 2004; Forbes & Milliken, 1999), and the behaviour of non-Executives (Roberts et al., 2005). This pluralistic view into the concept of board effectiveness is related to the research on teams and groups in organization settings. Cohen & Bailey (1997) summarising the relevant research from January 1990 to April 1996, concluded that team effectiveness is a function of task, group, and organization design factors, environmental factors, internal processes, external processes, and group psychosocial traits' (p. 239). Payne et al. (2009) found that 'the same factors that contribute to success in knowledgebased work groups are also relevant to corporate boards of directors' (i.e. sufficient knowledge, information, power, incentives, and opportunity/time) and they suggest 'a closer examination of board processes, including learning and the longitudinal dynamics of boards' (p. 725). However, despite the proliferation of the pluralistic empirical research in the corporate sector it fails to capture many of the complexities around how boards function probably because of difficulties of gaining access to boardrooms and directors.

Besides academic interest, board effectiveness is an issue that concerns investors to judge corporate governance as part of their investment strategy. Numerous parties (e.g. consulting firms, associations, and entities dedicated to Corporate Governance improvement) assess and score the quality of corporate governance in corporations using a variety of rating systems and produce 'practitioner-oriented' literature offering prescriptive advice relying on internationally recognised (e.g. Organisation for Economic Co-operation and Development - OECD, World Bank, International Corporate Governance Network - ICGN) guidelines or principles known as Codes of Corporate Governance. The inclusion in the Codes of certain mandatory requirements on the make-up and the working of the board related to Board's performance (e.g. board composition, ownership configurations, number of directors, compensation schemes, number of board

meetings, board committees) is a motivation to conduct Board of director's evaluations as a way to ensure that the Board is properly doing its job. Additionally, complying with these Codes is expected to lend legitimacy to the corporation (Roberts et al., 2005).

Board evaluations are carried out by an external to company third party that has developed its own questionnaire model or by self-evaluating. Board effectiveness is operationalized using questions to directors either in-house (e.g. by the Board's secretary) or by a qualified professional, in order to rate the effectiveness of their Board in various areas (e.g. flow of information; leadership and focus of the meetings; timeliness and quality of decisions; level of Board responsibility; harmony within the group; directors' conduct/behaviour) and then evaluators may bring their own judgment on the quality of the Board's performance. However, a report from the National Association of Corporate Directors (NACD) notes that 'under normal circumstances, there is no outside apparatus to assess how effectively boards are discharging their fundamental duties and responsibilities' (West, 2002, p. 20). Self-evaluations are usually coordinated by the Board Chair but generally there is no 'one size fits all' approach - evaluations usually consider the specific context of each company.

2.7 Culture and governance

Based on the ideas of Parson (1951) for a general value system into which individuals are socialized It has been argued that 'Culture constitutes the broadest influence on many dimensions of human behaviour' (Soares et al., 2007, p. 277). In contrast, Geertz (1973, p. 14) states, 'culture is not a power, something to which social events, behaviours, institutions, or processes can be causally attributed'. Unfortunately, definitions of culture⁴ abound without there being a general agreement on one. At least five types of cultural theories can be distinguished: psychological; mentalism; textualism; inter-subjectivism; and practise theory all offering opposing conceptions of culture. Also, at least four

_

⁴ From the three meanings of the word 'culture' (i.e. 'cultivation'; 'civilization'; 'collective ways of acting, thinking, and feeling'), the last one is of interest here.

research agendas in the interdisciplinary field of management and organisational culture studies (i.e. social anthropology, international dimensions of organisational behaviour, general management and strategic management, international dynamics in management practices) all dominated overwhelmingly by assumptions related to the concept of culture, and additionally with the biases of its measurement, interpretation and analysis leaving the field far from a state of consolidation.

Conceptualisation and operationalisation of culture were the work of a discipline known as cross-cultural psychology (Schwartz, 2014). The notion 'national culture' as a set of unique, shared, closed, enduring, coherent, determinate subjective values has been popularised, largely in management, by Geert Hofstede, Alfons Trompenaars & Charles Hampden-Turner, and Robert J. House who initiated a multi-authored Global Leadership and Organizational Behaviour Effectiveness project (GLOBE).

For Hofstede et al. (2010, p. 6), culture is described as the software of the mind which distinguishes the member of one group or category of people from another. The culture is learned, not inherited, where people acquire patterns of thinking, feeling and potential action remaining intact until the later stages of their lives.

Trompenaars & Hampden-Turner (1998) define culture as the way people solve problems, particularly related to relationships, time and the external environment: 'culture is the way in which a group of people solves problems and reconciles dilemmas' (p. 6). They state that 'members of a culture are likely to share common attitudes because they share a common history' (Hampden-Turner & Trompenaars, 1993, p. 13).

House and his colleagues of the Project GLOBE understand culture as the 'shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generation' and they state that the term culture 'is used by

social scientists to refer to a set of parameters of collectives that differentiate each collective in a meaningful way' (House et al., 2004, p. 15).

Thomas (2008, p. 35) argues that the various definitions of national culture can be misleading. Multiple cultures can exist within national borders and the same national group can span many nations. Even though there appears to be a convergence in these definitions of culture, there is still a considerable divergence in the nature of values and of their relationship to culture. Furthermore, all three approaches to operationalise 'national culture' are subjects to criticisms. MacSweeney (2016) objects the use of numerically measured dimensions preferring richer qualitative techniques while Schwartz (2014) argues that insufficient aspects of culture are taken into account.

Hofstede's research is based on a systematic collection of cultural data while working at IBM and trying to understand the employees' attitudes at IBM worldwide. He developed 'a commonly acceptable, well-defined, and empirically based terminology to describe cultures' (Hofstede, 1983, p. 77) and four dimensions were found 'through a combination of multivariate statistics (factor analysis) and theoretical reasoning' (Hofstede, 1983, p.78). Consequently, a fifth dimension was introduced - 'Confucian dynamism', described as the maintenance of long-term orientation vs. short-term orientation (see Table 2.3).

Table 2.4: Hofstede's Cultural Dimensions

Dimension	Interpretation
Uncertainty Avoidance (UA)	Measures the level members of a society or an organisation trying to cope with stress by fighting uncertainty and ambiguous situations.
Power Distance (PD)	Measures the degree of equality, or inequality, among the members of the society or an organisation; and how much the less influent members accept the hierarchy.
Individualism vs. Collectivism (I/C)	Measures the degree the members of a society or an organisation define themselves apart from their group, and how much it is emphasised the individual or the collective achievement.
Masculinity vs. Femininity (M/F)	Measures the degree it is reinforced the traditional masculine work role model or not.
Long-Term vs. Short- Term Orientation (LTO)	Measures the degree the members of a society or an organisation attach importance to a future-oriented perspective rather than a short-term point of view.

Hofstede's aim was to evaluate work values by going into the very deep of culture layers to forecast people's behaviour based on the knowledge of the hidden part of the iceberg. He linked the cultural dimensions to organisational behaviour (Hofstede, Hofstede, & Minkov, 2010) founding that high uncertainty avoidance is associated with formalisation and that high power distance is associated with strong authority and steep hierarchies.

Hofstede's work has been criticised over the years. Among others, Baskerville (2003) for example, criticised his cultural model for lacking basic theory, for measuring largely unquantifiable phenomena, and for time-worn data because it was collected in only one organisation worldwide while Tayeb (2001, p. 104) for simplifying the complex and dynamic construct of culture, and for not taken seriously non-cultural factors as they should be.

Some of Hofstede's dimensions were elaborated further by Alfons Trompenaars & Charles Hampden-Turner. Their cultural model consists of seven dimensions. The first five of them are under the heading 'relationships with people' and the last two are concerned with time and environment: (1) universalism versus particularism; (2) individualism versus communitarianism; (3) neutral versus emotional; (4) specific versus diffuse; (5) achievement versus ascription; (6) sequential time versus synchronous time; (7) internal direction versus outer direction (Trompenaars & Hampden-Turner, 1998, pp. 8-10). Hampden-Turner and Trompenaars themselves have rejected some of their scales as vague and ambiguous for an empirical study (Hampden-Turner & Trompenaars, 1993). It has been argued that Trompenaars' proposed dimensions are conceptually related to Hofstede's 'individualism' and 'power distance' (Gatley, Leesen, & Altman, 1996). In the mid-1990's the project GLOBE was conducted designed to replicate and expand on Hofstede's work and to test various hypotheses that had been developed in particular on leadership topics. The GLOBE framework and measures represent the latest attempt to conceptualize and measure culture at the national level. It also has significant conceptual overlap with the Hofstede framework as well as differences in the way the concept of national culture is measured. The GLOBE study developed nine cultural dimensions: (1) Performance Orientation; (2) Future Orientation; (3) Gender Egalitarianism; (4) Assertiveness; (5) Institutional Collectivism; (6) In-Group Collectivism; (7) Power Distance; (8) Humane Orientation; (9) Uncertainty Avoidance (House et al., 2004). Hofstede (2006) re-analysed the GLOBE data and found that the number of their factors could actually be reduced to only those that correlate highly with his corresponding cultural dimensions.

Although the above mentioned three most publicised approaches to national culture have at times engaged in intense criticisms of each other's' research they have much in common. Their differences are, as Earley states, only 'minor variants on one another's styles' (2006, p. 923). In spite of the criticisms of Hofstede's work, his research is one of the most cited in the entire Social Science Citation Index (Parboteeah, Hoegl, & Cullen, 2008, p. 798). As Rapp et al. (2011, p. 6) concluded in their 25-year longitudinal study of 118 articles in the Journal of International Business Studies, Hofstede's work continues to be used as 'a means of definition, as a construct for measurement, and as a basis for the development of additional instruments'. Taras et al. (2009) reviewed 26 dimensions in 121 instruments measuring culture to find out that they do not deviate much from Hofstede's model, both in terms of content and measurement approach and, with few exceptions, can be grouped under the Hofstede's dimensions. The level of the operationalisation of the selected by Hofstede dimensions, was one of the most attractive features that determined the choice for discriminates of the cultural attitudes with our Greek board directors sample.

Culture is no stranger to economics. The effort to taking culture into economics starts more than a century ago with the institutional economics (Veblen, 1898). Recently, new institutional economics (North, 1991) challenge mainstream economics by introducing cultural values into economic analysis. Triandis (1984) studied the relationship between Hofstede's cultural values and economic growth claiming that emphasis on self-control and hard work are linked to economic growth. Bertrand & Schoar (2006) studied the effect of family values and found that low family value, as an equivalent to high pro-society value, is a better determinant of economic growth than trust. Their study indicates that the

strength of family values harms the economy, implying that altruism restricted to kinship can be considered at best irrelevant, or at worst opposite to the pure altruism. According to North (1990), the pro-society value minimises transaction costs of politics by strengthening government officials' fiduciary culture and encourages citizens to sacrifice self-benefit for public goods. Without a certain degree of the pro-society culture being in place, higher priority of national goals and justice can hardly be accomplished (Williamson, 1999), and societies without well-balanced institutions constituting a risk-reduced governance system (Ahrens & Rudolph, 2006) can hardly avoid chaos. Hofstede (1980; 1991) and Hapmden-Turner & Trompenaars (1994) suggest that national culture interpretation and adaptation are a prerequisite to the comparative understanding of national management practice.

Corporate governance systems are clearly more recent phenomena than the basic elements of national culture. When companies emerged, they developed differently in countries and faced manifold conditions, where the resulting corporate governance systems had to be compatible with. In other words, national cultures had set the starting conditions when corporate governance systems first emerged. This argument has been labelled 'path dependency' (Bebchuk & Roe, 1999). To the interest of this research, the study of causal linkages between cultural value and governance is in its very early stages, since there have been very limited numbers of studies on this aspect. In a study by Chang & Noorbakhsh (2009), it is shown that national culture influences corporate managers' cash holding behaviour beyond the effects of corporate governance and financial market developments in each country. Using Hofstede's cultural dimension indices, they found that corporations hold larger cash and liquid balances in countries where the people tend to avoid uncertainty more, are culturally more masculine, and have longer term orientation. Results of a study by Bae et al. (2012) suggest that cultural differences across countries offer additional power in explaining variations in dividend levels. When uncertainty avoidance is high, only firms in countries with stronger investor protection pay more dividends as investors' desire of having a sure dividend dominates

managers' desire of retaining more cash. Similarly, when a society's long-term orientation is strong, firms tend to pay fewer dividends. The profile of nations on cultural dimensions predicts perceived national differences in adherence to governance norms: the rule of law, corruption, and democratic accountability (Licht, Goldschmidt, & Schwartz, 2007). These norms correlate systematically and strongly with national scores on cultural dimensions and also differ across cultural regions of the world. Individual autonomy and egalitarianism correlate positively with better governance of the Western style because they facilitate an effective balance of power in the firm. Elkelish (2006) finds that individualist values have a significant positive relationship with the development of a good code of ethics and that power distance, uncertainty avoidance, and masculinity cultural values have a significant negative relationship with separation of chair and CEO, independent audit committee and women on board, respectively. Finally, particular cultural dimensions affect the diffusion of corporate governance best practices (Haxhi & Ees, 2010). For a sample of 67 countries, their analysis reveals that individualist cultures have a stronger tendency to develop codes of good governance. In cultures with a high receptivity to power differences there is a higher probability that the first issuers are the government, directors' or professional associations; whereas with low receptivity, the stock exchange and investors' groups of issuers are more likely to initiate the first code.

The foregoing literature review is indicatory of the research on the causal linkages between cultural values and governance, but research on the relationships between national culture dimensions and dimensions of governance competencies doesn't exist. The closest work to this issue, which has been an inspiration for this research, is the one by Miller-Millesen (2003) where a theory-based typology of board behaviour is offered that integrates multiple theoretical explanations for specific board behaviours and identifies the antecedent conditions under which boards enact certain behaviours over others. The inclusion of IT in the study of boards of directors in an effort to predict and understand board behaviour makes the connection of cultural values, which influence institutional norms, to board behaviour possible.

2.8 Background and context information

Greece is a full member⁵ state of the European Union (EU) since 1981 and in 2001 joined the third stage of the Economic and Monetary Union (EMU), adopting the single currency (euro) on January 1, 2002. It is located in south-eastern Europe, on the southern end of the Balkan Peninsula inhabited since prehistoric time and covers an area of 131,957 km². The country consists of a large mainland; the Peloponnesian peninsula; and more than 3,000 islands, out of which 169 are inhabited. Officially is divided into fifty-one Counties (Nomos) and thirteen Regions (Peripheries). It has about 15,000 km of coastline and a land boundary with Albania, Bulgaria, and the Former Yugoslav Republic of Macedonia to the north and Turkey to the east, totalling 1,180 km. The population of the country is 10,992,589 (2014). Almost 62% of the population lives in urban areas and 35% in the area of greater Athens, the capital. Greece's political system is a parliamentary democracy. The president of the republic is the head of state with minimal direct and active involvement in policymaking. Executive power rests primarily with the government, headed by the Prime Minister and constitutionally controlled by the Parliament. Ministers run their respective ministries independently, in close cooperation with the Prime Minister.

The health status of the Greek population has strongly improved over the last decades and seems to compare relatively favourably with other OECD countries. Hospitals in Greece became universally accessible free to the population since 1983 when the National Health System (NHS) was established. The Greek NHS came from a superposition of reforms, rather than a progressive transformation or a universal reform. The strategic targets of health reform initiatives to structure a unified healthcare sector have been proved politically difficult to succeed. Today, the delivery of health care services is based on both public and private providers and the health system is financed by the state budget, social

_

⁵ Also, Greece is a member of the Council of Europe, the North Atlantic Treaty Organisation (NATO), the United Nations (UN), the International Monetary Fund (IMF), the Organisation for Security and Co-operation in Europe (OSCE) and the Organisation for Economic Co-operation and Development (OECD).

insurance contributions, and private payments. The Ministry of Health (MoH) is responsible for the planning and regulation of the NHS, with some responsibilities delegated to seven Regional Health Authorities (RHA)ⁱ. The private sector includes mostly profit-making hospitals, diagnostic centres, and independent practices. The primary health care is largely provided by the private sector that enters into contracts with the insurance funds.

Public hospitals in Greece are legal entities of public law, established through a presidential decree, their function is defined by the state law and they have three main sources of funding. Its employees⁶ are paid by the State; health insurance funds reimburse for their members on per diem basisⁱⁱ, and the State provides subsidies for operating costs other than personnel. A fourth source is deficit spending. Other funding sources may be generated through income from the hospital, EU resources and/or private donations. The financial operation of the hospital is carried out according to the public accounts, and it is required to have their budget and every other financial plan approved by the Ministry of Finance (i.e. semi-independence)⁷.

Public hospitals are governed by an *insider-dominated board of directors*: the board of directors is composed of a predominance of executive (inside) directors. The Managing Director (i.e. Chief Executive Officer - CEO) is appointed by the Health Minister and presides at the board. These boards are able to formulate policy, but final authority rests with an RHA or the MoH who exercise the administration⁸. The supervision is carried out by the MoH by appointing the CEO and the non-executive members of the board.

Board's authority is meant for the boardroom and is not to give professional staff instructions. Boards set policy and leave its implementation to the Managing Director and professional staff who exercise the management⁹. The Board makes

⁶ Medical specialists are salaried employees, with pay levels controlled by national agreement.

⁸ Administration has to do with the setting up of objectives and crucial policies of public hospitals; it is a determinative function, where the planning and organising of functions are the key factors.

⁷ Hospital budgets are *a priori* approved and a *posteriori* controlled.

⁹ Management is the act or function of putting into practice the policies and plans decided upon by the administration.

the final decisionⁱⁱⁱ on most financial activities, as well as approving a variety of other matters¹⁰ proposed by the management team. Managing Directors¹¹ possess the most important information and may influence the decision-making and often are capable of making the decisions within their position.

Hospital governance issues (e.g. the role, size, appointment, competences and responsibilities of CEO, what *should* directors do or their fiduciary obligations, and remuneration of Board members) are regulated by Act 3329/2005 (as amended by the Acts 3868/2010, 3918/2011 & 4052/2012), and the articles 13 (Formation), 14 (Composition - Meetings – Function), and 15 (Resolutions) of Act 2690/1999: 'Code of Administrative Procedure' which regulate administrative procedures. A 'Health Care Governance Code' as a set of 'best practice' recommendations regarding the behaviour and structure of a hospital's board of directors doesn't exist.

For anyone with administrative experience from Greek public hospitals, it is clear that managing directors and clinical managers are currently mostly confronted with day-to-day issues that, while important, impede the strategic planning and management necessary to improve hospital's performance. Indeed, managerial decisions critical for the hospital's future and important for its operation are based on administrative rules, interpreted outside the hospital by different bureaus of the central government, even in different ministries^{iv} and, therefore, hospitals are, at best, administrated, not managed. For example, medical and other personnel, the most important hospital resource, is nominated and even promoted, by bureaucratic mechanisms outside the hospital^v.

Patient satisfaction surveys amongst EU countries indicate that Greek citizens are the most dissatisfied with the healthcare system. According to a recent Eurobarometer opinion survey (Eurobarometer, 2014), only 26% of Greek respondents consider healthcare quality as good and 73% that it is bad and that 58% of them are most likely to rely on friends or family for information on the

¹⁰ Which have to do with the technical and mundane facets of the hospital's operation.

¹¹ CEOs act both as administrators and managers and are ultimately judged by their performance; they must incorporate both leadership and vision.

quality of healthcare. Respondents who say their country has good quality healthcare are more likely to say that the proximity of doctor and hospital, welltrained medical staff, and cleanliness are important criteria. Conversely, those who say health care quality in their country is bad are more likely to mention the absence of waiting lists to get seen and treated as a criterion of high-quality healthcare. An examination of the survey data shows that the proportion of respondents in Greece (78%) who feel that there is a risk of being harmed by hospital care is much higher than for respondents in all other EU countries except Cyprus (82%). A similar pattern is found in perceptions of the likelihood of being harmed by non-hospital care. Again, the proportion of respondents in Greece (71%) who feel that there is a risk of adverse events in connection with such care is much greater than for respondents in other EU countries except Cyprus (75%). In 13 countries, respondents are most likely to say that the ministry of health or related national agency is responsible for patient safety, most notably in Cyprus (78%), Greece (77%), Romania (72%) and Portugal (70%). This contrasts with the 32% of respondents in the United Kingdom and 36% in Estonia who say the same.

The economic crisis that spread across Europe in 2009 has initiated a wave of reforms in public policies in the EU countries. A combination of factors made Greece vulnerable to speculative financial attacks and the Greek government sought financial assistance from the EU. As a result, in March 2010 in Eurozone was created a financial aid mechanism which involved the participation of the IMF. The European Commission and the European Central Bank were made responsible for overviewing the implementation of the Memorandum of Understanding (MoU) and the subsequent agreements to the present time that this thesis is written, all requiring public services reforms in Greece. Most of the reforms are aiming at cost cutting and some of them are aiming at more substantial changes (e.g. hospital restructuring and consolidation^{vi}). Preliminary estimates for Greece suggest a fourth consecutive fall in health spending between 2009-2013, leaving per capita health spending levels at around 75% of those in 2009, and at the same time significant increases in out-of-pocket payments as a share of health spending by around 4 percentage points, since

2009, to 31% in 2013 (OECD, 2015). Inefficient systems are expensive and produce a high level of dissatisfaction. From the onset of the crisis, the Greek NHS has shed a substantial part of unnecessary expenditure, although not without unintended consequences due to insufficient information (Goranitis, Siskou, & Liaropoulos, 2014), and there is still a long way to go to transform the Greek NHS into an efficient, equitable and sustainable system. It has been argued that Greek NHS suffers from a high degree of centralization in decision-making and administrative processes (Economou, 2010) and it was suggested^{vii} that Greek hospitals need to have a high level of autonomy on the managerial side and a strict control of costs and outputs (OECD, 2010). However, what should be done is the reverse of what is presently taking place. The central government cannot escape both the prevailing cultureviii and existing structures and enhanced further the centralization^{ix} of the system. Nonetheless, while issues – such as quality of care, patient safety, responsiveness to and satisfaction of patients – all play a role in the deliberations of the public hospital's boards in Greece, it is their core concern with financial performance that guides their activities to date and to the future. Therefore, there is a need for a valid and reliable board self-assessment survey instruments that could be useful for board performance improvement in the Greek public hospitals.

2.9 Conclusions

The six research objectives were set which need to be carried out to realise the aim of investigating board performance and cultural issues. In an overview of the subject, it was indicated that several theoretical perspectives help explain the role of boards in the governance of economic organisations and that cultural values influence that governance. The relevant literature that influenced this research was also presented. The literature review has usefully highlighted a number of existing and experientially-based tools usable as a framework for the development of the Chapter 4 research instrument. This chapter contains, also, a brief presentation of the Greek National Health System, which is the context of this research. The next chapter focusses on research design.

Chapter 3: Research Methodology

3.1 Introduction

This chapter addresses considerations relating to selecting the appropriate research approach. It also provides a description of the data collection and analysis techniques, ethical considerations of the research, and explores the role of the author as a researcher. The chapter does not provide a detailed review of the estimation methods or techniques used (described in chapters 4 and 5) but instead aims to outline the overall thesis research approach.

The selection of a research approach is based on the nature of the issue being addressed, the investigators' personal experiences, and the audiences for the study. The selection of research approach is informed by the philosophical assumptions and issues of feasibility, validity and reliability. The specific methods of research are usually linked to philosophical assumptions but not necessarily according to Tashakkori & Teddlie, 1998; Johnson & Onwuegbuzie, 2004; Patton, 2015. Research methods supply the data to extrapolate evidence through analysis and interpretation that will support usefulness in the sector.

Accordingly, as for the nature of the research problem, this research constitutes an investigation into the issue of measuring the performance of boards in public hospitals. In the following section, it will be established that the quantitative research approach has dominated corporate governance research. Concerning this researchers' professional experience, it is drawn from the senior business world as an economist by training, for which the traditionally quantitatively focused business environment is familiar with hard, measurable, results-focused business disciplines. Finally, connected to the audiences for the study, professional doctorates have been established as the main areas for research with the requirement to make both a contribution to management practice and academic knowledge. In this respect, the research methodology must make sense to both academic and management practice, meaning that it must stand up to the scrutiny of both and must produce results that are understood and respected by both traditions (Cole et al., 2011, p. 142). It is argued that for a researcher seeking to develop professional understanding and make a contribution to

knowledge, understanding, and management praxis, a critical approach to qualitative research that embraces reflexivity can take familiar academic and business approaches a step further. Such approach recognises the researcher's hunches that are drawn from the investigator's intuition, life history, and from corporate and academic research and literature (Cole et al., 2011, p. 142).

3.2 Philosophical Paradigms in corporate governance and cultural studies

This part of the thesis concerning the research approach commences with the philosophical assumptions that influence the research design. The philosophical assumptions (ontological^x, and epistemological or how the researcher knows what he knows^{xi}) are embedded within interpretive frameworks that researchers use^{xii}. An interpretive framework or a scientific paradigm is defined as a 'basic belief system or worldview that guides the investigator' (Guba & Lincoln, 1994, p. 105)¹².

In recent years, at least two movements have occurred with respect to the paradigm construct¹³. The first movement involved the proliferation of paradigms within the social sciences. Guba and Lincoln (1994) initially identified two paradigms and later added a third that was actually a metaparadigm that supposedly encompassed a variety of different paradigms¹⁴. In part because of the proliferation of paradigms, some entirely different meanings have become associated with the paradigm construct^{xiii}.

Among the various corporate governance theories previously discussed, the agency theory perspective has been for years the most popular receiving a great deal and numerous attention from academics as well as practitioners. The answer to ontological question that gives the paradigm of positivism¹⁵, which guides researchers that view the facts through the theoretical window of agency theory,

¹² The beliefs are basic in the sense that they must be accepted simply on faith with no way to establish their ultimate truthfulness.

¹³ The paradigm construct was initially developed by physical science historian Thomas Kuhn in his book, *The Structure of Scientific Revolutions*.

¹⁴ This proliferation of paradigms expanded even further when a number of scholars began equating the paradigm notion with ethnicity and the life experiences of different social groups.

¹⁵ Positivism's position of naive realism assumes an objective external reality upon which inquiry can converge (Guba & Lincoln, 1994, p. 111).

is that the corporation or organisation is an already constituted, solid, fixed and enduring social reality beyond human cognition. Also, that the governance is a structure or a process constituted by a group of separable variables, and therefore, there is only one ideal model in corporate governance, the only objective 'truth' in the world. Accordingly, within positivism the epistemological stance is objectivism¹⁶. In other words, an inquiry takes place as through a one-way mirror meaning that values and biases are prevented from influencing outcomes^{xiv}.

When the research objective has been theory testing, deductive logic has been used to confirm or reject the identified hypotheses and supporting theory (particularly to test aspects of agency theory)^{xv}. In contrast, much theory building research has adopted induction in the grounded tradition by ignoring prior theory^{xvi}. The avoidance of theoretical frames and *a priori* postulations, suggests the researcher needs to investigate everything respecting the board^{xvii}. These efforts have led to the production of equally descriptive theories that do not account for all cases or contexts of governance (Nicholson & Kiel, 2007). Indeed, governance activity has been classified in terms of the context. Namely, the usual distinctions are between private and public sectors, the profit or not-for-profit motivation, large and small organisations, liquidity of owners (i.e. listed, unlisted & cooperatives), and the sector within which the organisation operates¹⁷ (Lockhart, 2010).

Despite the vast influence of agency theory, the claim for any idealised universalised and objectified model of reality is 'naive'. Additionally, empirical evidence from divergent and continuously changing governance practices does not support the agency theory perspective and resultant analysis proffered^{xviii}. In the ontology labelled critical realism, reality is assumed to exist but must be subjected to the widest possible critical examination to apprehend it as closely as possible but never perfectly (Guba & Lincoln, 1994, p. 110). The very limitation of

-

¹⁶ Positivism's dualist, objectivist assumption that enables the investigator to determine 'how things really are' and 'how things really work' (Guba & Lincoln, 1994, p. 111).

¹⁷ As a consequence, there exists an array of contextual research and the obligatory recommendations to practitioners.

human capacity of knowing is well acknowledged in economics by the concepts of 'bounded rationality' (Simon, 1957; Williamson, 1985) and 'information asymmetry' (Stigler, 1961, 1967; Stiglitz, 2000). Critical realists recognise the differences between their particular view of the world and the real world. So, they assume a differentiated and stratified world, distinguishing among three different ontological domains or modes of reality. These include the empirical (those aspects of reality that can be experienced either directly or indirectly), the actual (those facets of reality that occur but may not necessarily be experienced), and the real or 'deep' structures and mechanisms that generate phenomena (Bhaskar, 2005)¹⁸. Applying, for example, this notion to this thesis, the ontological position would be that the board's role in the governance of public hospitals encompasses a real and unique set of activities and relationships that exist independently of the consciousness and experience of the researcher.

Indeed, an alternative way of describing and understanding the reality of corporate governance is the post-positive^{xix} paradigm. It regards corporate governance as a pattern of dynamic governing processes, actions, and activities in specific social and cultural contexts. Thus, to understand corporate governance it should be placed into the wider social, economic and political system and its historical and cultural context and, according to critical realists, the intransitive dimension of reality (enduring structures and processes) produces a point of reference against which theories can be tested (Bhaskar, 2005). The reasoning that underpins critical realism is retroduction or hypothetic inference. Retroduction depends on our hope to guess at the conditions under which a given kind of phenomenon will present itself.** From a critical realist perspective, accepted theories may be rejected in favour of more convincing alternatives (McEvoy & Richards, 2006)**i.

In addition to the above pluralism of approaches, the previous chapter's appraisal has seen corporate governance from various theoretical perspectives. Review of

¹⁸ Critical realism (alternatively termed *transcendental* or *complex realism*) is most closely associated with the early works of the philosopher Roy Bhaskar. It has been developed mostly in the social and health sciences, evaluation, and economics (Clark, 2008).

different viewpoints clarified that there is need to take an integrated approach. For gaining a greater understanding of board process and dynamics, there is a need to integrate different theories rather than consider any single theory. Corporate governance may differ from country to country due to their various cultural values, political and social circumstances.

As far as the board competency research, qualitative research on the governance of non-profits (Jackson & Holland, 1998) using the Critical Incidents Technique (CIT) (Flanagan, 1954)¹⁹ identified six dimensions of board competency that captured the elements essential to effective governance (Jackson & Holland, 1998). CIT was developed during a period when the positivist approach to the scientific investigation was the dominant paradigm in the social sciences. Although CIT is a qualitative research method, it was initially posed as a tool to help uncover existing realities so they could be measured, predicted, and controlled. These ideas are rooted in the quantitative research tradition. To gain acceptance, early researchers utilising the CIT often used quantitative language and in some cases used quantitative validity and reliability checks (Butterfield, 2005).

Finally, as far as research on culture, most of the research is based on a realistic perspective both at ontological and epistemological levels. The realism ontology views cultures as existing real systems of beliefs and practices. Therefore, it is argued, culture as an independent and objective phenomenon can be accurately measured, observed and investigated. In this way, the investigator perceives reality as tangible, concrete, stable, hard and real with deterministic relations among its constituent parts. Review of the relevant literature reveals that most of the research on culture is based on the realist perspective and adopts a positivistic approach utilising as few variables as possible, with the variables being of an objective kind. For Hofstede, for example, cultures are static points on bipolar axes that can be measured by interval scales (Hofstede, 1980). However,

¹⁹ 'Early use of the CIT was developed by John Flanagan and focused primarily on determining the job requirements critical for success in a variety of occupations across many industries, relied on expert observations in the field, and was used as a tool to create a functional description of an activity.' (Borgen, Amundson, & Butterfield, 2008).

the extent to which positivism is the proper approach to examine a complex concept such as culture has repeatedly questioned. Constructivist perspective is recognised as an alternative to positivism. Social constructivism may have many forms²⁰. However, few researchers have adopted this approach. It seems that constructivism is still in its infancy. More advances are needed to distinguish different processes and mechanisms when studying actors' interpretations and constructions of cultural conceptions.

Concluding, despite the pluralism of approaches, the corporate governance research has been dominated by the quantitative research approach within the positivist scientific paradigm. Therefore, considering that this inquirer, as it is advised by Guba & Lincoln (1994, p. 115), is trained in quantitative methods and on formal theories of the phenomenon, to study corporate governance in specific social and cultural context, as in this research, the researcher operates within the post-positivist scientific paradigm. Also, taking the pragmatists' position that the differences between methods are not always as extreme as they are made out to be and what is used needs to be guided by what will produce the most reliable and relevant data and be persuasive for the intended audiences. For example a socially constructed narrative may not be convincing to a sector that audits accounts and is accountable to the regulation bodies and a set of quantitative data may not on its own be persuasive to social workers assessing experiences of mothers of refugee children to influence appropriate interventions. Indeed, qualitative methods are often used in the preparatory stages of quantitative research (McEvoy & Richards, 2006, p. 69)²¹.

3.3 Methodological research design

It was stated earlier that the relationship between philosophy and actual practice is usually translated into a mandate to investigate the most suited technique that

_

²⁰ Culture is an ongoing interpretation process rather than a stable structure of values and norms. At its radical form, constructivist view claims that cultures and cultural differences only exist when people become aware of them in social interaction (Vaara, 2000).

²¹ Within the field of qualitative research it is also common for researchers to adopt a degree of 'quasi-quantification' and quantitative researchers often use statistics as a form of descriptive narrative (McEvoy & Richards, 2006, p. 69).

accommodates the research assumptions. Epistemology guides methodological choices and methodology are the technique used by the researcher to discover reality^{xxii}. Methodologies justify methods, and methods produce knowledge, so methodologies have epistemic content (Carter & Little, 2007). Within post-positivism, the epistemological stance is the modified dualist/objectivist assumption that 'it is possible to approximate (but never fully know) reality' (Guba & Lincoln, 1994, p. 111).

This research constitutes an investigation into the issue of measuring the performance of boards in public hospitals. Investigating performance and cultural issues in organisational settings are extremely challenging since multiple theoretical perspectives must be taken into account. Board performance findings in public hospitals do not exist, especially for the culture considered in this research, but there is ample information on non-profits and the corporate sector. Since the research problem calls for the identification of factors that influence an outcome, and for testing theories or explanations, then a quantitative approach is best (Creswell, 2014)²². Therefore, the objectives of this research shape the choice among quantitative methods. Additionally, the researchers' personal training and experiences in technical, scientific writing, statistics, and computer statistical programs, plus the time and resources limitations to collect qualitative data (or both) influence toward this choice of research approach. For the quantitative study of this research, the appropriate research design or strategy of inquiry is of the nonexperimental form called correlational design in which investigator uses the correlational statistic to describe and measure the degree or association between two or more variables or sets of scores (Creswell, 2014). Data collected by a survey at one point in time with a rapid turnaround is an economic research design suited for a professional doctorate programme.

Then, the plausible methodological framework to study the phenomenon under investigation includes two phases, the exploratory phase, and the confirmatory or model testing phase. First, in the exploratory phase and based on the overall

-

²² On the other hand, if a concept or phenomenon needs to be explored and understood because little research has been done on it, then it merits a qualitative approach.

understanding of the phenomenon acquired through literature review in non-profits and the corporate sector taking into account cultural issues (chapter 2), an investigation process formulates the research hypotheses, identifies the research constructs and the variables, and constructs the initially hypothesised measurement models. Second, the confirmatory or the model testing phase includes a testing process in which empirical testing is conducted for verifying or disconfirming the hypothetical models.

Namely, surveys from a variety of non-profits laid the groundwork for a protocol (i.e. BSAQ) to measure non-profit board performance, which is supported by the governance theoretical perspectives, and hence, its psychometric properties have been tested (Jackson & Holland, 1998). Moreover, IT suggests governance has been related to national cultures, while Hofstede (1980) has developed a framework that provides a reasonable representation of national cultural attributes, and the relevant research instrument (Values Survey Module - VSM) has been widely validated. Therefore, the investigation process identifies the research constructs and then the hypothetical and measurement models can be designed. Finally, based on preliminary exploratory findings (i.e. Exploratory Factor Analysis – EFA) about the strength of the measurement model, the final theoretical model can be developed. The strength of the measurement model can be assessed through measures of validity and reliability. Reliability and validity are considered here as tests for assuring that the measurements consistently measure the constructs that they are intended to measure, but, in general, they are the principles used to judge the quality of the research²³.

3.3.1 The choice of quantitative research family

The proper nonexperimental design is survey research which is outcome oriented and assumes natural laws and mechanisms, with the primary mode of the research inquiry being theory-testing²⁴ or deduction. Survey research refers to

²³ 'Being objective is an essential aspect of competent inquiry; researchers must examine methods and conclusions for bias.' (Creswell, 2014).

²⁴ 'Theory in quantitative research is the use of an interrelated set of constructs (or variables) formed into propositions, or hypotheses, that specify the relationship among variables (typically in terms of magnitude or direction) and predicts the outcomes of a study.' (Creswell, 2014).

the set of methods used to gather data in a systematic way from a range of individuals or organisations. Specific methods include questionnaires on paper or online, interviews, focus groups, and many others. Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population²⁵. It is important to mention that surveys should reflect cultural realities in the field. Indeed, it is possible to construct cross-culturally valid and acceptable surveys in which the meanings of variables and scales are clearly understood across different settings, age groups, and other differences²⁶.

3.4 Data collection technique

A questionnaire adopting a quantitative orientation is concerned with systematically collecting quantifiable data relating to a number of variables²⁷. For this research, the investigation process described in the following chapter 4, identified the research constructs, the variables, and therefore the statements to measure board performance (i.e. BSAQ), and the national cultural attributes (i.e. VSM). The questions are of the closed Likert-type^{xxiv}, and they have been widely validated.

For this study, the statements of BSAQ had to be translated from English to the Greek language; the items of VSM had already been translated and validated for Greece. The procedure of Brislin's (1986) translation model was followed, as explained below but applying only two rounds for decentering (p. 160). The translation of the BSAQ statements was conducted during the months of winter 2010-11 and included four steps: (1) two parallel forward translations by native speakers of the Greek language, fluent in English and residents of Greece²⁸; (2) review of discrepancies and reconciliation of the two forward translations into intermediate forward translation by the researcher who is a native speaker of the Greek language and fluent in English; (3) two parallel back-translations of the

-

²⁵ In practice, the researcher collects information on instruments based on measures completed by the participants.

²⁶ This process takes time and cross-translation to guarantee that scales developed in one location and in one place and time will be relevant to other location, place, and time.

²⁷ The purpose is to statistically examine the data to discover associations and possible patterns or trends

²⁸ Anastasia Voutinioti, MA in computer science; Viky Kontaxis, BA, professional translator.

intermediate forward translation by native speakers of English and fluent in the Greek language²⁹; (4) review by forward translators / researcher of any concerns or discrepancies and retranslation where necessary to form the final forward translation.

Following the translation, a pre-field testing was conducted during the months of spring 2011 using the techniques of a respondent focus group³⁰, and of cognitive laboratory interviews³¹. A focus group of three former board directors kindly participated anonymously in an effort to identify variations in language, terminology, the appearance and formatting of the structured self-administered questionnaire. It is common sense to require that the concepts be clearly defined and questions unambiguously phrased; otherwise, the resulting data are apt to be seriously misleading. Besides the paper version, the questionnaire was designed to be distributed and conducted online by the internet, using available software (Google Forms). In a second step, three cognitive laboratory one-on-one interviews with on duty board directors³² were conducted expressing their thoughts while completing the questionnaire. From the pre-field testing an intervention to the questionnaire was unanimously suggested; to scale up the number of response categories in the Likert-type statements from the original 4 to 7. To ensure the comparability of the results with other surveys the questions must be drafted in the same manner³³. However, based on the findings of a simulation study (Dawes, 2008) that examined how using Likert-type scales with varying numbers of response categories influence the resultant data, it was decided to accept the pre-field testing suggestion for the 7 point scale. Specifically, one finding of the study was that if a scale with more response options was administered, respondents used more response options and that different scale formats exhibited no appreciable differences in terms of standard

-

²⁹ Mary Rogers, MA in English literature; Paul-Pentelis Stavropoulos, BA in economics.

³⁰ Respondent focus groups is a form of in-depth group interviewing used in a variety of ways to assess the question-answering process.

³¹ Laboratory interviews provide an important means of finding out directly from respondents what their problems are with the questionnaire.

³² Conveniently chosen from the researcher's personal professional networking.

³³ Techniques such as confirmatory factor analysis and SEM are sensitive to the characteristics of the data, such as variance, kurtosis and skewness (e.g. Bentler, 2006).

variation, skewness or kurtosis. The study also found that five and seven-point scales can easily be re-scaled with the resultant data being quite comparable. On the other hand, in practice most rating scales including attitude and opinion measures, contain either five or seven response categories (Bearden, Netemeyer, & Haws, 2011), even though in spite of decades of research from methodologists in psychology, survey research, education, and marketing, the issue of the optimal number of response categories in rating scales is still unresolved. About the only consensus reached is that there is no single universal number of options that work equally well in all measurement situations. To the interest of this study, uncertain and neutral response categories tend to be used more often on 3- and 5-point scales, less often on 7- (Matell & Jocoby, 1971, p. 508). Also, a study showed a slight support to use 7-point scale among respondents with a more cognitive ability like the board directors, and use a 5-point scale when respondents are general public (Weijters, Cabooter, & Schillewaert, 2010, p. 245). Miller (1956) argued that the human mind has a span of absolute judgment that can distinguish about seven distinct categories, a span of immediate memory for about seven items, and a span of attention that can encompass about six objects at a time, which suggested that any increase in number of response categories beyond six or seven might be futile. Concerning reliability, validity, and discriminating power, the 2-point, 3-point, and 4-point scales performed relatively poorly, and indices were significantly higher for scales with more response categories, up to about 7 (Preston & Coleman, 2000, pp. 11-12).

After the pre-field testing, a pilot test*** was administered on a convenience selected sample (N=55) from public hospitals and social care organisations boards of the 6th RHA during the second half of the year 2011³⁴, and the data processing and analysis concluded at mid-year 2012. Questionnaires derived from other locations and studies must be piloted in the local setting to ensure that the items have meaning and social validity (i.e. that they measure what they are intended to measure). The results of the pilot study were not included in the field data, in the final analysis, given that the pilot test respondents were not part of the same

_

³⁴ Official general approval to conduct the pilot study was granted 24th July 2011.

target population as the field respondents, and because the pilot test respondents were a convenience sample. Nonetheless, interesting information from the pilot test was used in the final analysis, and in the survey report, with the notification that the information came from the pilot study.

In this research, the questionnaire was completed by target respondents (i.e. board directors) who function as an informant on the establishment's behalf (e.g. public hospital). By studying the information included in the ministerial board members appointing decisions posted in the official government gazette for the period 2010-2014, the names of the target respondents were identified, and a detailed updateable³⁵ list was created (the survey frame), that served as a guide to the population to be covered. From the sampling frame were omitted target respondents who had served less than 12 months as board directors in the hospital, although 100 percent enumeration was used for the basic population counts (see Table 3.1). A complete enumeration-based survey is often preferred when little effort is saved by sampling, as is in the case of a small population. Hence, a census³⁶ is used when the population has many subdivisions (e.g. the hospitals in this research). Such a survey usually requires a large sample, and often a census offers the best solution³⁷. The board of directors' or the CEO Secretary in every hospital distributed and recollected the paper questionnaire to the target respondents and mailed them back to the researcher. Many board directors preferred to complete the survey online. Only in a few instances, the researcher was invited to meet in person with board directors for providing further information on the purpose of the research.

Table 3.1: Population of the study

Number of Hospitals	<mark>87</mark>
Number of Board Directorships (Members)	<mark>573</mark>
Number of Empty Directorships (not covered)	3

³⁵ The list was updated regularly in cases of resignations and/or replacements of board directors. In a few instances the researcher interacted dynamically with the hospital (Board's Secretary) in order to identify the target respondent(s).

³⁶ A census is a collection of information from all units in the population or a 'complete enumeration' of the population.

³⁷ In practice, there is always a proportion of the population, which is not captured by a data collection scheme intended to have complete coverage. The reasons for these information gaps are most commonly associated with operational difficulties.

Number of Board Members	<mark>570</mark>
Number of Board Members with experience less than 12 months	<mark>123</mark>
Population Size	<mark>447</mark>
Sample Size	<mark>224</mark>

3.5 Data analysis methods

In those research situations when complex phenomena have already been sufficiently understood to warrant an attempt at generalisation to a population rather than to a theory, then Structural Equation Modelling (SEM) may be the only appropriate quantitative technique to use. The statistical methods in SEM allow modifications of the model and retesting, with the final goal, as in this research, of constructing a research instrument for measuring board performance in public hospitals. The objective of covariance or correlation-based SEM is to show the goodness of fit of the assumed research model^{xxvi}.

The term Structural Equation Modelling is used as a generic notion referring to various types of commonly encountered models for depicting relationships among observed variables, with the basic goal of providing a quantitative test of a hypothesised theoretical model. Various theoretical models that hypothesise how sets of variables define constructs and how these constructs are related to each other can be tested in SEM. Specific characteristics of these models differentiate SEM from the classical linear modelling (CLM) approaches.

The CLM encompass regression analysis, analysis of variance, analysis of covariance, and a large part of multivariate statistical methods. A regression model, for instance, consists solely of observed variables where a single dependent observed variable is explained or predicted by one or more independent observed variables. SEM models, instead, are usually conceived in terms of not directly measurable, and possibly not (very) well-defined, theoretical or hypothetical constructs, known as latent variables. Latent variables are of substantive interest, and its interpretation is that an individual's standing on this unobserved dimension can be indicated by various proxies of the dimension, which are referred to as indicators or manifest variables. These are directly

measurable manifestations of the underlying latent dimension (or their measured aspects) recorded by the researcher in the process of data collection (e.g. answers to items of a questionnaire)³⁸. At the current research, which looks at performance and cultural issues in organisational settings, the board competencies, and the cultural constructs are unobserved concepts that can only be approximated by measured variables (i.e. questionnaires' items).

Obviously, it is quite common for manifest variables to be fallible and unreliable indicators of the unobservable latent constructs of real interest to the researcher. The models in SEM take into account potential errors of measurement in all observed variables by including an error term for each fallible measure, whether it is an explanatory or predicted variable. The variances of the error terms are parameters that are estimated when a model is fit to data. Instead, in models involving only observed variables, the measurement error is not taken into account. In CLM, typically models are fit to raw data, and no error of measurement in the independent variables is assumed. The measurement of error and the statistical analysis of data are treated separately. On the contrary, SEM techniques explicitly take measurement error into account when statistically analysing data (Schumacker & Lomax, 2010). Notwithstanding, the measurement error issue is related to the construct validity problem. The use of observed variables in the CLM assumes that all the measured variables are perfectly valid and reliable, which is unlikely in many applications. The validity and reliability issues in measurement have been handled in CLM by examining first the validity and reliability of scores on instruments used in a particular context; given an acceptable level of validity and reliability, the scores are then used in statistical analysis. However, the analysis of these scores (i.e. multiple regression, and path analysis) does not adjust for measurement error, which has serious consequences, for example, biased parameter estimates (Fuller, 1987; Cochran, 1968, cited in Schumacker & Lomax, 2010). In SEM, the interest to evaluate the extent to which a particular research instrument (e.g. a questionnaire) actually

_

³⁸ CLM and SEM share a common feature; many of the classical approaches and SEM are linear models. A frequent assumption made when using the SEM methodology is that the relationships among observed and/or latent variables are linear.

measures the latent variable that it is supposed to assess – that is, studying the psychometric properties of the measurement device - is facilitated by the developed SEM software, which accounts for the measurement error of variables (Raykov & Marcoulides, 2006). In this research, the statements that measure latent variables needed construct validation in order to be used in the Greek public hospital context.

Also, the models in SEM are fit to matrices of interrelationship indices³⁹ between all pairs of observed variables (Tabachnick & Fidell, 2007). Once a theory has been developed about a phenomenon of interest, the theory can be tested against empirical data using SEM. This process of testing is often called confirmatory mode of SEM applications. The objective of this research is to employ a confirmatory strategy for confirming the hypothesised relationships between the model's variables.

In order to test the effect of the cultural factors on the competencies models, the survey dataset was categorised every time into two levels (High and Low of every cultural variable) based on Hofstede's Indexes. The dataset had to be segmented into groups to avoid using the Hofstede's culture measures at the individual level. According to Hofstede's (2001) own admission, the culture measures that he suggested are mainly chosen for comparing groups; they are not reliable when studied at the individual level. Therefore, by segmenting the dataset into groups by cultural variable level, the cultural variable could be used at the group level, and its statistical problems at the individual level were overcome. Additionally, Hofstede confirmed that his cultural measures should also be suitable for the comparison of sub-culture groups within a single country (Hofstede, 1994b). Hofstede recommends that the minimum number of respondents per group, in that case, be 20; the influence of single individuals becomes too strong when respondents are less than 20. In this research, this recommended number was exceeded by far. The structural analysis for every cultural factor was done in two stages: first, a model analysis for the overall dataset, to assess the model for the

-

³⁹ i.e covariance or correlation matrices.

overall board members; second, a model analysis for each cultural variable group, to test the effect of the cultural factor in the model. This approach is a methodological framework for understanding the board performance perception within a cultural context and suggests such a framework for similar studies considering governing boards from other countries.

3.6 Ethical considerations

Ethical issues are taken very seriously in post-positivistic inquiries, but it is extrinsic to the inquiry process itself. Ethical behaviour is formally policed by professional codes of conduct and human subjects committees (Guba & Lincoln, 1994, p. 114). Panels of persons in the Ministry of Health and, also, in every Regional Health Authority (RHA) in Greece, who review research proposals with respect to ethical implications and decide whether additional precautions need to be taken to protect the rights of participants, grant a general consent for conducting research in the hospital sector. Consequently, the Professional Committees in every hospital also help to protect the hospital against potential legal implications of neglecting to address crucial ethical issues. General consent for the pilot study was received by the 6th RHA on the 24th June 2011, for the survey by the Ministry of Health on 30th June 2014⁴⁰, and the last consent by RHA was received on 18th September 2014. Copies of the approval letters are attached at Appendix I. Approvals by hospital Professional Committees were recorded in the minutes but no quotes taken from minutes are available (is not allowed). About the last approval of conducting the research survey by hospital Professional Committee, the Researcher was orally informed by the hospital's CEO at the end of April 2015.

For obtaining clearance for the project, the participants were informed by a front page letter in the questionnaire about the nature and process of the research, the vested interest in carrying out this research for the MoH, the hospitals, and the researcher, the time expectation of their participation. Also, assured the

_

⁴⁰ The request to MoH was submitted on 30th April 2014. The delay to start the survey wasn't initially intended, but arose as a consequence of reasons extrinsic to the research project.

participants for the compliance with the most important ethical agreements that prevail in social research: (1) the norms of *voluntary participation* and *no harm to participants* that both formulate the concept of the *informed consent*⁴¹, and (2) the guarantee of the participant's *confidentiality*⁴² and *anonymity*⁴³.

3.7 The role of the researcher

In post-positivism, the 'inquirer's voice is that of the disinterested scientist informing decision makers, policy makers, and change agents, who independently use this scientific information, at least in part, to form, explain, and justify actions, policies, and change proposals' (Guba & Lincoln, 1994, p. 115). This study involved the researcher as an outside observer with no intention to influence any variables, but only to measure them. However, the researcher's own background on governance of public hospitals and social care organisations from previous service on the board of a health regional authority in Greece, and furthermore, as managing director and president of the board of a public rehabilitation centre, facilitated immersion in the organisational culture and the development of an understanding of participants' perceptions. Moreover, it has been argued that 'A researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions' (Malterud, 2001, p. 483). Therefore, reflexivityxxvii is potentially inherent in this research by virtue of researcher's background qualification and expertise, but it was intended to limit the interpretations to those of the actors themselves and to report briefly, as best as possible, how the researcher's preconceptions⁴⁴, beliefs, values, and

_

⁴¹ 'A norm in which subjects base their voluntary participation in research projects on a full understanding of the possible risks involved.' (Babbie, 2009, p. 69).

⁴² 'A research project guarantees confidentiality when the researcher can identify a given person's responses but promises not to do so publicly.' (Babbie, 2009, p. 70).

⁴³ 'Anonymity is guaranteed in a research project when neither the researchers nor the readers of the findings can identify a given response with a given respondent.' (Babbie, 2009, p. 69).

⁴⁴ Preconceptions have been described as 'Previous personal and professional experiences, prestudy beliefs about how things are and what is to be investigated, motivation and qualifications for exploration of the field, and perspectives and theoretical foundations related to education and interests' and as a metaphor 'The researcher's backpack' (Malterud, 2001, p. 484).

assumptions have come into play during this research process, in accordance with the argument that 'Preconceptions are not the same as bias, unless the researcher fails to mention them' (Malterud, 2001, p. 484).

3.8 Conclusions

In this chapter, the research methodology was outlined and has given a rationale for selecting the quantitative approach in studying governance in specific social and cultural context. Laconically, this research uses theories and hypotheses that are based on current thinking and at the same time this researcher has direct experience of the phenomenon for a thorough understanding and less requisite in generating detailed information (e.g. with in-depth interviewing and other qualitative methods), which in the boardroom context is not practically feasible. Ethical issues pertaining to the research have been explored and summarised and has, also, given a critical account of the role of the researcher.

Chapter 4: Research Activity

4.1 Introduction

This chapter provides a comprehensive view of the exploratory research phase and aims to describe the investigation process for the identification of the research constructs, the variables, and the initially hypothesised measurement models. It also provides a detailed description of the data estimation methods throughout the research.

4.2 Identification of variables and formulation of analysis hypotheses

To meet the first objective of this research, which is to hypothesise board competencies models, the literature review in sections 2.4 and 2.7 has helped in delineating the kind of issues that need to be taken into account for studying the role of the board of directors in the governance of economic organisations, and, also, in section 2.5 the theory based board competencies models for effective governance that could have implications for boards of public, state-owned, organisations. In this part of the thesis, a board performance conceptual model will be constructed, taking into account cultural issues in order to identify the research variables and to formulate the research hypotheses.

4.2.1 A board performance conceptual model

This research board performance conceptual model (see Figure 4.1) that relates board competencies to board governance theoretical explanations and national culture draws in part on the work of Brown (2005) and Miller-Millesen (2003) on non-profits. In the corporate governance literature, Agency Theory (AT) suggests that the board members will be more vigilant in the monitoring task as their interests are aligned with those of stockholders, but empirical evidence is mixed⁴⁵. Notwithstanding, it has been suggested that in the non-profits AT propositions might be explained by adherence of the board to mission or purpose (Brown, 2005). This explanation might also be justified in the case of governmental organisations. Managing directors and board members in public

⁴⁵ The theory didn't predict the corporate scandals that swept the USA in 2002 (e.g. Enron, WorldCom) and it has been argued that the model should be augmented with additional theoretical explanations (Markham, 2006).

organisations are delegated their power by the political authorities, and both parties have some incentives to maintain their reputation as good citizens and disinterested administrators. Taking the Greek public hospital as an example, it is the board's duty to monitor the self-interested behaviour of the appointed, by the Health Minister, Managing Director to pursue the public interest (i.e. ensure the fulfilment of government's and taxpayer's priorities in healthcare services). The board should not allow the organisation to engage in activities outside its bylaws, statutes, historical precedence and the social rationale for its existence.

From the board competencies literature presented in section 2.5 and Table 2.3, it has been shown that the BSAQ's 'contextual' competency reflects the monitoring and accountability function of the board by linking decision making to the mission of the organisation⁴⁶.

The twelve statements (i.e. variables) of the Contextual Competency construct⁴⁷, are:

C6	'Induction programmes for new board members specifically include a segment about both the National Health System and the organisation's history and traditions.'
	'In discussing key issues, it is not unusual for someone on the board to
C12	talk about what this organisation stands for and how that is related to
	the matter at hand.'
C13	'Values are seldom discussed explicitly at our board meetings.'
C30	'This board has made a key decision that I believe to be inconsistent
C30	with the mission of this organisation.'
	'I have been present in board meetings where discussions of the
C37	history and mission of the organisation were key factors in reaching a
	conclusion on a problem.'
C39	'It is apparent from the comments of some of our board members that
C39	they do not understand the mission of the organisation very well.'
643	'There have been occasions where the board itself has acted in ways
C42	inconsistent with the organisation's deepest values.'
C44	'New members are provided with a detailed explanation of this
	organisation's mission when they join this board.'
C49	'This board reviews the organisation's mission at periodic intervals.'

⁴⁶ A relevant construct is the 'Board Culture', which examines board dynamics, organisational values, communication styles, and degree of trust (Gill et al., 2005, p. 277).

⁴⁷ The word of construct shows a theoretical viewpoint to explain some phenomenon (Wiersma, 2000).

67

C55 'One of the reasons I joined this board was that I believe strongly in the values of this organisation.'

'Former members of this board have participated in special events designed to convey to new members the organisation's history and values.'

C62 'This board understands the norms of the professions working in this organisation.'



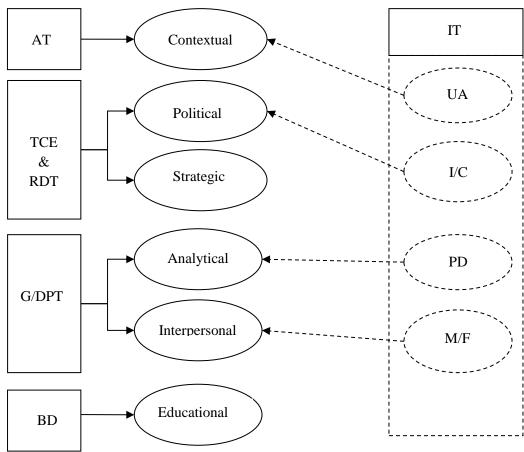


Figure 4.1: The conceptual model relating board competencies to board governance theoretical explanations and to the national culture

It was shown in section 2.4.4 that Institutional Theory (IT) relates board governance with culture and therefore to the national culture dimensions identified by Hofstede (1980). Moreover, the formalisation of the organisation

structure with detailed rules, procedures, and records to limit discretion conforms to the societal norms of high Uncertainty Avoidance (UA). Especially in governmental organisations, the formalisation is coercive and, therefore, board's monitoring function is less demanding. In the case of public hospitals in Greece, for example, both parties are not willing to take some risks – the Minister of Health in delegating power, the subordinate (i.e. Managing Director) in accepting responsibility. The argument here is that the adherence of board members to mission or purpose of the organisation is more essential for the effectiveness of board's monitoring function in low UA cultures, where less formalisation does not contradict with legitimacy, than in high UA cultures with management bound to comply with the detailed administrative formal rules. Therefore, for public hospitals,

Hypothesis 1a: It is expected a negative relationship between UA and contextual performance in boards, for cultural groups with high UA.

Hypothesis 1b: It is expected a positive relationship between UA and contextual performance in boards, for cultural groups with low UA.

The four statements of the UA dimension, are:

	'Please think of an ideal job, disregarding your present job, if you
	have one. In choosing an ideal job, how important would it be to you
	to'
UAI13	'How often do you feel nervous or tense at work?'
	'To what extent do you agree or disagree with each of the following
	statements?'
UAI16	
	'One can be a good manager without having precise answers to most
	questions that subordinates may raise about their work.'
UAI18	'Competition among employees usually does more harm than good'
114140	'A company's or organisation's rules should not be broken - not even
UAI19	when the employee thinks it is in the company's best interest.'

It was also stated in sections 2.4.2 & 2.4.3 that the Transaction Cost Economics (TCE) and the Resource Dependence Theory (RDT) suggest that board provides linkages to organisation's environment and strategic direction, besides monitoring. Empirical evidence for non-profits, cited in Brown (2005), support the above theoretical perspectives. For corporate governance, the concept of

'board social capital' has been used by Kim & Cannella (2008) as an asset that includes both relations of directors and potential resources, important to board effectiveness, arising from the relations. In the case of public hospitals, it might be relevant the concept of 'board capital', suggested by Hillman & Dalziel (2003), which combines human capital (i.e. expertise, experience, and reputation) and relational capital (i.e. networks and linkages to external constituencies). Constituency and taxpayers expect aggregate interests to prevail over autonomous ones and they have a preference for group consensus over individual decision making. Boards high in board capital are expected to improve the legitimacy and reputation of governmental organisations by conforming to the societal norm of collectivist values (i.e. Hofstede's I/C cultural dimension), the ability to acquire the necessary public funds (i.e. budget and other financial plan approvals) and scarce resources (e.g. approvals for personnel positions), and hence, to be more inclined to provide advice and counsel concerning the longterm direction of the organisation. The BSAQ's 'political' competency recognises the fundamental importance of the board's connection to the community⁴⁸, and the 'strategic' competency the board's ability to envision and shape institutional direction⁴⁹. Therefore, for public hospitals,

Hypothesis 2a: It is expected a negative relationship between I/C values and political performance in boards, for individualist cultural groups.

Hypothesis 2b: It is expected a positive relationship between I/C values and political performance in boards, for collectivist cultural groups.

The eight statements for the Political Competency construct, are:

P9	'This board communicates its decisions to all those who are affected by them.'
P14	'If our board thinks that an important internal or external stakeholder or stakeholder group is likely to disagree with an action we are

⁴⁸ A relevant construct is 'Community Representation and Advocacy', which assesses communication practices, stakeholder input, and whether nomination processes generate board membership that adequately represents community diversity (Gill et al., 2005, p. 278).

⁴⁹ A relevant construct is 'Mission and Planning', which measures the level of board engagement in planning, agreement on direction, and clarity of objectives (Gill et al., 2005, p. 277).

	considering, we will make sure we learn how they feel before we
	actually make the decision.'
P19	'This board has formed ad hoc committees or task forces that include
P 1 9	staff as well as board members.'
P25	'I have been in board meetings where explicit attention was given to
P23	the concerns of the local community.'
P33	'The board periodically requests information on the morale of the
P33	professional staff.'
P41	'Before reaching a decision on important issues, this board usually
P41	requests input from persons likely to be affected by the decision.'
P47	'At times, this board has appeared unaware of the impact its decisions
P47	will have within our local community.'
P53	'The Managing Director rarely report to the board on the concerns of
P33	those the organisation serves.'

The statements variables for the Strategic Competency construct, are:

S7	'This board is more involved in trying to put out fires than in preparing for the future.'
S8	'The board sets clear organisational priorities for the year ahead.'
S16	'This board delays action until an issue becomes urgent or critical.'
S35	'Our board meetings tend to focus more on current concerns than on preparing for the future.'
S36	'At least once a year, this board asks that the Managing Director articulate his/her vision for the organisation's future and strategies to realise that vision.'
S40	'This board has on occasion evaded responsibility for some important issue facing the organisation.'
S43	'This board often discusses where the organisation should be headed five or more years into the future.'
S48	'Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals.'
S54	'I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness.'
S57	'The board discusses events and trends in the larger environment that may present specific opportunities for this organisation.'
S61	'This board makes explicit use of the long range priorities of this organisation in dealing with current issues.'
S64	'More than half of this board's time is spent in discussions of issues of importance to the organisation's long range future.'

The four statements for the Individualism/Collectivism (I/C) dimension, are:

IDV1	'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to'
	'have sufficient time for your personal or family life.'

IDV2	'have good physical working conditions (good ventilation and lighting, adequate work space, etc.)'
IDV4	'have security of employment.'
IDV8	'have an element of variety and adventure in the job.'

In section 2.4.5 was stated that theoretical explanations of how boards make decisions and how their members interact have guided formalistic statutory rules (i.e. normative) governing board of director processes in corporate, non-profit, and public governance. Board member occupational diversity and board composition studies in non-profits, cited in Brown (2005), suggest that diversity and composition are related to the organisational performance by providing boards with new insights and perspectives. The BSAQ's 'analytical' competency suggests that the board's capacity to dissect complex problems and draw on multiple perspectives is fundamental to effective performance, which means that the board benefits from the voice multiplicity of its diversified members⁵⁰. Moreover, the BSAQ's 'interpersonal' competency suggests that the board works as a group⁵¹. Even though insights from peer group research do not exist, it is expected that formal board practices followed by governmental organisations (e.g. public hospitals) boards in order to legitimatize their decisions, help boards to perform better as a group.

The ten statements for Analytical Competency construct, are:

A1	'This board takes regular steps to keep informed about important trends in the local health economy, and in the wider national healthcare environment, that might affect the organisation.'
A4	'I have been in board meetings where it seemed that the subtleties of
	the issues we dealt with escaped the awareness of a number of the
	members.'
A5	'Our board explicitly examines the 'downside' or possible pitfalls of any
	important decisions it is about to make.'
A11	'Many of the issues that this board deals with seem to be separate
	tasks, unrelated to one another.'
A22	'I find it easy to identify the key issues that this board faces.'

⁵⁰ A relevant construct is 'Performance Monitoring and Accountability', which evaluates the care with which the board monitors information and results, the adequacy of the board's accountability to stakeholders, and the extent to which it ensures fair dispute-resolution processes (Gill et al., 2005, p. 278).

⁵¹ A relevant construct is 'Board Culture', which examines board dynamics, organisational values, communication styles, and degree of trust (Gill et al., 2005, p. 277).

72

A23	'When faced with an important issue, the board often 'brainstorms' and tries to generate a whole list of creative approaches or solutions to the problem.'
A28	'When issues come before our board, they are seldom framed in a way that enables members to see the connections between the matter at hand and the organisation's overall strategy.'
A46	'Recommendations from the Managing Director are usually accepted with little questioning in board meetings.'
A52	'This board tries to avoid issues that are ambiguous and complicated.'
A60	'This board seeks information and advice from leaders of other similar organisations.'

The ten statements for the Interpersonal Competency construct, are:

13	'I have had conversations with other members of this board regarding common interests we share outside this organisation.'
l15	'Differences of opinion in board decisions are more often settled by vote than by more discussion.'
120	'This board is as attentive to how it reaches conclusions as it is to what is decided.'
127	'At our board meetings, there is at least as much dialogue among nonexecutive members as there is between nonexecutive members and executive members.'
l31	'The leadership of this board typically goes out of its way to make sure that all members have the same information on important issues.'
132	'This board has adopted some explicit goals for itself, distinct from goals it has for the total organisation.'
l51	'I am able to speak my mind on key issues without fear that I will be ostracised by some members of this board.'
156	'This board does not recognise special events in the lives of its members.'
159	'This board provides biographical information that helps members get to know one another better.'
163	'Members of this board seldom attend social events sponsored by this organisation.'

However, as it was mentioned in section 2.4.4.1, in high Power Distance (PD) cultures organisations prefer strong authority and steep hierarchies, while in low PD cultures organisations are more decentralised, and there is more consultation in decision making. Taking the Greek public hospitals as an example, the consolidated Chair and Managing Director represents a steeper hierarchy, exemplifies high PD and gives the Managing Director greater stature and political influence over the board. Therefore, for public hospitals,

Hypothesis 3a: It is expected a negative relationship between PD and analytical performance in boards, for cultural groups high in PD.

Hypothesis 3b: It is expected a positive relationship between PD and analytical performance in boards, for cultural groups low in PD.

The four statements for Power Distance (PD) dimension, are:

PD3	'have a good working relationship with your direct superior.'
PD6	'be consulted by your direct superior in his/her decisions.'
PD14	'How frequently, in your experience, are subordinates afraid to
PD14	express disagreement with their superiors?'
'-	'To what extent do you agree or disagree with each of the following
	statements?'
PD17	
	'An organisation structure in which certain subordinates have two
	bosses should be avoided at all costs.'

It was mentioned, also, in section 2.4.4.1 that a value orientation with emphasis on trusting people, on caring for others, and of been modest is described as more 'feminine' and attention to the quality of interpersonal relationships is expected. On the contrary, assertiveness, competitiveness and pursue of personal achievement are behaviours consistent with 'masculine' values that undermine qualitative and creative interpersonal relations among peers. Therefore, for public hospitals,

Hypothesis 4a: It is expected a negative relationship between M/F and interpersonal performance in boards, for cultural groups of a masculine type.

Hypothesis 4b: It is expected a positive relationship between M/F and interpersonal performance in boards, for cultural groups of a feminine type.

The four statements of Masculinity/Femininity (MAS) dimension, are:

MAS5	'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to'
	'work with people who cooperate well with one another.'

MAS7	'have an opportunity for advancement to higher level jobs.'				
MAS15	'To what extent do you agree or disagree with each of the following statements?'				
	'Most people can be trusted.'				
MAS20	'When people have failed in life, it is often their own fault.'				

Finally, in section 2.4.6 was indicated that for Board Development (BD) board members' sense of governance tends to develop most effectively when they personally commit to the social, relational and learning aspects of the work of the board. Therefore, the most relevant variable for measuring the learning aspects of the board is the 'educational' that suggests the board takes the necessary steps to ensure that members are well informed about the organisation, the professions working there, and the board's own roles, responsibilities, and performance⁵² and its twelve statements, are:

D2	'I have participated in board discussions about what we should do differently as a result of a mistake the board made.'
	'At least once every two years, our board has a retreat or special
D10	session to examine our performance, how well we are doing as a
	board.'
D17	'This board periodically sets aside time to learn more about important
	issues facing organisations like the one we govern.'
D18	'I can recall an occasion when the board acknowledged its
	responsibility for an ill-advised decision.'
D21	'Most people on this board tend to rely on observation and informal
	discussions to learn about their role and responsibilities.'
D24	'When a new member joins this board, we make sure that someone
	serves as a mentor to help this person learn the ropes.'
D26	'I have participated in board discussions about the effectiveness of our
	performance.'
D29	'I have participated in discussions with new board members about the
	roles and responsibilities of a board member.'
D34	'I have participated in board discussions about what we can learn
U34	from a mistake we have made.'
D38	'I have never received feedback on my performance as a member of
	this board.'
D45	'This board does not allocate organisational funds for the purpose of
	board education and development.'
D50	'This board has conducted an explicit examination of its roles and
	responsibilities.'

⁵² A relevant construct is 'Board Development', which assesses practices related to recruitment and orientation of board members, team building, and board self-assessment (Gill et al., 2005, p. 278).

75

4.3 Preliminary data analysis

An attentive and critical analysis of the data set is essential in the course of statistical analysis. The final conclusions rely basically on the data set. This section deals with issues that could affect the modelling process.

4.3.1 Nonresponse effect

In this research, the questionnaire was completed by target respondents (i.e. board directors) who function as an informant on the establishment's behalf (i.e. public hospital). In a questionnaire survey research, the 'nonresponse effect' is one of the diagnostic tools needed to understand components of total survey error. The nonresponse effect has to do with the error that can result if nonrespondents differ from respondents in such ways that are relevant to the objectives of the survey. Often, it is assumed that the lower the response rate, the more question there is about the validity of the research. Response rate information on its own is not sufficient for determining how much nonresponse error exists, or even whether it exists at all. However, calculating the rates is a critical first step to understanding the presence of this component of potential survey error. Following, in this research, the 'American Association for Public Opinion Research' (AAPOR) convention (The American Association for Public Opinion Research, 2011), several calculated response rates and their definitions are presented in Table 4.1.

Table 4.1: Response Rates

Outcome Rates	Definitions (AAPOR convention)					
RR6 = 50.1%	Response rate: The number of complete interviews with respondents divided by the number of eligible respondents. RR6 represents the maximum response rate (i.e. there are no cases of unknown eligibility; includes partial interviews as respondents). Forty two out of two hundred twenty four respondents (i.e. 18.7%) send their responses online.					
COOP4 = 50.1%	<u>Cooperation rate:</u> The proportion of all cases interviewed of all eligible respondents ever contacted. COOP4 defines those unable to do an interview as also incapable of cooperating, and they are excluded from the base and includes partial interviews as respondents.					
REF3 = 49.9%	Refusal rate: The proportion of all cases in which the respondent refuses to be interviewed, or breaks off an interview, of all potentially eligible cases.					
CON3 = 100%	<u>Contact rate:</u> The proportion of all cases in which some respondent was reached. CON3 is analogous to RR6.					
Non Response = 49.9%	Refusal and non-contact were summed to equal the non-response rate.					

4.3.2 Screening of data

Data screening is the process of ensuring the data set is usable and reliable for statistical analyses. Next, four specific issues of screening the data are addressed.

4.3.2.1 Missing data

The software program used in the online questionnaire automatically recorded responses; therefore, no missing observations resulting from typing errors were possible. Because of the software feature that was used to record responses prevented participants from continuing to the next questions until all responses were completed on the current screen⁵³, no missing data were attributable to incomplete questionnaires. Instead, the source of missing data resulted from respondents who did not elect to use the online questionnaire. For these four respondents with missing data, it was checked and found no relation with any particular non-demographic variable. Although there are excellent analysis tools for circumventing missing data, those four observations were omitted from the analysis.

4.3.2.2 Univariate outliers

Univariate outliers are cases that have an unusual value for a single variable. In Likert-type scales, outliers do not actually exist. Instead, the data set was checked for patterns of answers indicative of unengaged respondents⁵⁴.

4.3.2.3 Multivariate Outliers

Multivariate outliers are responses that do not fit the standard sets of correlations exhibited by the other replies in the dataset, with regard to the theory. The responses for any of the individual variables may not be a univariate outlier, but, in combination with other variables, is a case that occurs very rarely. In this research, the position about multivariate outliers is that there is no

⁵³ This rule didn't apply for the four questions about demographic data because the pilot study showed the reluctance of the majority of the respondents to provide private information of that kind to secure confidentiality.

⁵⁴ For example 3, 3, 3, 3 ... or 1, 2, 3, 4, 5, 6, 7, 1, 2, 3, 4, 5, 6, 7... or 1, 1, 1, 1, 7, 7, 7, 7, 1, 1, 1, 1, 7, 7....

reasonable way to justify the removal of them just because they do not match the theory.

4.3.2.4 Non-randomness

Test for randomness is of importance because the assumption of randomness underlies statistical inference. For ordinal variables, the non-parametric technique Runs is used for examining whether or not a set of observations constitutes a random sample from an infinite population (Bradley, 1968, ch. 12). In this research, the Run test was used (available in SPSS) to test for randomness because it does not claim distributional assumptions such as normality⁵⁵. The cut point was based on the measure of central tendency 'median'⁵⁶. A sample with too many or too few runs suggests that the sample is not random.

Only two variables (i.e. UAI18 'Competition among employees usually does more harm than good'; PD14 'How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?') have a zero p-value. For the rest of the variables p-values are not significant (>0) (see Table IV27) and we cannot say that the 82 out of 84 variables are not random.

4.4 Data estimation methods

The above theoretical investigation process identified the research constructs (i.e. the six board competencies and the four national culture dimensions) and their related statements (i.e. 64 statements for the six board competencies and 20 for the four cultural dimensions) for which discernible patterns must statistically be researched for. For every construct, an exploratory investigation of the underlying pattern of relationships among the statements would reveal if the questionnaire is uni- or multi-dimensional and, therefore, the hypothetical and measurement models can be designed. Factor analysis can be done in an exploratory fashion to reveal patterns among the inter-relationships of the statements. These statements reflect the causal impact of the 'latent' underlying

⁵⁵ Normality refers to the distribution of the data for a particular variable. A normal distribution is assumed for many statistical procedures.

⁵⁶ Any value below the median point will belong to one group and any value greater than or equal to median will belong to the other group.

board competencies. Exploratory Factor Analyses (EFA) were used to assess the dimensionality of the board competencies. Based on preliminary exploratory findings (i.e. EFAs) about the strength of the measurement models, the final theoretical models were developed and then confirmed. Factor Analysis can also be used to test whether a set of statements designed to measure a certain construct(s) do, in fact, reveal the hypothesised factor structure (i.e. whether the underlying latent factor truly 'causes' the variance in the observed variables and how 'certain' we can be about it). In other words, factor analysis can also be used to test a priori hypotheses about the relations among a set of observed variables. With Confirmatory Factor Analysis (CFA), the number of factors that exist within a set of variables is specified and which factor each variable will load highly on before results can be computed. SEM is then applied to test the extent to which an a priori pattern of factor loadings represents the actual data. Also, in measurement research for validating a questionnaire with a given or hypothesised factor structure, CFA is used.

4.4.1 About Exploratory Factor Analysis methods adopted in this research

4.4.1.1 Why EFA for the six board competencies

Exploratory Factor Analysis is used to examine how underlying constructs influence the responses on a number of measured variables (i.e. reflective^{xxix} factor models) and is considered the method of choice for interpreting self-reporting questionnaires (Williams, Brown, & Onsman, 2012, p. 2). With EFA, it is attempted to discover the nature of the constructs influencing a set of responses and therefore all measured variables are related to every factor by a factor loading^{xxx} estimate and a simple structure results when each measured variable loads highly on only one factor and has smaller loadings on other factors (i.e. loadings < 0.4). In EFA, the factors are not derived from theory but statistical results, and so they can only be named after the factor analysis is performed. In other words, EFA is heuristic⁵⁷ or it can be conducted without knowing how many

_

⁵⁷ Irregular formation from Greek *heuriskein* 'to find; find out, discover; devise, invent; get, gain, procure' + -istic. Greek language has *heuretikos* 'inventive', also *heurema* 'an invention, a discovery; that which is found unexpectedly'.

factors exist or which variables belong to which constructs relying on the sample to estimate it, therefore, is exploratory in nature. This commonly occurs when new evaluation instruments or questionnaires are developed and tested for the first time. In general, EFA is used when a strong theory about the constructs underlying responses to measures is lacking and CFA when it is not. The six board competencies in this survey that capture the elements of effective governance were identified by experts on board development using the critical incident technique and a qualitative study, and they have been tested for non-profits in the USA (Jackson & Holland, 1998, McDonagh, 2005). However, by this research, where corporate governance and organisational theories that supported the board competencies constructs were enhanced by national culture theory (Hofstede, 1980), an exploratory study is required for the specific sector (i.e. of state-owned hospitals) and national culture context (i.e. in Greece).

4.4.1.2 Adopted measure of association

In the case of Likert-type rating questionnaires, as is this research, the created variables are ordinal, and the strength of the relationship among them are better estimated by a measure of correlation known as polychoric correlation. The polychoric correlation is a technique for estimating the correlation between two bivariate normally distributed continues variables using an ordinal questionnairexxxii (Olsson, 1979). Conventional EFA is based on Pearson correlation matrix where equal interval scales58 are assumed in the measurement of the data, but Pearson correlations have been found to underestimate the strength of relationships between ordinal items (Garrido, Abad, & Ponsoda, 2013). Therefore, polychoric correlations were estimated for this research, using the freely available standalone EFA software package FACTOR for PC (Lorenzo-Seva & Ferrando, 2013, http://psico.fcep.urv.cat/ utilitats/factor/).

FACTOR recommends the use of polychoric correlations when either univariate skewness or kurtosis statistics are higher than one in absolute value (Muthin,

⁵⁸ When a question asks respondents to choose from an ordered set with equal intervals between choices, but there is no zero (e.g. centigrade scale), the scale is called interval (Stevens, 1946).

1985). For multivariate situations, Mardia's tests of multivariate skewness and multivariate kurtosis (Mardia, 1970) are popular for testing multinormality in samples, and they have been used here. Mardia's tests allow one to test null hypotheses that conform to the assumption of multinormality (i.e. the degree to which multivariate data deviate from multinormality). The implications are relatively clear when null hypotheses concerning multinormality are rejected (p<.05). In such a situation, one can assume that the data at hand have a very small probability to have been drawn from a multinormal population. Mardia's test results were used in this research and supported all decisions to use polychoric correlations.

4.4.1.3 Adopted method for factor extraction

In EFA the factor extraction method it is recommended to 'be based on the scale and the shape of the data's distribution' (Baglin, 2014, p. 4). In this research, as a method to extract the factors, the Minimum Rank Factor Analysis (MRFA), as implemented only in FACTOR, was used, for estimating the percentage of common variance explained by the EFA model. The percentage of explained common variance is similar in meaning to the percentage of explained observed variance in Principal Component Analysis (PCA) (Pearson, 1901), but typically the former is much closer to 100 than the latter, and it is possible to distinguish the explained common variance from the total common variance (Shapiro & Ten Berge, 2002, p. 79). The overall percentage of common variance explained estimated by MRFA expresses the overall fit of the factor model.

4.4.1.4 Appropriateness of data for factor analysis

Prior to the extraction of the factors, the suitability of the respondent data should be tested. In other words, needs to be examined how much collinearity or common variance exists among the variables using the identity matrix or needs to be determined the factorability of the intercorrelation matrix. For this research, to test the appropriateness of each factor model, Bartlett's test of sphericity and the Kaiser-Meyer Oklin (KMO) test of sampling adequacy were used to test the null hypotheses that the variables are intercorrelated in

population. Those two statistics help assess whether the items are indeed correlated enough to proceed with factor analysis. Bartlett's test of sphericity indicates whether the correlation matrix is significantly different from an identity matrix (i.e. 1's on the diagonal, 0's everywhere else). Its calculation is based on a chi-square transformation of the determinant of the correlation matrix (Hair et al., 2010). The Bartlett's test of Sphericity needs to be significant (p<.05) for factor analysis to be suitable. The KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy (MSA) assesses whether the sample of items (not people) is adequate by comparing the sizes of the observed correlation coefficients to the sizes of the partial correlation coefficients. The KMO index is recommended when the cases to variable ratio are less than 1:5. There is no significance test. The KMO index ranges from zero to one, with .50 considered suitable for factor analysis. Interpretive adjectives for the KMO are: in the 0.90's as 'marvellous', in the 0.80's as 'meritorious', in the 0.70's as 'middling', in the 0.60's as 'mediocre', in the 0.50's as 'miserable', and below 0.50 as 'unacceptable' (Kaiser, 1974). Every correlation matrix was examined carefully and the two tests namely Bartlett's test of Sphericity and Kaiser – Meyer Oklin test were undertaken to test if it was judicious to proceed with factor analysis in the present study.

4.4.1.5 Adopted method for factor retention

Deciding how many factors to retain, following extraction, a variation of Parallel Analysis (PA) using MRFA and polychoric correlations available in FACTOR was used. It is recommended that the Kaiser criterion (i.e. drop all components with eigenvalues under 1.0, Kaiser, 1960) and Cattel's scree plot (i.e. simply plot the eigenvalues of the first N principal components and inspect for sharp breaks in the plot, Cattell, 1966), can arise ambiguities and should be avoided while PA methods outperform both (Baglin, 2014, p. 4). PA (Horn, 1965) is an effective stopping rule that compares the eigenvalues of randomly generated data with those for the actual data. Horn's PA is a commonly recommended method for factor retention found to be superior to conventional methods (Ruscio & Roche, 2012) and is recommended with polychoric correlations for the dimensionality assessment of ordinal-level data (Garrido, Abad, & Ponsoda, 2013, p. 454).

Additionally, PA-MRFA, which compares the percentage of common variance extracted by MRFA, based on random permutation of the sample data instead of purely randomly generated data, outperformed Horn's PA and PA based on other factor extraction methods such as principal axis factoring (Timmerman & Lorenzo-Seva, 2011, p. 209). FACTOR compares the calculated mean or the 95th percentile of the factor's percentage of common variance accounted for from the randomly permutated data to the observed explained common variance from the sample and if a factor's observed percentage is higher than the random percentage, then the factor is retained (Baglin, 2014, p. 8).

4.4.1.6 About questionnaire validity and evaluation in EFA

In the adaptation, as is in this research, or in the development of survey instruments, it is obligatory to ensure that the questionnaire items actually reflect the theoretical latent constructs they are designed to measure in EFA. This condition has been referred to as the construct validity of the instrument (Bagozzi, Yi, & Phillips, 1991). Constructs must display adequate construct validity. Factor analytic techniques have been a widely used means of assessing construct validity (Thompson & Daniel, 1996). The strength of the measurement model is able to be evaluated using measures that are considered as tests for assuring that the measurements consistently measure the constructs that they are intended to measure and, also, in general, they are the principles used to judge the quality of the research. Construct validity for a unique factor is made up of convergent validity, content, and face validity. Based on the EFAs results the questionnaires were tested for convergent validity by examining sample size and factor loadings. Convergent validity means that the variables within a single factor are highly correlated as is evident from the standardised factor loading estimates that should be 0.5 or higher. Sufficient/significant loadings depend on the sample size. Generally, the smaller the sample size, the higher the required loading. The proposed rules of thumb were used in this research (see Table 4.2), for assessing the practical significance of standardised factor loadings calculated by FACTOR in each single factor:

Table 4.2: Table of loadings for practical significance

Factor loading	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75
Sample size needed	350	250	200	150	120	100	85	70	60	50

Source: Hair et al., 2010.

Content and Face Validity. With original questionnaires adapted to a specific context, as is this research, both content and face validity were re-evaluated. The constructs of this research study were taken from previous research on nonprofits, and they have carefully checked for content and face validity in the context of public hospitals in Greece. Content validity is present when survey questionnaire items correctly characterise the phenomena of interest. This is assessed by having experts knowledgeable in the field of research review questionnaire items to ensure that they fit with the phenomena of study. With regard to face validity, if the measures appear valid to a sample similar to study participants, the measure meets this criterion (Ritchie & Sherlock, 2009, p. 392). Face validity examines if the variables loading on the same factor are similar in nature and, therefore, the factor makes sense. In the linguistic adaptation face of the 64 statements of the six board competency constructs, a group of three board members who had served a 2-year term in public hospitals in Greece was used as experts to judge the items' content for validity and for suggesting changes in wording before the conduct of the pilot study. No items with virtually identical content were spotted. From the original 65 statements, one statement (i.e. 'This board relies on the natural emergence of leaders, rather than trying explicitly to cultivate future leaders for the board.') was eliminated as non-applicable in the Greek context, where the CEO presides the board and is presented by the Health Minister. The pilot study then was used as a pre-test to purify measures prior to exploratory analysis and confirmatory testing. In the pilot study phase, all participants were asked for suggestions on statements wording, but no further changes were suggested.

Next, for the six board competencies internal consistency/reliability, which is a type of convergent validity, was also re-evaluated. Reliability refers to the consistency of the item-level errors within a single factor and, therefore, is the degree of consistency of an instrument. In other words, a reliable group of

variables will constantly load on the same factor, and a reliable instrument is that which gives an identical score at all times⁵⁹. A common measure of internal consistency is the coefficient alpha (Cronbach, 1951) based on the Pearson correlation matrix. With a reporting range from zero to one, this measure provides an indicator of the extent to which items in a given questionnaire or construct measurement are correlated with each other. Survey instruments with questionnaires displaying alphas equal to or greater than the threshold level of .70 are generally considered to be internally consistent⁶⁰. Armor (1974) introduced a reliability estimate, the coefficient theta, to account for multidimensionality in a questionnaire, based on a principal components model. Coefficient theta for the single factor solution is computed with the following equation (Armor, 1974, p. 28):

$$\Theta = [(\frac{p}{(p-1)}] * [1 - (\frac{1}{\lambda_1})]$$

where p the number of items and λ_1 denotes the largest eigenvalue from the principal component analysis of the correlation matrix of the items involved in the composite. However, coefficient alpha gives one a downwardly biased estimate of the theoretical reliability with Likert data (Zumbo, Gadermann, & Zeisser, 2007, p. 23). FACTOR reports reliability estimates based on Mislevy & Bock (1990), and they were used in this study. The Mislevy and Bock estimate reflects the proportion of variance in a group of items' standardised factor scores accounted for by the latent variable. It is the squared correlation between the standardised factor score for each person in the population (summed or average scores across items that compose a factor) and an individual's true score on a

-

⁵⁹ Internal consistency is the most common form of reliability and it was measured in this research. Some other types of reliability are interrater and stability reliability, both not applicable in this research. Interrater reliability refers to the consistency of construct measurement across multiple raters, and stability reliability involves consistency over time (Ritchie & Sherlock, 2009, p. 393).

⁶⁰ Typically, the psychometric literature recommends that alpha for a scale should not be smaller than .70 when used for research purposes, at least .80 for applied settings, and greater than .90 or even .95 for high-stake, individual-based educational, diagnostic, or clinical purposes (Gadermann, Guhn, & Zumbo, 2012, P. 5).

latent variable (Baglin, 2014, p. 10). For comparison reasons, Cronbach's alpha and Armor's reliability theta were also calculated and reported.

4.4.2 About Confirmatory Factor Analysis methods adopted in this research

The confirmatory or the models testing phase of this research includes a testing process in which empirical testing is conducted for verifying or disconfirming the hypothetical board competency models. In research situations when complex phenomena have already been sufficiently understood to warrant an attempt at generalisation to a population rather than to a theory, then Confirmatory Factor Analysis (CFA) may be the only appropriate quantitative technique to use. CFA has strong links to Structural Equation Modelling (SEM), a relatively nonstandard area of statistics. The statistical methods in SEM allow modifications of the model and retesting, with the final goal, in this research, of constructing a research instrument for measuring board performance in public hospitals in Greece.

Confirmatory Factor Analysis (CFA) tests whether a specified set of constructs is influencing responses in a *predicted* way. CFA is the next step after EFA to confirm the factor structure extracted in the EFA. In general, EFA is used when there isn't one strong theory about the constructs underlying responses to the measures and CFA if there is one, where the researcher determines construct operationalization a priori (B. Thompson & Daniel, 1996). Therefore, it is reasonable to use an EFA to generate a theory about the constructs underlying the measures and then follow this up with a CFA, but this must be done using separate data sets. In this research, EFA was performed on half of the data set randomly selected by SPSS, and then the testing of the generality of the extracted factors was performed with a CFA on the second half of the data set in a software package called AMOS⁶¹.

In Amos, the measurement⁶² model is specified by creating a graphical representation of the model to be tested. When drawing models, latent variables are indicated by circles, rectangles show observed variables, small circles

-

⁶¹ AMOS (Analysis of MOment Structures) (Arbuckle, 2012)

⁶² The measurement model in CFA deals with the latent variables and their indicators.

represent the error term of the variable, and one-headed or two-headed arrows depict relationships between variables and the error terms of the variables. Model Specification is the process by which it is asserted which effects are null, which are fixed to a constant (usually 1.0), and which vary. Variable effects correspond to arrows in the model, while null effects correspond to an absence of an arrow. Fixed effects usually reflect effects set to 1.0 to establish the metric (discussed below) for a latent variable. In naming the variables, in this research, the initial letter of the construct (i.e. the board governance competency) and the statement's serial number in the questionnaire was used, adding the letter 'N' for the negatively-keyed statements (i.e. statements with negative meaning that the given responses were reversed).

Developing the reflective measurement models, any statement that was not expected to correlate highly with the other indicators of a factor was deleted. Error terms were fixed at zero and not estimated, and all measured variables were free to load on the construct or allowed to vary under specified constraints (i.e. being equal to another loading in the model). The 'scale' of the latent construct were set by fixing one loading and setting its value to 1⁶³.

For conducting CFA in AMOS, the polychoric correlations between each of the variables were first obtained using FACTOR, as in EFA, and are included in Appendix IV. AMOS uses the collected data to compute the statements' actual variances and the actual covariances among the statements. This information is used later to estimate statement parameters and to gauge the model's accuracy. Thus, in the second phase, AMOS uses statements' actual variances and covariances to estimate parameters as specified in the model (i.e. it uses the actual association between two statements to estimate the factor loadings that they might have on the common construct and the error variances). As a method to obtain the estimates of factor loadings that were free to vary, the General

٠

⁶³ Because it is unobserved a latent construct has no metric scale, meaning no range of values. In CFA the researcher must set the scale of a latent factor. This must be done in one of two ways: (a) Fixing one of the factor loadings on each construct to a specific value (1 is typically used) or (b) Fixing the value of the variance of the construct (again to 1).

Least Square (GLS) estimator⁶⁴ was used in AMOS as it is recommended since the sample size (n=112) is relatively small (Olsson, Foss, Troye, & Howell, 2000, p. 579)⁶⁵. Additionally, inferential statistics for each parameter are computed by AMOS. In the inferential test of a parameter, the null hypothesis is that the parameter is zero in the population (i.e. AMOS tests all hypothesised factor loadings, evaluating whether each statement loads significantly on the construct).

4.4.2.1 About model fit and fit indices

Model fit refers to how well a proposed model (in this research, every board competency model developed in EFA) accounts for the correlations between variables in the dataset. Therefore, in the third phase, AMOS uses the estimated parameters to create 'implied' statement variances and covariances based upon statistical rules linking parameters to statement variances and covariances. If the model is good (i.e. if it is a good approximation of the true factor model), then the implied variances and covariances will match the actual variances closely and covariances computed in the first phase. If the model is poor, then the implied values will differ immensely from the actual values. The amount of discrepancy after the selection of the best parameters is used as a measure of how consistent is the model with the data. Consequently, in the fourth phase, AMOS generates information reflecting the overall adequacy of the hypothesised model, by comparing the implied variances and covariances to the actual variances and covariances, and thus computing indices of 'model fit' and 'modification'. Small discrepancies between implied and actual values yield indices reflecting good fit, suggesting that the hypothesised measurement model adequately explains the associations among the questionnaire's statements. In contrast, large discrepancies produce indices suggesting that the hypothesised measurement

-

⁶⁴ General Least Squares (GLS) are a family of estimation methods that were developed as a more unified approach to estimation and as an alternative to maximum likelihood (ML) that has been the predominant estimation method since the inception of contemporary structural equation methodology in the middle 1960s (Anderson & Gerbing, 1988, p. 413).

⁶⁵ The method of GLS assumes multivariate normality of the observed variables and not too small a sample size (several hundred), although a higher number of indicators per factor ratio (i.e. over 3:1) in CFA may compensate for small N (Boomsma, 2000, p. 11), as in this research.

model not adequately accounts for the questionnaire's data. The specific indices or tests that can be calculated to determine goodness of fit by AMOS and they were used in this research will be explained in more detail here, while more about the modification indices will follow.

4.4.2.2 Tests of absolute fit

The most commonly used test of model adequacy is the chi-squared goodnessof-fit test. The null hypothesis for this test is that the model fits exactly in the population or that the model adequately accounts for the data while the alternative is that there is a significant amount of discrepancy. AMOS calculates the χ^2 value, the degrees of freedom (DF), and returns the probability value (p) that a χ^2 value this large or larger would be obtained by chance if the null hypothesis that the model fits the data is true. So the hope is to find a small, nonsignificant χ^2 value for this test, otherwise, if the p-value of the χ^2 test is lower than the .05 level used by convention, the null hypothesis that the model fits the data would be rejected, which is not good news. In this way, a non-significant χ^2 is interpreted as meaning that the researcher's model could have produced the data in the real world. For models with around 75 to 200 cases, as in this research, the chi-square test is generally a reasonable measure of fit (Kenny, 2015). The degrees of freedom of a model are the numbers of knowns minus the number of free parameters and represent the level of overidentification xxxii of the model. An overidentified model has positive degrees of freedom. The positive degrees of freedom related to an overidentified model permits the model to be falsified with the χ^2 test⁶⁶. In case an overidentified model does fit well, then the model is considered to be an adequate fit for the data. Because sample sizes in this research were less than 400 cases and the chi-square will hardly ever be significant⁶⁷, it was decided to use the ratio between the chi-square test statistic value and the degrees of freedom of the model (χ^2/df) which is less sensitive to sample size as an additional measure of fit. The problem with this fit index is that there is not a standard for a good or a bad fitting model universally agreed upon

⁶⁶ The larger the degrees of freedom the larger the critical chi-square (the tabled value).

⁶⁷ With large sample sizes (>400) it will almost always be significant (Kenny, 2015).

⁶⁸. In this research, it was followed that the relative χ^2 value⁶⁹ of 3.00 or below is considered good fit (Hair et al., 2010).

Additionally, a popular measure of fit is the RMSEA (Root Mean Square Error of Approximation)⁷⁰. By convention, there is good model fit if RMSEA is less than or equal to .05. There is adequate fit if RMSEA is less than or equal to .08. RMSEA is reported with its confidence intervals. In a well-fitting model, the lower 90% confidence limit includes or is very close to zero, while the upper bound is less than .08. The PCLOSE (p) tests the null hypothesis that RMSEA is no greater than .05. If p is less than .05, the null hypothesis is rejected concluding that the computed RMSEA is greater than .05, indicating a lack of a close fit.

In this research, the RMR (Root Mean Square Residual) test that AMOS calculates was also used for the evaluations of the CFA models. RMR is the square root of the average squared amount by which the sample variances and correlations differ from their estimates obtained under the assumption that the model is correct (Arbuckle, 2012, p. 616). Zero represents a perfect fit, but the maximum is unlimited. Therefore it is hard to interpret, and consensus has not been reached on the levels that represent acceptable models.

4.4.2.3 Tests of Relative Fit

Aside from the above tests, there are numerous ancillary indices of global fit. A model may be rejected on an absolute basis, yet may outperform some other baseline model by a substantial amount. Put another way; the proposed model is substantially less false than a baseline model. The worst possible model in AMOS automatically fitted as part of every analysis is called the *independence model* which contains estimates of the variances of the observed variables only. In other words, the independence model assumes all relationships between the observed variables are zero (Arbuckle, 2012, p. 625) and is one of the most restrictive models that can be fit. For example, the Comparative Fit Index (CFI)

⁶⁸ However, two very popular fit indices, TLI and RMSEA, are largely based on this ratio (Kenny, 2015).

⁶⁹ Also called **normal chi-square.**

⁷⁰ Also called **discrepancy per degree of freedom**.

and the Tucker-Lewis Index (TLI) compare the absolute fit of the proposed model to the absolute fit of the Independence model. The greater the discrepancy between the overall fit of the two models, the larger the values of these descriptive statistics. A model that is parsimonious⁷¹, and still performs well analogizing to other models may be of actual interest. The Comparative Fit Index (CFI)⁷² compares the correlation matrix predicted by the model to the observed matrix, and compares the independence model (matrix of 0's) with the observed matrix, to gauge the percentage of lack of fit which is accounted for by going from the independence model to the proposed model. To the extent that the observed correlation matrix has entries approaching zero's, there will be no non-zero correlation to explain, and the CFI loses its relevance. The CFI varies from zero to one (if outside this range it is reset to zero or one). CFI close to one indicates a very good fit. By convention, CFI should be equal to or greater than .90 to accept the model, indicating that the given model can reproduce 90% of the correlation in the data. On the contrary, the **Tucker-Lewis coefficient (TLI)**⁷³, is not guaranteed to vary from zero to one, but if outside the zero-one range may be arbitrary reset to zero or one. TLI values close to one indicate a very good fit.

Finally, in this research, the **Goodness-of-Fit Index (GFI)** was also used for the evaluations of the CFA models. GFI which varies from zero to one (i.e. equals to one indicates perfect fit) deals with error in reproducing the variance-correlation matrix. By convention, GFI should by equal to or greater than .90 to accept the model. However, because of problems associated with the measure, a variant of GFI the **Adjusted goodness-of-fit index (AGFI)**, which adjusts GFI for degrees of freedom has been used, also. AGFI should also be at least .80, like GFI. AGFI>1.0 is associated with just-identified models or models with almost perfect fit. AGFI<0 is associated with models with extremely poor fit, or the sample size was small.

-

⁷¹ Models with relatively few parameters (and relatively many degrees of freedom) are high in parsimony, or **simplicity**. Models with many parameters (and few degrees of freedom) are **complex**. No doubt, well-fitting models are preferable to poorly fitting ones. Many fit measures represent an attempt to balance these two conflicting objectives – simplicity and goodness of fit.

⁷² Also known as the **Bentler Comparative Fit Index**.

⁷³ Also known as the Bentler-Bonett non-normed fit index (NNFI)

Other fit indices mentioned in the literature were not used in this research. Because there is considerable controversy about fit indices and also has been characterized as problematic the 'cherry picking' of the one index that allows a miss-specified model to be claimed as not a bad model (Kenny, 2015), more than one goodness-of-fit index, as recommended by Hu and Bentler (1999), and specifically all the above-described fit indices were reported in every CFA model⁷⁴. Some researchers do not believe that fit indices add anything to the analysis and only the chi-square test should be interpreted while others have argued that fit indices should not even be computed for small degrees of freedom models (Kenny, 2015).

4.4.2.4 About model modification

In the case of significant lack of fit after inspecting the CFA results, a model adjustment based on modification indices is possible for trying to improve the fit. In general, modification indices reveal specific ways in which the hypothesised measurement model might be modified by indicating potential modifications that would make the hypothesised factor structure more consistent with the factor structure that truly may be underlying the questionnaire's statements. A modification index by AMOS, calculated in the fourth phase of the analysis, offers a suggested remedy to the discrepancy between the proposed and estimated model by the approximate increase in chi-square value if the parameter were free (Kenny, 2015). In this research, as appropriate modifications were considered cases of correlated error terms. Correlated error terms refer to situations in which knowing the residual of one statement helps in knowing the residual associated with another statement. This happens when respondents tend to give the response which is socially acceptable. Knowing that a board member gave the socially acceptable response to one statement increases the probability that a socially acceptable response will, also, be given to another statement.

_

 $^{^{74}}$ The metrics used in this research and reported in the CFA models results are listed in Appendix III

After examining modification indices and changing one or more parameters, a rerun of the analysis must follow. Analysis of revised models produces entirely new parameter estimates and new fit indices. Thus, if the revised model fits well, parameter estimates are examined and reported, while if the model still fits poorly, new modification indices are examined, and so on.

4.4.2.5 Application of CFA to test model validity

CFA is used to investigate the construct validity of hypothesis-based testing instruments or questionnaires adding a level of statistical precision and assisting in the development of abbreviated forms. Construct validity reflects 'the correspondence between a construct and a measure taken as evidence of the construct' (Edwards, 2003, p. 329). *Convergent validity* is a measure of construct validity. In this research, convergent validity was assessed by factor loadings, Average Variance Extracted (AVE) and Composite Reliability (CR).

Upon concluding that a hypothesised measurement model has an acceptable overall fit, besides fit indices, significantly large⁷⁵ factor standardised loadings were also reported in the graphical presentation of the CFA results, associated with the arrows. As described earlier, factor loadings in this research reflect the degree to which each statement is linked to a board governance competency. If, however, a factor loading was small or non-significant, then it was concluded that the statement was unrelated to the governance competency and was removed from the model. Hence, low factor loadings (i.e. less than 0.7) result in situations where other types of error explain more than 50% of the variance in an observed variable. Notwithstanding, loading estimates can be statistically significant but still be below [0.5]. This situation might seem paradoxical - a generally wellfitting model combined with a weak factor loading; however, it is important to recognise that fit indices reflect the overall adequacy or fit of the entire measurement model. Hence, a model can indeed have generally good support, despite having some weak specific aspects. At any rate, standardised loadings above +1.0 or below -1.0 are out of the feasible range and can be a significant

 $^{^{75}}$ Standardized loading estimates should be > 0.5 or ideally > 0.7.

indicator of some problem with the data. In such cases, it is advised a respecification of the model to fit the revised questionnaire (i.e. eliminating the item from the hypothesised model). The square of the standardised loading represents how much variation in a statement is explained by the construct and is termed the *variance extracted* of the statement. AMOS calculates the square of the standardised loading and is associated with the statement's rectangle in the graphical presentation of the results.

It is suggested that adequately convergent latent variables should have measures that contain more than 50% explained or common variance (i.e. less than 50% error variance), and Fornell & Larcker (1981) proposed a statistic they termed *Average Variance Extracted (AVE)* as a measure of convergent validity. The AVE estimate is the average amount of variation that a latent construct is capable of explaining in the observed variables to which it is theoretically related. A latent construct X will correlate with observed variables, x_1 , and x_2 , that theoretically relate to X. This correlation is referred to as a factor loading. The square of each of these correlations gives the amount of variation of each observed variable that the latent construct accounts for (i.e. the shared variance). By averaging this variance across all observed variables that relate theoretically to a latent construct, the AVE is generated (Farrell, 2010, p. 324). AVE should be greater than 50%.

Finally, *Composite Reliability (CR)*, sometimes also referred as CR-construct reliability, is intended to determine the consistency of construct validity indicator and is not that different from coefficient alpha. The Composite Reliability (CR) does not possess the general underestimation property of Cronbach's coefficient a (Raykov, 1997). CR should be greater than 0.6 or ideally greater than 0.7 (Hair et al., 2010).

4.4.2.6 Measurement model invariance across cultural groups

In order to test the effect of the cultural factors on the CFA models, the factor structure and loadings were tested for equivalency across cultural groups. Hofstede confirmed that his national culture indices are suitable for the comparison of sub-culture groups within a single country (Hofstede, 1994b). The sample was categorised every time into two levels (High and Low in each one cultural variable of the four of them) based on Hofstede's Indexes⁷⁶. The sample was segmented into groups to avoid using the Hofstede's indices at the individual level. According to Hofstede (2001), the culture indices that he suggested are reliable at a group level, not at individual level. Additionally, Hofstede recommends that the minimum number of respondents per group, in that case, be 20. Otherwise, the influence of single individuals becomes too strong. In this research there is a sufficient number of High Uncertainty Avoidance (n=138) and Low Uncertainty Avoidance (n=86), and Individualists (n=156) and Collectivists (n=68), and High Power Distance (n=53) and Low Power Distance (n=171), and Masculine type (n=112) and Feminine type (n=112) participants for invariance testing across these groups.

Invariance testing involves a series of analyses to assess the equivalence of specific model parameters across groups. First, group-specific CFAs without modification to assess overall model fit within each group (configural invariance) were conducted. *Configural invariance* tests whether the factor structure represented in the CFA achieves adequate fit when both groups are tested collectively and freely (i.e. without any cross-group path constraints) (Meredith, 1993, p. 540). In AMOS, building the CFA measurement model (e.g. the Contextual Competency model) two groups were created (i.e. the High Uncertainty Avoidance group and the Low Uncertainty Avoidance group), and then the data were split along groups. Next, model fit was attended. If the resultant model achieved good fit, there is configural invariance. If the model did not pass the configural invariance test, then the modification indices were looked at to improve model fit or to see how to restructure CFA.

After passing the test of configural invariance, to test for *metric invariance* is needed (Putnick & Bornstein, 2016, p.5). Using the chi-square difference test, measurement (equal factor loadings and factor variances) invariance across

-

⁷⁶ The Hofstede's cultural indices used in this research and the methods of calculating them are placed in Appendix III.

groups was examined. For each of these multi-group analyses, a model was fit that simultaneously imposed the constraints on all of the unstandardized factor loadings and the variance of the latent construct equal to unity between cultural groups. Placing these constraints in AMOS forced the values to be equal across groups. This model was then compared to the baseline model where none of the factor loadings was constrained. In this analysis, a significant p-value for the chi-square difference test is evidence of differences between groups or that the meaning of the latent construct is shifting across groups. In the opposite case, a lack of observed statistical differences between the constrained and unconstrained models is an indicator of factorial invariance.

Based on the above analyses the empirical results confirmed or disconfirmed the suppositions of this research about the relations between the cultural groups and the relative governance competence. Additionally, once a non-invariant model was identified, re-specification of the model and modifications indices were used to fit the model for both groups simultaneously (i.e. to pass the tests for configural and metric invariance), for the purpose of creating culturally invariant questionnaires for governance competencies in public hospitals in Greece.

4.5 Conclusions

This chapter has shown the theoretical investigation process that identified the research constructs (i.e. the six board competencies and the four national culture dimensions) and their related statements (i.e. 64 statements for the six board competencies and 20 for the four cultural dimensions) for which discernible patterns must statistically be researched for. Additionally, it has shown the data estimating methods and their rationale that were used to reach the results presented in the following chapter.

Chapter 5: Research results and analysis

5.1 Introduction

The purpose of this study was to construct valid and reliable self-assessment survey instruments to measure public hospital board competency in Greece, taking into account national culture. The analyses of data in this chapter include the exploratory and confirmatory factor analyses and invariance tests between culturally different groups of board members in public hospitals in Greece. The theoretical hypotheses that guided factor analyses were presented in chapter 4, and information about the research methodologies and the collected data in chapters 3 and 4.

5.2 Preliminary results

5.1.1 Demographic data

The respondents were asked four questions about demographic information for descriptive reasons. These questions consider (a) age in 9 categories (see Figure 5d.1) (b) years of formal school education in 7 categories (see Figure 5d.2) (c) kind of paid job in 6 categories (see Figure 5d.3), and (d) nationality (all respondents indicated Greek nationality). Even though the nonresponse rate of the four demographic variables in the survey is low, there is well-grounded suspicion for the intensively low level of accuracy in the responses given by many respondents of the demographic questions. The reluctance of the majority of the respondents to provide private information of that kind to secure confidentiality was detected during the personal interviews with the board members in the pilot study.

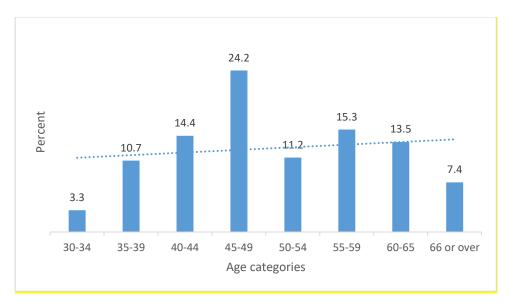


Figure 5d.1: Respondents, in age categories, in percent

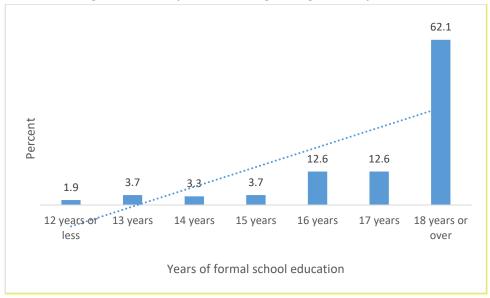


Figure 5d.2: Respondents, in years of formal school education, in percent

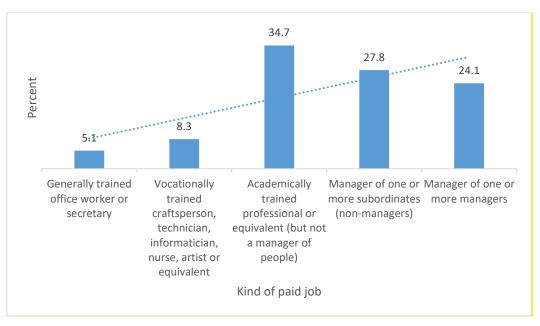


Figure 5d.3: Respondents, in categories of paid job, in percent

5.1.2 Descriptive map of the board of directors in public hospitals in Greece

Given the detected reluctance of the participants to give personal or institutional information that could reveal their identity, the following approach was chosen for presenting a descriptive map of the board of directors in public hospitals in Greece. By studying the information included in the ministerial board members appointing decisions posted in the official government gazette for the period 2010-2014, a description of the hospital boards is placed in this subsection, focusing on the participation of women on the board of directors and the board members professions.

Table 5d.1 provides an overview of the types of state-owned hospitals in Greece by size (beds number) at year 2013. The majority (30.2%) is of the medium size (251-400 beds) and they still operate 16 (18.6%) small hospitals (<100 beds) despite the sector reforms of the year 2012 that included hospital consolidations.

Table 5d.1: Public Hospitals in Greece, by size (beds number), 2013

Hospital size (number of beds)	Frequency	<mark>%</mark>
Very large (>400 beds)	<mark>23</mark>	<mark>26.7</mark>
Large (251-400 beds)	<mark>21</mark>	<mark>24.4</mark>
Medium (101-251 beds)	<mark>26</mark>	<mark>30.2</mark>
Small (<100 beds)	<mark>16</mark>	<mark>18.6</mark>
Total	<mark>86</mark>	<mark>100</mark>

Source: Greek Ministry of Health

At year 2013, with an average board size of 7.1 directors, around 32% of the total number of directors were women (i.e. 186 out of 583). On the board level, two women on board in 39.5% of the cases (i.e. in 34 hospitals out of 82) and five men on board in 34.9% of the cases (i.e. in 30 hospitals out of 81) describe the gender diversity situation in public hospitals (see Tables 5d.2 & 5d.4) irrespective hospital size (see Tables 5d.3 & 5d.5). However, Figure 5d.4 shows a diminishing trend of the gender diversity for the period 2010-2014 in favour of men directors' participation.

Table 5d.2: Women participation in the Boards of public hospitals in Greece, 2013

Number of women on the Board	Frequency	<mark>%</mark>
<mark>О</mark>	<mark>3</mark>	<mark>3.5</mark>
	<mark>16</mark>	<mark>18.6</mark>
	<mark>34</mark>	<mark>39.5</mark>
<mark>3</mark>	<mark>16</mark>	<mark>18.6</mark>
<mark>4</mark>	<mark>12</mark>	<mark>14.0</mark>
<mark>6</mark>	<mark>1</mark>	<mark>1.2</mark>
Subtotal	<mark>82</mark>	<mark>95.3</mark>
Lacking information	<mark>4</mark>	<mark>4.2</mark>
Total	<mark>86</mark>	<mark>100</mark>

Source: Official Government Gazette, various issues of the year 2013.

Table 5d.3: Women participation in the Boards of public hospitals in Greece, by hospital size (in beds number), 2013

Hospital size	ſ	Number	Total				
(number of beds)	0	1	<mark>2</mark>	<mark>3</mark>	<mark>4</mark>	<mark>6</mark>	IOtal
Very large (>400 beds)	1	4	<mark>10</mark>	<mark>6</mark>	1	1	<mark>23</mark>
Large (251-400 beds)	0	4	<mark>11</mark>	<mark>2</mark>	<mark>4</mark>	0	<mark>21</mark>
Medium (101-251 beds)	<mark>1</mark>	<mark>5</mark>	<mark>10</mark>	<mark>4</mark>	<mark>4</mark>	0	<mark>24</mark>
Small (<100 beds)	<mark>1</mark>	<mark>3</mark>	<mark>3</mark>	<mark>4</mark>	<mark>3</mark>	0	<mark>14</mark>
Total	<mark>3</mark>	<mark>16</mark>	<mark>34</mark>	<mark>16</mark>	<mark>12</mark>	1	<mark>82</mark>

Source: Official Government Gazette, various issues of the year 2013.

Table 5d.4: Man participation on the Boards of public hospitals in Greece, 2013

Number of men on the Board	Frequency	<mark>%</mark>
2	<mark>2</mark>	<mark>2.3</mark>
3	<mark>11</mark>	<mark>12.8</mark>
<mark>4</mark>	<mark>17</mark>	<mark>19.8</mark>
<mark>5</mark>	<mark>30</mark>	<mark>34.9</mark>
<mark>6</mark>	<mark>10</mark>	<mark>11.6</mark>
<mark>7</mark>	<mark>6</mark>	<mark>7.0</mark>
<mark>8</mark>	<mark>5</mark>	<mark>5.8</mark>
Subtotal	<mark>81</mark>	<mark>94.2</mark>
Lacking information	<u>5</u>	<mark>5.8</mark>
Total	<mark>86</mark>	<mark>100</mark>

Source: Official Government Gazette, various issues of the year 2013.

Table 5d.5: Man participation on the Boards of public hospitals in Greece, by hospital size (in beds number), 2013

Hospital size	N	Number of men on the Board							
(number of beds)	<mark>2</mark>	<mark>3</mark>	<mark>4</mark>	<mark>5</mark>	<mark>6</mark>	7	8	- Total	
Very large (>400 beds)	1	<mark>2</mark>	<mark>6</mark>	<mark>5</mark>	<mark>2</mark>	4	<mark>3</mark>	<mark>23</mark>	
Large (251-400 beds)	0	<mark>2</mark>	<mark>3</mark>	<mark>11</mark>	<mark>3</mark>	0	<mark>2</mark>	<mark>21</mark>	
Medium (101-251 beds)	1	<mark>5</mark>	<mark>3</mark>	8	4	<mark>2</mark>	0	<mark>23</mark>	
Small (<100 beds)	0	<mark>2</mark>	<mark>5</mark>	<mark>6</mark>	1	0	0	<mark>14</mark>	
Total	<mark>2</mark>	<mark>11</mark>	<mark>17</mark>	<mark>30</mark>	<mark>10</mark>	<mark>6</mark>	<mark>5</mark>	<mark>81</mark>	

Source: Official Government Gazette, various issues of the year 2013.

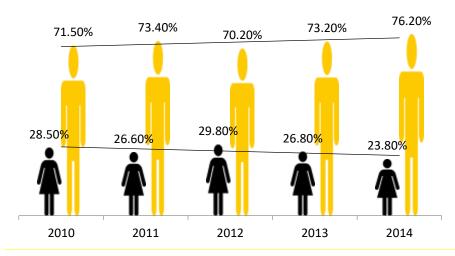


Figure 5d.4: Structure of public hospital boards in Greece, by sex, 2010-2014 Source: Official Government Gazette, various issues of years 2010-2014.

Tables 5d.6 & 5d.7 provide an overview of the types of CEOs professions at year 2013. Professional managers (M) prevail (31.4%) with a rising trend for the period 2010-2014 (see Table 5d.8 & Figure 5d.5) but Medical and health professionals (H) are preferred for the Very Large (>400 beds) hospitals (12 out of 23). A similar professions diversity observed concerning board directors (see Table 5d.9 & Figure 5d.6).

Table 5d.6: CEOs professions in NHS public hospitals, Greece, 2013

Professions	Frequency	<mark>%</mark>
Professional managers (M)	<mark>27</mark>	<mark>31.4</mark>
Medical and health professionals (H)	<mark>20</mark>	<mark>23.3</mark>
Practice of law professionals (L)	<mark>6</mark>	<mark>7.0</mark>
Miscellaneous professionals (S)	<mark>29</mark>	<mark>33.7</mark>
Subtotal	<mark>82</mark>	<mark>95.3</mark>
Lacking information	4	<mark>4.7</mark>
Total	<mark>86</mark>	<mark>100</mark>

Source: Official Government Gazette, various issues of the year 2013.

Table 5d.7: CEOs professions in NHS public hospitals, Greece, by hospital size, 2013

Hospital size		<u> </u>			
(number of beds)	<mark>(M)</mark>	(H)	<mark>(L)</mark>	(S)	- <mark>Σύνολα</mark>
Very large (>400 beds)	<mark>3</mark>	<mark>12</mark>	<mark>1</mark>	<mark>7</mark>	<mark>23</mark>
Large (251-400 beds)	<mark>8</mark>	<mark>3</mark>	<mark>4</mark>	<mark>6</mark>	<mark>21</mark>
Medium (101-251 beds)	<mark>10</mark>	<mark>4</mark>	<mark>0</mark>	<mark>10</mark>	<mark>24</mark>
Small (<100 beds)	<mark>6</mark>	<mark>1</mark>	<mark>1</mark>	<mark>6</mark>	<mark>14</mark>
Total	<mark>27</mark>	<mark>20</mark>	<mark>6</mark>	<mark>29</mark>	<mark>82</mark>

Source: Official Government Gazette, various issues of the year 2013.

Table 5d.8: CEOs professions in NHS public hospitals, Greece, 2010-2014

	2010	2011	2012	2013	2014
Professions		<mark>Fr</mark>	equency(<mark>%)</mark>	
Professional managers (M)	34(20.4)	27 (19.2)	24(18.2)	29(21.5)	34(25.4)
Medical and health professionals (H)	63(37.7)	<mark>45(31.9)</mark>	47(35.6)	53(39.2)	49(36.6)
Practice of law professionals (L)	7(4.2)	5(3.5)	5(3.8)	5(3.7)	8(6.0)
Miscellaneous professionals (S)	63(37.7)	64(45.4)	56(42.4)	48(35.6)	43(32.0)
Total	<mark>167</mark>	<mark>141</mark>	132	135	134

Source: Official Government Gazette, various issues of years 2010-2014.

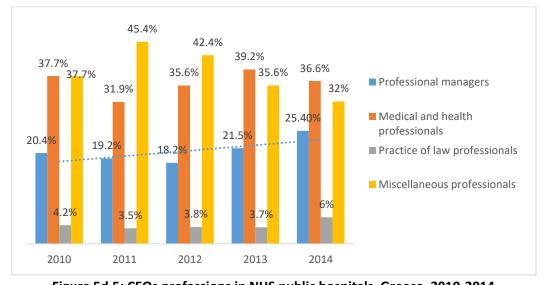


Figure 5d.5: CEOs professions in NHS public hospitals, Greece, 2010-2014

Source: Official Government Gazette, various issues of years 2010-2014.

Table 5d.9: Structure of public hospital boards in Greece, by board members professions, 2010-2014

	2010	2011	2012	2013	2014				
Professions	Frequency(%)								
Professional managers (M)	116(15.1)	116(18.4)	97(17.8)	108(18.5)	116(19.2)				
Medical and health professionals (H)	255(33.2)	203(32.3)	163(30.0)	201(34.4)	208(34.5)				
Practice of law professionals (L)	59(7.7)	46(7.3)	38(7.0)	37(6.5)	37(6.2)				
Miscellaneous professionals (S)	338(44.0)	264(42.0)	248(45.2)	237(40.58)	242(40.1)				
<mark>Total</mark>	<mark>768</mark>	<mark>629</mark>	<mark>546</mark>	583	<mark>603</mark>				

Source: Official Government Gazette, various issues of years 2010-2014.

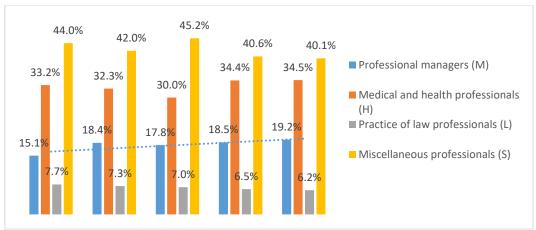


Figure 5d.6: Structure of public hospital boards in Greece, by board members professions, 2010-2014

Source: Official Government Gazette, various issues of years 2010-2014.

5.1.3 Descriptive statistics of the board competencies, and national culture dimensions statements

In the 'Myth of the Cave' from Plato's 'The Republic', a group of people constrained to face a wall can only see shadows of objects that pass in front of a fire behind them. Trying to measure an object by its shadow since the object itself can't be observed or measured directly, a construct model needs to be structured with observable and directly measured indicator variables of related nature to the object in order to infer to unobserved, hidden, or latent construct (i.e. a SEM model). That model is structured in a way that the indicators are 'effects' of the latent variable. At the current research, the board competencies, and the cultural constructs are the unobserved concepts (i.e. the ultimate goals of the project) that were approximated by measured variables (i.e. questionnaires' statements). The respondents' positions on these statements reflect the causal impact of the 'latent' underlying board competencies and cultural dimensions. SEM analyses produced descriptive statistics from the collected data suitable for this inquiry and are presented in following subsections. However, univariate statistical techniques are sometimes used as a first step, in order to get an initial understanding of the data that is collected through a survey. Following that tradition, descriptive statistics of that type are presented here for the statements of each board competency and cultural dimension. The tables 5d.10 to 5d.15 show the frequencies of responses (n=224) to the 7-point Likert ordinal scale 'strongly disagree' (1) to 'strongly agree' (7), two measures of central tendency (mode & mean), and one measure of dispersion (standard deviation - SD) for the statements of the board competencies. Tables 5d.16 to 5d.19 show the statistics of responses for the statements of the cultural dimensions in a similar manner.

Concerning the Contextual Competency statements (see Table 5d.10), the choice 'strongly agree' occurs more often in the item C55: 'One of the reasons I joined this board was that I believe strongly in the values of this organisation.' and the choice 'agree' more often in the items C12: 'In discussing key issues, it is not unusual for someone on the board to talk about what this organisation stands for and how that is related to the matter at hand.', C37: 'I have been present in board meetings where discussions of the history and mission of the organisation were key factors in reaching a conclusion on a problem.', and C49: 'This board reviews the organisation's mission at periodic intervals.', but there was much divergence among the directors (i.e. SD > 2). The choice 'strongly disagree' occurs more often in the item C42: 'There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values.' and the choice 'disagree' more often in the item C39: 'It is apparent from the comments of some of our board members that they do not understand the mission of the organisation very well.' both with less divergence (SD < 2).

Table 5d.10: Contextual Competency statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
C6	5(2.2)**	<mark>26(11.6)</mark>	<mark>44(19.6)</mark>	<mark>59(26.3)</mark>	<mark>46(20.5)</mark>	33(14.7)	11(4.9)	<mark>4</mark>	<mark>4.152</mark>	<mark>2.038</mark>
C12	<mark>2(0.9)</mark>	13(5.8)	8(3.6)	30(13.4)	<mark>61(27.2)</mark>	85(37.9)	<mark>25(11.2)</mark>	<mark>6</mark>	<mark>5.188</mark>	<mark>2.278</mark>
<mark>C13</mark>	<mark>64(28.6)</mark>	<mark>83(37.1)</mark>	<mark>28(12.5)</mark>	<mark>25(11.2)</mark>	<u>16(7.1)</u>	<mark>6(2.7)</mark>	<mark>2(0.9</mark>	<mark>2</mark>	<mark>2.43</mark>	<mark>1.406</mark>
C30***	<mark>87(38.8)</mark>	<mark>78(34.8)</mark>	<u>12(5.4)</u>	<mark>21(9.4)</mark>	<u>11(4.9)</u>	<mark>9(4.0)</mark>	<mark>6(2.7)</mark>	1	<mark>2.29</mark>	<mark>1.580</mark>
C37	<mark>6(2.7)</mark>	7(3.1)	12(5.4)	24(10.7)	54(24.1)	80(35.7)	41(18.3)	<mark>6</mark>	<mark>5.308</mark>	<mark>2.304</mark>
<mark>C39</mark>	<mark>37(16.5)</mark>	<mark>84(37.5)</mark>	<mark>65(29.0)</mark>	<u>30(13.4)</u>	<mark>8(3.6)</mark>	<mark>0(0)</mark>	<mark>0(0)</mark>	<mark>2</mark>	<mark>2.5</mark>	<u>1.033</u>
<mark>C42</mark>	<mark>99(44.2)</mark>	<mark>62(27.7)</mark>	<u>15(6.7)</u>	<mark>20(8.9)</mark>	<u>12(5.4)</u>	<mark>8(32.6)</mark>	<mark>8(3.6)</mark>	1	<mark>2.29</mark>	<u>1.656</u>
<mark>C44</mark>	1(0.4)	17(7.5)	<mark>45(20.1)</mark>	<mark>79(25.3)</mark>	<mark>53(23.7)</mark>	<mark>29(12.9)</mark>	0(0)	<mark>5</mark>	<mark>5.129</mark>	<mark>2.265</mark>
<mark>C49</mark>	10(4.5)	16(7.1)	8(3.6)	<mark>54(24.1)</mark>	<mark>36(16.1)</mark>	82(36.6)	18(8.0)	<mark>6</mark>	<mark>4.821</mark>	<mark>2.196</mark>
C55	1(0.4)	<mark>5(2.2)</mark>	4(1.8)	12(5.4)	15(6.7)	51(22.8)	136(60.7)	7	<mark>6.268</mark>	<mark>2.504</mark>
C58	18(8.0)	<mark>16(7.1)</mark>	63(28.1)	<mark>85(37.9)</mark>	<mark>29(12.9)</mark>	13(5.8)	0(0)	<mark>5</mark>	<mark>4.58</mark>	<mark>2.140</mark>
<mark>C62</mark>	<mark>6(2.7)</mark>	<mark>6(2.7)</mark>	7(3.1)	15(6.7)	<mark>32(14.3)</mark>	115(51.3)	43(19.2)	<mark>6</mark>	<mark>5.58</mark>	<mark>2.362</mark>

Concerning the Political Competency statements (see Table 5d.11), the choice 'agree' occurs more often in the item P14: 'If our board thinks that an important internal or external stakeholder or stakeholder group is likely to disagree with an action we are considering, we will make sure we learn how they feel before we actually make the decision.', P25: 'I have been in board meetings where explicit attention was given to the concerns of the local community.', P33: 'The board periodically requests information on the morale of the professional staff.', and P41: 'Before reaching a decision on important issues, this board usually requests input from persons likely to be affected by the decision.' but there was much divergence among the directors (i.e. SD > 2). The choice 'strongly disagree' occurs more often in the item P47: 'At times, this board has appeared unaware of the impact its decisions will have within our local community.', and P53: 'The Managing Director rarely report to the board on the concerns of those the organisation serves.' both with less divergence (SD < 2).

Table 5d.11: Political Competency statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
<mark>P9</mark>	3(1.3)**	<mark>8(3.6)</mark>	<mark>6(2.7)</mark>	<mark>11(4.9)</mark>	96(42.9)	<mark>59(26.3)</mark>	41(18.3)	<mark>5</mark>	<mark>5.366</mark>	<mark>2.316</mark>
P14	11(4.9)	10(4.5)	10(4.5)	<mark>22(9.8)</mark>	<mark>47(21.0)</mark>	89(39.7)	<mark>35(15.6)</mark>	<mark>6</mark>	<mark>5.192</mark>	<mark>2.279</mark>
P19	<mark>8(3.6)</mark>	<mark>17(7.6)</mark>	<mark>7(3.1)</mark>	<mark>20(8.9)</mark>	<mark>63(28.1)</mark>	<mark>62(27.2)</mark>	<mark>47(21.0)</mark>	<mark>5</mark>	<mark>5.174</mark>	<mark>2.275</mark>
P25	<mark>4(1.8)</mark>	<mark>5(2.2)</mark>	<mark>6(2.7)</mark>	14(6.3)	<mark>37(16.5)</mark>	102(45.5)	<mark>56(25.0)</mark>	<mark>6</mark>	<mark>5.701</mark>	<mark>2.388</mark>
P33	14(6.3)	33(14.7)	<mark>12(5.4)</mark>	<mark>25(11.2)</mark>	51(22.8)	<mark>76(33.9)</mark>	13(5.8)	<mark>6</mark>	<mark>4.545</mark>	<mark>2.132</mark>
P41	<mark>6(2.7)</mark>	13(5.8)	11(4.9)	<mark>18(8.0)</mark>	<mark>42(18.8)</mark>	<mark>99(44.2)</mark>	<mark>35(15.6)</mark>	<mark>6</mark>	<mark>5.295</mark>	<mark>2.301</mark>
P47***	74(33.0)	63(28.1)	<mark>22(9,8)</mark>	<mark>30(13.4)</mark>	<u>19(8.5)</u>	<u>9(4.0)</u>	<mark>7(3.1)</mark>	<mark>1</mark>	<mark>2.61</mark>	<u>1.672</u>
P53	<mark>76(33.9)</mark>	<mark>65(29.0)</mark>	<mark>20(8.9)</mark>	<mark>29(12.9)</mark>	<mark>8(3.6)</mark>	<u> 18(8.0)</u>	<mark>8(3.6)</mark>	<mark>1</mark>	<mark>2.62</mark>	<mark>1.755</mark>

Concerning the Strategic Competency statements (see Table 5d.12), the choice 'agree' occurs more often in the item S48: 'Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals.', S54: 'I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness.', S57: 'The board discusses events and trends in the larger environment that may present specific opportunities for this organisation.', and S61: 'This board makes explicit use of the long range priorities of this organisation in dealing with current issues.'. The choice 'disagree' occurs more often in the item S7: 'This board is more involved in trying to put out fires than in preparing for the future.', S16: 'This board delays action until an issue becomes urgent or critical.', and S35: 'Our board meetings tend to focus more on current concerns than on preparing for the future.' and there was low divergence among the directors (i.e. SD < 2).

Table 5d.12: Strategic Competency statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
S7***	30(13.4)**	60(26.8)	<u>53(23.7)</u>	<mark>28(12.5)</mark>	<mark>24(10.7)</mark>	<mark>21(98.4)</mark>	<mark>8(3.6)</mark>	<mark>2</mark>	<u>3.23</u>	<mark>1.653</mark>
<mark>S8</mark>	7(3.1)	18(8.8)	11(4.9)	<mark>13(5.8)</mark>	72(32.1)	60(26.8)	43(19.2)	<mark>5</mark>	<mark>5.045</mark>	<mark>1.580</mark>
<mark>S16</mark>	<mark>55(24.6)</mark>	<mark>85(37.9)</mark>	<mark>21(9.4)</mark>	<u>17(7.6)</u>	<mark>20(8.9)</mark>	<mark>14(6.3)</mark>	<mark>12(5.4)</mark>	<mark>2</mark>	<mark>2.79</mark>	<mark>1.784</mark>
<mark>S35</mark>	<mark>24(10.7)</mark>	<mark>87(38.8)</mark>	<mark>41(18.3)</mark>	<mark>21(9.4)</mark>	<mark>31(13.8)</mark>	<mark>15(6.7)</mark>	<mark>5(2.2)</mark>	<mark>2</mark>	<mark>3.06</mark>	<mark>1.559</mark>
<mark>S36</mark>	5(2.2)	19(8.5)	23(10.3)	<mark>52(232.2)</mark>	48(21.4)	50(22.3)	27(12.1)	<mark>4</mark>	<mark>4.705</mark>	<mark>1.539</mark>
<mark>540</mark>	<mark>76(33.9)</mark>	75(33.5)	<u>16(7.1)</u>	<u>19(8.5)</u>	<mark>20(8.9)</mark>	<mark>9(4.0)</mark>	<mark>9(4.0)</mark>	<mark>1</mark>	<mark>2.53</mark>	<mark>1.712</mark>
<mark>S43</mark>	3(1.3)	23(10.3)	<mark>26(11.6)</mark>	31(13.8)	64(28.6)	<mark>56(25.0)</mark>	21(9.4)	<mark>5</mark>	<mark>4.795</mark>	<mark>1.510</mark>
<mark>S48</mark>	10(4.5)	<mark>26(11.6)</mark>	21(9.4)	<mark>42(18.8)</mark>	53(23.7)	<mark>55(24.6)</mark>	<mark>17(7.6)</mark>	<mark>6</mark>	<mark>4.67</mark>	<mark>1.617</mark>
<mark>S54</mark>	4(1.8)	<mark>9(4.0)</mark>	<mark>3(1.3)</mark>	<mark>13(5.8)</mark>	51(22.8)	99(44.2)	<mark>45(20.1)</mark>	<mark>6</mark>	<mark>5.545</mark>	<mark>1.297</mark>
<mark>S57</mark>	6(2.7)	<mark>8(3.6)</mark>	<mark>6(2.7)</mark>	<mark>15(6.7)</mark>	38(17.0)	111(49.6)	40(17.9)	<mark>6</mark>	<mark>5.554</mark>	<mark>1.366</mark>
<mark>S61</mark>	<mark>4(1.8)</mark>	13(5.8)	<mark>3(1.3)</mark>	<mark>18(8.0)</mark>	<mark>32(14.3)</mark>	<mark>82(36.6)</mark>	<mark>72(32.1)</mark>	<mark>6</mark>	<mark>5.759</mark>	<mark>1.471</mark>
<mark>S64</mark>	7(3.1)	<mark>28(12.5)</mark>	<mark>29(12.9)</mark>	<mark>45(20.1)</mark>	<mark>66(29.5)</mark>	38(17.0)	<mark>11(4.9)</mark>	<mark>5</mark>	<mark>4.366</mark>	<mark>1.494</mark>

Concerning the Analytical Competency statements (see Table 5d.13), the choice 'strongly agree' occurs more often in the item A11: 'Many of the issues that this board deals with seem to be separate tasks, unrelated to one another.', the choice 'agree' occurs more often in the item A4: 'I have been in board meetings where it seemed that the subtleties of the issues we dealt with escaped the awareness of a number of the members.', A23: 'When faced with an important issue, the board often 'brainstorms' and tries to generate a whole list of creative approaches or solutions to the problem.', and A28: 'When issues come before our board, they are seldom framed in a way that enables members to see the connections between the matter at hand and the organisation's overall strategy.' all with low disagreement among the directors (SD <2). The choice 'strongly disagree' occurs more often in the item A60: 'This board seeks information and advice from leaders of other similar organisations.', also with low disagreement (SD <2).

Table 5d.13: Analytical Competency statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	(3)	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	mode	<mark>mean</mark>	SD
A1	5(2.2)**	10(4.5)	9(4.0)	14(6.3)	<mark>44(19.6)</mark>	<mark>75(33.5)</mark>	<mark>67(29.9)</mark>	<mark>5</mark>	<mark>5.567</mark>	<mark>1.481</mark>
A4***	<u>32(14.3)</u>	69(30.8)	<mark>95(42.4)</mark>	<u>17(7.6)</u>	<u>11(4.9)</u>	<mark>0(0)</mark>	<u>0(0)</u>	<mark>6</mark>	<mark>2.58</mark>	<mark>0.990</mark>
A5	3(1.3)	<mark>4(1.8)</mark>	<mark>7(3.1)</mark>	14(6.3)	41(18.3)	77(34.4)	78(34.8)	<mark>3</mark>	<mark>5.808</mark>	<mark>1.283</mark>
A11	<mark>32(14.3)</mark>	<mark>86(38.4)</mark>	<mark>35(15.6)</mark>	<mark>27(12.1)</mark>	<mark>24(10.7)</mark>	<u>16(7.1)</u>	<mark>4(1.8)</mark>	<mark>7</mark>	<mark>2.95</mark>	<u>1.563</u>
A22	2(0.90)	<mark>6(2.7)</mark>	<mark>5(2.2)</mark>	4(1.8)	23(10.3)	<mark>98(43.8)</mark>	86(38.4)	<mark>2</mark>	<mark>6.027</mark>	<mark>1.187</mark>
A23	<mark>4(1.8)</mark>	5(2.2)	7(3.1)	13(5.8)	46(20.5)	97(43.3)	52(23.2)	<mark>6</mark>	<mark>5.638</mark>	<mark>1.274</mark>
A28	44(19.6)	<mark>80(35.7)</mark>	<mark>20(8.9)</mark>	<mark>27(12.1)</mark>	<mark>23(10.3)</mark>	<u>17(7.6)</u>	13(5.8)	<mark>6</mark>	<mark>3.04</mark>	<mark>1.816</mark>
A46	<mark>27(12.1)</mark>	<mark>90(40.2)</mark>	<mark>35(15.6)</mark>	<mark>17(7.6)</mark>	<mark>32(14.3)</mark>	<u>19(8.5)</u>	<mark>4(1.8)</mark>	<mark>2</mark>	<mark>3.04</mark>	<mark>1.609</mark>
A52	<mark>93(41.5)</mark>	<mark>83(37.1)</mark>	<mark>17(7.6)</mark>	<mark>13(5.8)</mark>	<mark>9(4.0)</mark>	<mark>7(3.1)</mark>	<mark>2(0.9)</mark>	<mark>2</mark>	<mark>2.07</mark>	<mark>1.346</mark>
<mark>A60</mark>	<mark>7(3.1)</mark>	10(4.5)	<mark>11(4.9)</mark>	<mark>23(10.3)</mark>	<mark>41(18.3)</mark>	<mark>99(44.2)</mark>	<mark>33(14.7)</mark>	<mark>1</mark>	<mark>5.277</mark>	<mark>1.468</mark>

Concerning the Interpersonal Competency statements (see Table 5d.14), the choice 'strongly agree' occurs more often in the item I51: 'I am able to speak my mind on key issues without fear that I will be ostracised by some members of this board.', the choice 'agree' occurs more often in the item I3: 'I have had conversations with other members of this board regarding common interests we share outside this organisation.', I20: 'This board is as attentive to how it reaches conclusions as it is to what is decided.', I27: 'At our board meetings, there is at least as much dialogue among nonexecutive members as there is between nonexecutive members and executive members.', and I31: 'The leadership of this board typically goes out of its way to make sure that all members have the same information on important issues.' all with low disagreement among the directors (SD <2). The choice 'strongly disagree' occurs more often in the item I56: 'This board does not recognise special events in the lives of its members.', also with low disagreement (SD <2).

Table 5d.14: Interpersonal Competency statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	mode	<mark>mean</mark>	SD
<mark>13</mark>	17(7.6)**	<mark>16(7.1)</mark>	8(3.6)	<mark>23(10.3)</mark>	36(16.1)	<mark>65(29.0)</mark>	59(26.3)	<mark>6</mark>	<mark>5.13</mark>	<mark>1.856</mark>
<mark>/15***</mark>	<mark>37(16.5)</mark>	<mark>91(40.6)</mark>	<mark>36(16.1)</mark>	<mark>26(11.6)</mark>	<mark>21(9.4)</mark>	<u>10(4.5)</u>	<mark>3(1.3)</mark>	<mark>2</mark>	<mark>2.75</mark>	<u>1.457</u>
<mark>120</mark>	<mark>5(2.2)</mark>	8(3.6)	<mark>4(1.8)</mark>	11(4.9)	30(13.4)	<mark>99(44.2)</mark>	67(29.9)	<mark>6</mark>	<mark>5.76</mark>	<mark>1.367</mark>
<mark>127</mark>	<mark>5(2.2)</mark>	10(4.5)	7(3.1)	15(6.7)	<mark>40(17.9)</mark>	<mark>95(42.4)</mark>	<mark>52(23.2)</mark>	<mark>6</mark>	<mark>5.54</mark>	1.423
<mark> 31</mark>	<mark>6(2.7)</mark>	7(3.1)	<mark>6(2.7)</mark>	10(4.5)	31(13.8)	<mark>93(41.5)</mark>	71(31.7)	<mark>6</mark>	<mark>5.75</mark>	<mark>1.411</mark>
<mark>132</mark>	<mark>99(44.2)</mark>	<mark>82(36.6)</mark>	<mark>6(2.7)</mark>	20(8.9)	<mark>6(2.7)</mark>	<mark>7(3.1)</mark>	4(1.8)	1	<mark>2.06</mark>	<mark>1.421</mark>
<mark>151</mark>	<mark>4(1.8)</mark>	7(3.1)	<mark>4(1.8)</mark>	<mark>4(1.8)</mark>	<mark>17(7.6)</mark>	71(31.7)	117(52.2)	<mark>7</mark>	<mark>6.14</mark>	<mark>1.328</mark>
<mark>156</mark>	<mark>84(37.5)</mark>	<mark>56(25.0)</mark>	<mark>14(6.3)</mark>	<mark>26(11.6)</mark>	<mark>18(8.0)</mark>	<u>16(7.1)</u>	<mark>10(4.5)</mark>	<mark>1</mark>	<mark>2.67</mark>	<mark>1.858</mark>
<mark>159</mark>	<mark>20(8.9)</mark>	<mark>35(15.6)</mark>	<mark>16(7.1)</mark>	<mark>33(14.7)</mark>	54(24.1)	<mark>47(21.0)</mark>	<mark>19(8.5)</mark>	<mark>5</mark>	<mark>4.26</mark>	<mark>1.814</mark>
<mark>163</mark>	<mark>35(15.6)</mark>	<mark>89(39.7)</mark>	<mark>34(15.2)</mark>	<mark>24(10.7)</mark>	<mark>18(8.0)</mark>	<mark>17(7.6)</mark>	<mark>7(3.1)</mark>	<mark>2</mark>	<mark>2.91</mark>	<mark>1.624</mark>

Concerning the Educational Competency statements (see Table 5d.15), the choice 'agree' occurs more often in the item D2: 'I have participated in board discussions about what we should do differently as a result of a mistake the board made.', D34: 'I have participated in board discussions about what we can learn from a mistake we have made.', and D50: 'This board has conducted an explicit examination of its roles and responsibilities.' all with low disagreement among the directors (SD <2). The choice 'strongly disagree' occurs more often in the item D21: 'Most people on this board tend to rely on observation and informal discussions to learn about their role and responsibilities.', also with low disagreement (SD <2).

Table 5d.15: Educational Competency

Statements	(1)*	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>(6)</mark>	<mark>(7)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
D2	15(6.7)**	22(9.8)	8(3.6)	<mark>28(12.5)</mark>	43(19.2)	83(37.1)	25(11.2)	<mark>6</mark>	<mark>4.83</mark>	<mark>1.740</mark>
D10	1(0.4)	<mark>40(17.9)</mark>	<mark>62(27.7)</mark>	<mark>53(23.7)</mark>	<mark>49(21.9)</mark>	<mark>17(7.6)</mark>	<mark>2(0.9)</mark>	<mark>3</mark>	<mark>3.75</mark>	<mark>1.256</mark>
D17	9(4.0)	22(9.8)	13(5.8)	<mark>27(12.1)</mark>	75(33.5)	<mark>57(25.4)</mark>	21(9.4)	<mark>5</mark>	<mark>4.75</mark>	<mark>1.568</mark>
D18	<mark>20(8.9)</mark>	30(13.4)	8(3.6)	34(15.2)	70(31.3)	<mark>49(21.9)</mark>	13(5.8)	<mark>5</mark>	<mark>4.35</mark>	<mark>1.724</mark>
D21***	<mark>21(9.4)</mark>	<mark>53(23.7)</mark>	<mark>53(23.7)</mark>	<mark>30(13.4)</mark>	<mark>28(12.5)</mark>	<mark>33(14.7)</mark>	<mark>6(2.7)</mark>	<mark>2a</mark>	<mark>3.51</mark>	<mark>1.659</mark>
D24	<mark>15(6.7)</mark>	22(9.8)	10(4.5)	43(19.2)	68(30.4)	<mark>49(21.9)</mark>	<mark>17(7.6)</mark>	<mark>5</mark>	<mark>4.53</mark>	<mark>1.624</mark>
D26	7(3.1)	12(5.4)	9(4.0)	21(9.4)	78(34.8)	<mark>65(29.0)</mark>	32(14.3)	<mark>5</mark>	<mark>5.12</mark>	<mark>1.447</mark>
D29	<mark>15(6.7)</mark>	18(8.0)	<mark>17(7.6)</mark>	30(13.4)	<mark>69(30.8)</mark>	<mark>52(23.2)</mark>	23(10.3)	<mark>5</mark>	<mark>4.64</mark>	1.661
D34	<mark>2(0.9)</mark>	<mark>28(12.5)</mark>	<mark>17(7.6)</mark>	41(18.3)	51(22.8)	74(33.0)	11(4.9)	<mark>6</mark>	<mark>4.68</mark>	<mark>1.480</mark>
D38	<u>17(7.6)</u>	<mark>47(21.0)</mark>	<mark>63(28.1)</mark>	<mark>35(15.6)</mark>	<mark>22(9.8)</mark>	<mark>29(12.9)</mark>	<mark>11(4.9)</mark>	<mark>3</mark>	<mark>3.58</mark>	<mark>1.641</mark>
<mark>D45</mark>	<mark>14(6.3)</mark>	<mark>27(12.1)</mark>	<mark>17(7.6)</mark>	<mark>61(27.2)</mark>	<mark>39(17.4)</mark>	<mark>41(18.3)</mark>	<mark>25(11.2)</mark>	<mark>4</mark>	<mark>4.37</mark>	<mark>1.705</mark>
D50	14(6.3)	<mark>17(7.6)</mark>	11(4.9)	<mark>29(12.9)</mark>	39(17.4)	88(39.3)	26(11.6)	<mark>6</mark>	<mark>4.92</mark>	<mark>1.695</mark>

a. Multiple modes exist. The smallest value is shown

*Ordinal scale (1) 'strongly disagree' to (7) 'strongly agree', ** numbers in round brackets indicate percentages, *** in italics: statements with negative meaning.

Concerning the Individualism/Collectivism dimension statements (see Table 5d.16), in the question: 'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ...' the choice 'of utmost importance' occurs more often in the item IDV4: 'have security of employment.', and 'very important' occurs more often in the item IDV1: 'have sufficient time for your personal or family life.', IDV2: 'have good physical working conditions (good ventilation and lighting, adequate work space, etc.)', and IDV8: 'have an element of variety and adventure in the job.' all with very low disagreement among the directors (SD <1).

Table 5d.16: Individualism/Collectivism dimension statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD
IDV1	<mark>76(33.9)**</mark>	109(48.7)	<mark>27(12.1)</mark>	<mark>6(2.7)</mark>	<mark>6(2.7)</mark>	<mark>2</mark>	<mark>1.92</mark>	.897
IDV2	<mark>77(34.4)</mark>	119(53.1)	<mark>18(8.0)</mark>	<mark>5(2.2)</mark>	<mark>5(2.2)</mark>	<mark>2</mark>	<mark>1.85</mark>	<mark>.833</mark>
IDV4	105(46.9)	92(41.1)	21(9.4)	<mark>5(2.2)</mark>	1(0.4)	1	<mark>1.68</mark>	<mark>.771</mark>
IDV8	32(14.3)	107(47.8)	<mark>57(25.4)</mark>	<mark>17(7.6)</mark>	11(4.9)	<mark>2</mark>	<mark>2.41</mark>	<mark>.989</mark>

^{*}Ordinal scale (1) 'of utmost importance' to (5) 'of very little or no importance', ** numbers in round brackets indicate percentages.

Concerning the Power Distance dimension statements (see Table 5d.17), in the question: 'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ...' the choice 'of utmost importance' occurs more often in the item PD3: 'have a good working relationship with your direct superior.' while the choice 'of moderate importance' occurs more often in the item PD6: 'be consulted by your direct superior in his/her decisions.' all with very low disagreement among the directors (SD <1). In the same question the choice 'seldom' occurs more often in the item PD14: 'How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?' with low disagreement (SD=1.03). Finally, in the question: 'To what extent do you agree or disagree with each of the following statements?' the choice 'agree' occurs more often in the item PD17: 'An organisation structure in which certain subordinates have two bosses should be avoided at all costs.' with low disagreement (SD=1.05).

Table 5d.17: Power Distance dimension statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD
PD3	100(44.6)**	[°] 97(43.3)	<mark>19(8.5</mark>	6(2.7)	<mark>2(0.9)</mark>	<mark>1</mark>	<mark>1.72</mark>	<mark>.802</mark>
PD6	<mark>73(32.6</mark>	115(51.3)	<mark>26(11.6</mark>	6(2.7)	<mark>4(1.8)</mark>	<mark>3</mark>	<mark>1.90</mark>	<mark>.838</mark>
	scale (1) 'of utr							
round	d brackets indic	ate percentag	es, *** in it	talics: staten	nents with	negative	meaning	<u>-</u>
Statement	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD
PD14	11(4.9)**	<mark>26(11.6)</mark>	<mark>89(39.7)</mark>	<mark>64(28.6)</mark>	<mark>34(15.2)</mark>	<mark>2</mark>	<mark>3.38</mark>	<mark>1.034</mark>
*Ordinal	scale (1) 'very s	seldom' to (5)	very frequ	ently', ** nu	mbers in r	ound bra	ckets indi	cate
		ages, *** in ita						·
Statement	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD
PD17	<mark>61(27.2)**</mark>	<mark>82(36.6)</mark>	<mark>42(18.8)</mark>	<mark>38(17.0)</mark>	<mark>1(0.4)</mark>	<mark>2</mark>	<mark>2.27</mark>	<mark>1.054</mark>

*Ordinal scale (1) 'strongly agree' to (5) 'strongly disagree', ** numbers in round brackets indicate percentages.

Concerning the Masculinity/Femininity dimension statements (see Table 5d.18), in the question: 'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ...' the choice 'very important' occurs more often in the item MAS5: 'work with people who cooperate well with one another.', and MAS7: 'have an opportunity for advancement to higher level jobs.' all with very low disagreement among the directors (SD <1). Finally, in the question: 'To what extent do you agree or disagree with each of the following statements?' the choice 'agree' occurs more often in the item MAS15: 'Most people can be trusted.', and MAS20: 'When people have failed in life, it is often their own fault.', all with low disagreement (SD=1.06).

Table 5d.18: Masculinity/Femininity dimension statements

Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD		
MAS5	83(37.1)**	104(46.4)	28(12.5) 4(1.8)		<mark>5(2.2) 2</mark>		<mark>1.66</mark>	<mark>.684</mark>		
MAS7	12(5.4)	<mark>57(25.4)</mark>	<mark>42(18.8)</mark>	<mark>99(44.2)</mark>	14(6.3)	<mark>2</mark>	<mark>1.86</mark>	<mark>.866</mark>		
*Ordinal scal	e (1) 'of utmo	ost importar	nce' to (5) '	of very littl	<mark>e or no in</mark>	portanc	e', ** nu	<mark>mbers i</mark> n		
r <mark>ound bracke</mark>	ets indicate pe	ercentages.								
Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	SD		
MAS15	12(5.4)**	<mark>57(25.4)</mark>	<mark>42(18.8)</mark>	<mark>99(44.2)</mark>	14(6.3)	<mark>4</mark>	<mark>3.21</mark>	<mark>1.060</mark>		
MAS20	<mark>26(11.6)</mark>	84(37.5)	<mark>46(20.5)</mark>	<mark>63(28.1)</mark>	<mark>5(2.2)</mark>	<mark>2</mark>	<mark>2.72</mark>	<mark>1.066</mark>		
*Ordinal scale (1) 'strongly agree' to (5) 'strongly disagree', ** numbers in round brackets										

indicate percentages.

Concerning the Uncertainty Avoidance dimension statements (see Table 5d.19), in the question: 'Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ...' the choice 'sometimes' occurs more often in the item UAI13: 'How often do you feel nervous or tense at work?' with very low disagreement among the directors (SD=.91). Finally, in the question: 'To what extent do you agree or disagree with each of the following statements?' the choice 'agree' occurs more often in the item UAI16: 'One can be a good manager without having precise answers to most questions that subordinates may raise about their work.', and UAI19: 'A company's or organisation's rules should not be broken - not even when the employee thinks it is in the company's best interest.' while the choice 'disagree' occurs more often in the item UAI18: 'Competition among employees usually does more harm than good' all with low disagreement (1.09 < SD < 1.14).

Table 5d.19: Uncertainty Avoidance dimension statements

Statement	atement (1)*		<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
UAI13	7(3,1)**	<mark>24(10.7)</mark>	101(45.1)	<mark>69(30.8)</mark>	<mark>23(10.3)</mark>	<mark>3</mark>	<mark>3.34</mark>	<mark>.915</mark>
*Ordinal sca	ale (1) 'nev	er' to (5) 'al	ways', ** nu	ımbers in ro	ound brack	ets indica	ate perce	entages.
Statements	<mark>(1)*</mark>	<mark>(2)</mark>	<mark>(3)</mark>	<mark>(4)</mark>	<mark>(5)</mark>	<mark>mode</mark>	<mark>mean</mark>	<mark>SD</mark>
UAI16	9(4.0)	90(40.2)	22(9.8)	<mark>81(36.2)</mark>	22(9.8)	<mark>2</mark>	<mark>3.08</mark>	<mark>1.148</mark>
UAI18	<mark>17(7.6)</mark>	<mark>62(27.7)</mark>	<mark>40(17.9)</mark>	94(42.0)	11(4.9)	<mark>4</mark>	<mark>3.09</mark>	<mark>1.093</mark>
UAI19	44(19.6)	90(40.2)	40(17.9)	42(18.8)	8(3.6)	2	<mark>2.46</mark>	<mark>1.112</mark>

*Ordinal scale (1) 'strongly agree' to (5) 'strongly disagree', ** numbers in round brackets indicate percentages.

5.3 Board Performance Competency Questionnaires Factor Analyses

To assess the utility of any measurement protocol, it is essential to examine its validity and reliability. A factor analysis of measurement instruments evaluates elements of both reliability and validity. Following Jackson & Holland (1998, p. 165) it was hypothesised that each of the six board competencies was unidimensional and that one factor could adequately explain each questionnaire. The results of the six EFAs and CFAs on two different data sets of n=112 respondents each separated randomly by SPSS, ver. 20, release 20.0.0, are presented in the following sections, each for every board competency questionnaire.

5.3.1 Contextual Competency

5.3.1.1 Exploratory Factor Analysis

A variation of Parallel Analysis (PA) using Minimum Rank Factor Analysis (MRFA) and polychoric correlations available in FACTOR, version 10.3.01 (Lorenzo-Seva & Ferrando, 2013), was implemented for determining the dimensionality of the 12 Contextual Competency (CC) statements for public hospitals in Greece. The univariate descriptive statistics (see Table 5.1) are higher than one in absolute value. Additionally, Mardia's multivariate test for skewness (Mardia, 1970) was not statistically significant (p=1.00) but showed evidence of excessive kurtosis (p<0.001) (see Table 5.1), supporting the use of polychoric correlations.

Table 5.1: Univariate descriptive statistics for the 12 Contextual Competency statements

Statements	C6	C12	C13N	C30N	C37	C39N	C42N	C44	C49	C55	C58	C62
Skewness	-0.057	-0.905	-1.244	-1.314	-0.987	-0.431	-1.282	0.097	-0.865	-2.138	-0.606	1.588
Kurtosis	-0.893	0.142	1.108	0.682	0.619	-0.415	0.636	-0.628	-0.158	4.453	0.139	2.243

Analysis of the Mardia's (1970) mu	Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis										
	Coefficient Statistic df P										
Skewness corrected for small sample	40.202	773.696	364	1.0000							
Kurtosis	189.779	6.287		0.0000**							

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the CC statements (see Table IV.2). It was found that the sample sufficiency index KMO by Kaiser-Meyer-Olkin, which compares the sizes of the observed correlation coefficients to the sizes of the partial correlation coefficients for the sum of analysis variables is 70%, and it is mediocre. Since the KMO meets the minimum criteria, it is not required the Anti-Image Correlation Matrix to be examined. Also, supposition test of sphericity by Bartlett's test (H₀: All correlation coefficients are not quite far from zero) is rejected on a level of statistical significance (p<0.05) (FACTOR output) (see Table 5.2). Therefore, the sample is suitable for factor analysis.

Table 5.2: Adequacy of the correlation matrix of the CC statements

Kaiser-Meyer-Olkin (KMO) test	0.69804 (mediocre)	
Bartlett's Test of Sphericity	307.0	
	df = 66	
	P=0.000010	

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 50% of the variance (see Table 5.3), supporting the hypothesis that the 12 CC variables measure a single theoretical concept.

Table 5.3: Overall Factor Analysis statistics of the CC statements

Total observed variance	12
Total common variance	6.240
Explained common variance	3.102 (49.71%)
Unexplained common variance	3.138

The nine of the twelve CC statements had a factor loading of at least 0.33 on the primary factor (see Table 5.4), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statements (C58): There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values, and (C6): Induction programmes for new board members specifically include a segment about both the National Health System and the organisation's history and traditions, had low factor loadings (0.14 and 0.2, respectively, well below the 0.32 cut-off) and they were excluded from the CFA.

The highest loaded CC statements were (C30): This board has made a key decision that I believe to be inconsistent with the mission of this organisation (0.73), and (C42): There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values (0.71). The lowest loaded CC statements were (C12): In discussing key issues, it is not unusual for someone on the board to talk about what this organisation stands for and how that is related to the matter at hand (0.3), (C37): I have been present in board meetings where discussions of the history and mission of the organisation were key factors in reaching a conclusion on a problem (0.33), and (C44): New members are provided with a detailed explanation of this organisation's mission when they join this board (0.38).

Table 5.4: Factor loadings of the CC statements

C6	C12	C13N	C30N	C37	C39N	C42N	C44	C49	C55	C58	C62
0.2	0.3	0.63	0.73	0.33	0.52	0.71	0.38	0.43	0.58	0.14	0.68

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable:

Table 5.5: Significant factor loadings based on sample size

			C30N								
450	350	75	55	300	115	65	200	150	90	500	65

Therefore, the 6 statements: (C6): Induction programmes for new board members specifically include a segment about both the National Health System and the organisation's history and traditions, (C12): In discussing key issues, it is not unusual for someone on the board to talk about what this organisation stands for and how that is related to the matter at hand, (C37): I have been present in board meetings where discussions of the history and mission of the organisation were key factors in reaching a conclusion on a problem, (C44): New members are provided with a detailed explanation of this organisation's mission when they join this board, (C49): This board reviews the organisation's mission at periodic intervals, and (C58): There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values, were excluded from CFA. The remaining six variable loadings are averaging out 0.64, which is close to the threshold of 0.70.

Face validity. The factor makes sense. All CC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.92 (FACTOR output), Armor's Theta is 0.76 (calculated by hand), and Cronbach's Alpha is 0.74 (SPSS output). Therefore, there is consistency of item-level errors within the single CC factor.

The hypothesised (M₀) CC reflective factor model for CFA is shown using path diagram in Figure 5.1.

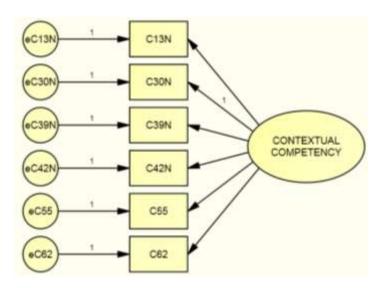


Figure 5.1: Contextual Competency measurement model with six statements identified in EFA

5.3.1.2 Confirmatory Factor Analysis

The CFA was conducted on the six statements that made up the (M_0) CC identified in EFA to test the hypothesis that the CC factor model derived by EFA will not adequately fit the data in CFA. Appendix IV displays the polychoric correlation matrix of the 6 CC statements (see Table IV.3). AMOS used the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.2:

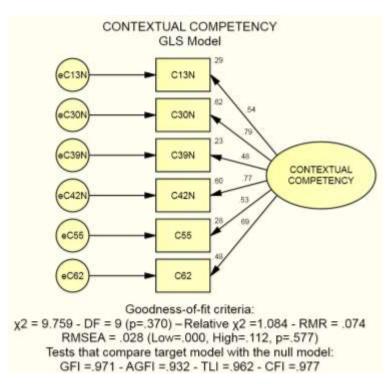


Figure 5.2: Contextual Competency (M₀) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.370), which indicates statistically insignificant discrepancies between observed and model-implied matrices. Additionally, the calculated metrics for determining goodness of fit (see Figure 5.2) that are inversely related to sample size and the number of variables in the model, all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.1.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.805, greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.416, just off the lower threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of CC questionnaire for public hospitals has been established formally.

5.3.1.2.2 Monitoring and accountability function of the board of directors and uncertainty avoidance

The CC reflects the monitoring and accountability function of the board by linking decision making to the mission of the organisation. The argument that needs to be posited is that the adherence of board members to mission or purpose of the organisation is more essential for the effectiveness of board's monitoring function in low Uncertainty Avoidance (UA) cultures, where less formalization doesn't contradict with legitimacy, than in high UA cultures with management bound to comply with the detailed administrative formal rules.

To test the hypothesis that in public hospitals in Greece, where the formalization is coercive, the board's monitoring function is less demanding, the validated CC model was estimated separately for the respondents with high (first group, n=138) and for the respondents with low (second group, n=86) UA, separated in the complete data set (N=224) by SPSS, and the results are shown in Figures 5.3 & 5.4. Appendix IV displays the polychoric correlation matrices of the CC 6 statements of the two groups (see Tables IV.4 & IV.5).

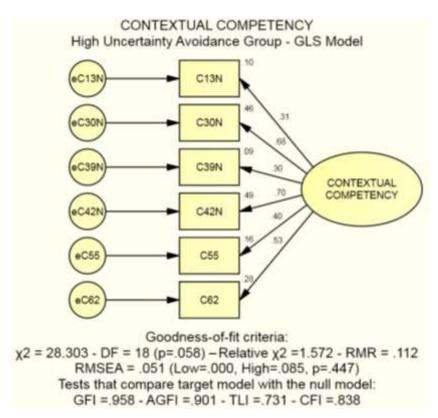


Figure 5.3: Contextual Competency High UA Group GLS model

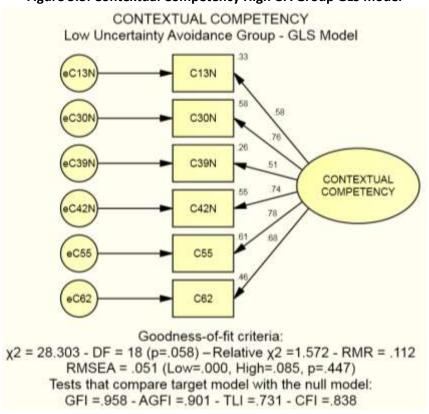


Figure 5.4: Contextual Competency Low UA Group GLS model

The results show that the CC model 'passes' marginally the test of configural invariance between the two UA groups (i.e. the empirical evidence that the

correlation matrices are not different is not strong) while revealing evidence of a worsened fit. Additionally, it was conducted a chi-square difference test to find statistical evidence of a difference in factor loadings between the two UA groups. The CC model was constrained to have equal unstandardized factor loadings and the variance of the latent construct equal to unity (see Figure 5.5).

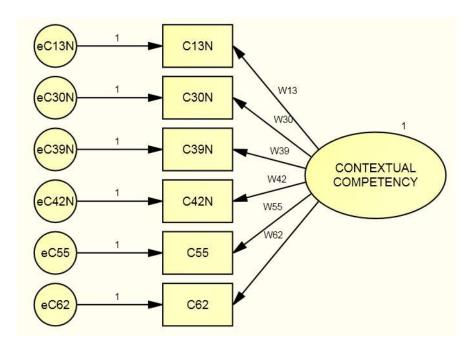


Figure 5.5: Constrained CC measurement model

The constrained model failed to pass the test for metric invariance using chisquare difference test on the constrained version of the model, as shown in Figures 5. & 5.7, and in Table 5.6.

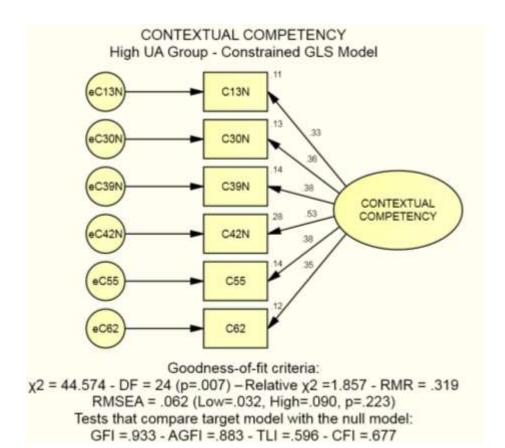


Figure 5.6: Constrained GLS model - High UA Group

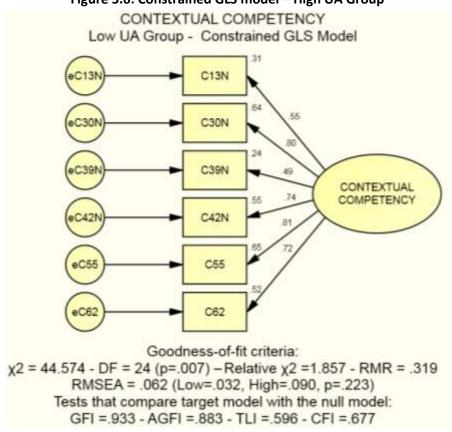


Figure 5.7: Constrained GLS model – Low UA Group Figure 5.8:

Table 5.6: Chi-square difference test CC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	28.303	18		
Constrained	44.574	24		
UA Groups		2		
Difference	14.666	5	0.012	NO

With the above analyses, it was established that the factor loadings are statistically different between the two UA groups. In other words, the meaning of the CC construct is shifting across UA groups, and the empirical results confirmed the supposition that CC is negatively related to UA. For all 6 CC statements, the amount of variance accounted for by CC are lower in the high-UA group in comparison to the low UA group (see Table 5.7).

Table 5.7: Factor loadings by UA Group of the CC model

Statements:	C13	C30	C39	C42	C55	C62	Average		
High UA Group	0.33	0.36	0.38	0.53	0.38	0.35	0,39		
Low UA Group	0.55	0.80	0.49	0.74	0.81	0.72	0,69		
Amount of statement's total variance accounted for by CC based on factor loadings									
High UA Group	10.89%	12.96%	14,44%	28.09%	14.44%	12.25%	15.08%		
Low UA Group	30.25%	64.00%	24.01%	54.76%	65.61%	51.84%	46.92%		

Therefore, for public hospitals in Greece, the hypotheses (1a) and (1b) should be accepted.

Hypothesis 1a: It is expected a negative relationship between UA and contextual performance in boards, for cultural groups with high UA.

Hypothesis 1b: It is expected a positive relationship between UA and contextual performance in boards, for cultural groups with low UA.

5.3.1.2.3 Re-specification of the CC model for taking into account national culture

One statement of the CC model, (C39): It is apparent from the comments of some of our board members that they do not understand the mission of the organisation very well, had a relatively low factor loading (0.48) and also low loadings in the two UA groups (i.e. 0.38 in the high-UA group and 0.49 in the low UA group) and was excluded from the model. The CFA was conducted on the five statements that made up the (M_1) CC after this re-specification to test the

hypothesis that this CC factor model will not adequately fit the data. The CFA result of this hypothesised model is shown in Figure 5.8:

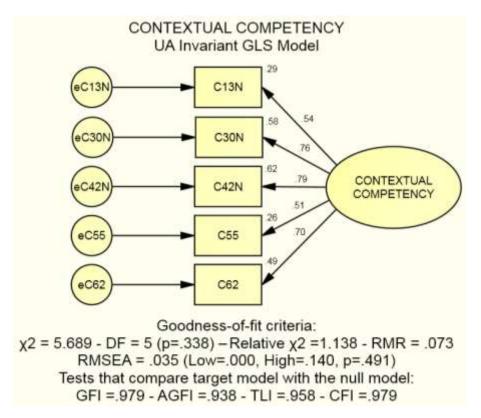


Figure 5.8: Contextual Competency (M₁) GLS model – UA Invariant

Testing for absolute fit, the model 'passes' the chi-square test (p=0.338). Additionally, the calculated metrics for determining goodness of fit (see Figure 5.8) all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.1.2.4 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.798 greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.449 just off the lower threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of the 5 statement CC questionnaire for public hospitals has been established formally.

5.3.1.2.5 Measurement (M1) CC model invariance

The validated 5 statement (M₁) CC model was estimated separately for the respondents with high (first group, n=138) and for the respondents with low (second group, n=86) UA, separated in the complete data set (N=224), but didn't pass the configural invariance test (i.e. chi-square test p=0.008). Modification Indices (MIs) indicated those variable error constraints with positive parameter changes that could be added to the path diagram to improve model fit. Four constraints were added, and the model achieved an improved and acceptable fit for all indices, and the estimated results are shown in Figures 5.9 & 5.10.

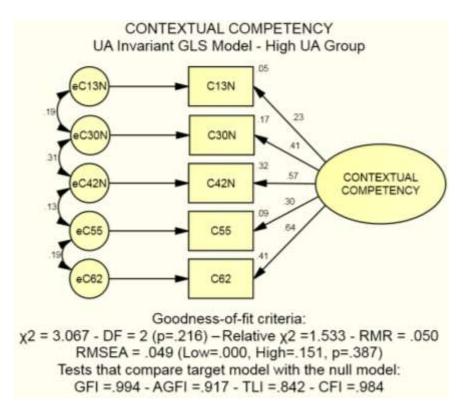


Figure 5.9: Contextual Competency UA Invariant GLS model – High UA Group

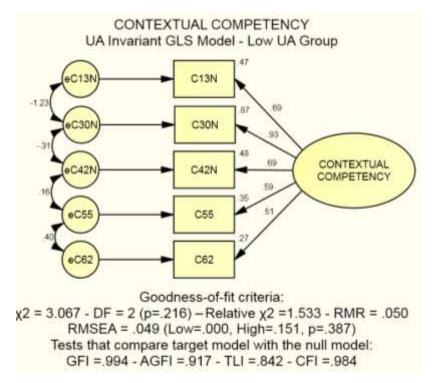


Figure 5.10: Contextual Competency UA Invariant GLS model – Low UA Group

The constrained model also passed the test for metric invariance using chi-square difference test on the constrained version of the model, as shown in Figure 5.11, and in Table 5.8.

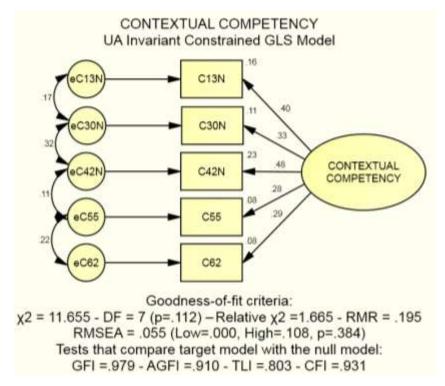


Figure 5.11: Contextual Competency UA Invariant Constrained GLS model

Table 5.8: Chi-square difference test CC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	3.067	2		
Constrained	11.655	7		
UA Groups		2		
Difference	8.588	5	0.127	YES

With the above analyses, it was established that the factor loadings are statistically indifferent between the two UA groups. In other words, the meaning of the 5 statement CC construct is the same across UA groups.

It is important to note that even though this model fits the data well, there may be other equivalent models that fit the data equally well. To rule out alternative models, a fresh data sample is required.

5.3.2 Political Competency

5.3.2.1 Exploratory Factor Analysis

A variation of Parallel Analysis (PA) using Minimum Rank Factor Analysis (MRFA) and polychoric correlations available in FACTOR, version 10.3.01, was implemented for determining the dimensionality of the 8 Political Competency (PC) statements for public hospitals in Greece. The univariate descriptive statistics (see Table 5.9) are higher than one in absolute value. Additionally, Mardia's (1970) multivariate test for skewness was not statistically significant (p=1.00) but showed evidence of excessive kurtosis (p<0.001) (see Table 5.9), supporting the use of polychoric correlations.

Table 5.9: Univariate descriptive statistics for the eight Political Competency statements

Statements	Р9	P14	P19	P25	P33	P41	P471	N P53N	
Skewness	-1.150	-1.178	-0.824	-1.916	-0.69	4 -1.224	-0.96	66 0.969	
Kurtosis	1.168	0.717	-0.158	4.890	-0.88	6 0.889	0.12	2 -0.006	
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis									
				Coeffi	Coefficient Statistic		df	Р	
Skewness co	19.4	19.466		120	1.0000				
Kurtosis	99.3	18	8.081		0.0000**				

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the PC statements (see Table IV.8). It was found that the sample sufficiency index KMO by Kaiser-Meyer-Olkin is 64%, and it is mediocre. Since the KMO meets the minimum criteria, it is not required the Anti-Image Correlation Matrix to be examined. Also, supposition test of sphericity by the Bartlett's test is rejected on a level of statistical significance (p<0.5) (FACTOR output) (see Table 5.10). Therefore, the sample is suitable for factor analysis.

Table 5.10: Adequacy of the correlation matrix of the PC statements

Kaiser-Meyer-Olkin (KMO) test	0.64272 (mediocre)
Bartlett's Test of Sphericity	112.2
	df = 28
	P=0.000010

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 50% of the variance (see Table 5.11), supporting the hypothesis that the eight PC variables measure a single theoretical concept.

Table 5.11: Overall Factor Analysis statistics of the PC statements

Total observed variance	8
Total common variance	3.291
Explained common variance	1.684 (51.16%)
Unexplained common variance	1.608

The seven of the eight PC statements had a factor loading of at least 0.42 on the primary factor (see Table 5.11), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statement (P33): The board periodically requests information on the morale of the professional staff, had low factor loading (0.27, below the 0.32 cut-off), and additionally, it had a very low factor loading in the pilot study (0.03). Therefore it was excluded from the CFA. The highest loaded PC statements were (P19): This board has formed ad hoc committees or task forces that include staff as well as board members (0.56), and (P25): I have been in board meetings where explicit attention was given to the concerns of the local community (0.55). The lowest loaded PC statements were (P9): This board communicates its decisions to all those who are affected by them (0.42), and (P53): The Managing Director rarely report to the board on the concerns of those the organisation serves (0.43).

Table 5.12: Factor loadings of the PC statements

P9	P14	P19	P25	P33	P41	P47N	P53N
0.42	0.47	0.56	0.55	0.27	0.46	0.46	0.43

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable:

Table 5.13: Significant factor loadings based on sample size

Р9	P14	P19	P25	P33	P41	P47N	P53N
170	130	90	100	400	175	175	130

Therefore, the statement: (P33): *The board periodically requests information on the morale of the professional staff*, was excluded from CFA. The remaining seven variable loadings are averaging out 0.48, which is not close to the threshold of 0.70.

Face validity. The factor makes sense. All PC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.75 (FACTOR output), Armor's Theta is 0.64 (calculated by hand), and Cronbach's Alpha is 0.61 (SPSS output). Therefore, there is consistency of item-level errors within the single PC factor.

The hypothesised (M₀) PC reflective factor model for CFA is shown using path diagram in Figure 5.12.

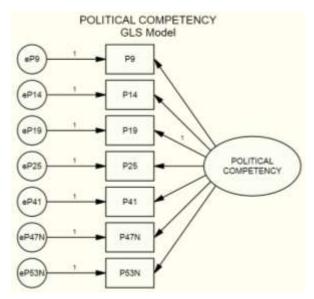


Figure 5.12: Political Competency measurement (M₀) model with seven statements identified in EFA

5.3.2.2 Confirmatory Factor Analysis

The CFA was conducted on the seven statements that made up the (M_0) PC identified in EFA to test the hypothesis that the PC factor model derived by EFA will not adequately fit the data in CFA. Appendix IV displays the polychoric correlation matrix of the 7 CC statements (see Table IV.9). AMOS used the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.13:

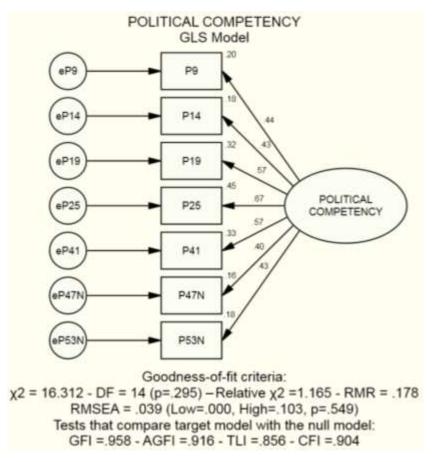


Figure 5.13: Political Competency (M₀) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.295), which indicates statistically insignificant discrepancies between observed and model-implied matrices. Additionally, the calculated metrics for determining goodness of fit (see Figure 5.13) that are inversely related to sample size and the number of variables in the model, all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.2.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.704, greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.260, just off the lower threshold of 0.5 (Hair et al., 2010). AVE is a strict measure of convergent validity, and it is noted that 'AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the

convergent validity of the construct is adequate, even though more than 50% of the variance is due to error.' (Malhotra & Dash, 2011, p.702).

With the above analyses, the factorial validity of the Greek version of PC questionnaire for public hospitals has been established formally.

5.3.2.2.2 Connection to community of the board of directors and collectivist values

The PC reflects the board's connection to the community. Boards improve the legitimacy and reputation of the public hospital for acquiring the necessary public funds (i.e. budget and other financial plan approvals) and scarce resources (e.g. approvals for personnel positions), by conforming to the societal norm of collectivist values (i.e. Hofstede's I/C cultural dimension). Constituency and taxpayers expect aggregate interests to prevail over autonomous ones. The argument that needs to be posited is that the 7 PC statements load higher in the collectivist cultural group than in the individualistic group of directors. To test this in the board directors of public hospitals in Greece, the validated PC model was estimated separately for the respondents with individualistic values (first group, n=156) and for the respondents with collectivistic values (second group, n=68), separated in the complete data set (N=224) by SPSS, and the results are shown in Figures 5.14 & 5.15. Appendix IV displays the polychoric correlation matrices of the PC 7 statements of the two groups (Tables IV.10 & IV.11). MIs for the I/C groups PC model indicated that a variable error constraint with positive parameter change could be added to the path diagram to improve model fit. One constraint was added (i.e. covariance between eP53N and eP19) and the PC model achieved an improved fit.

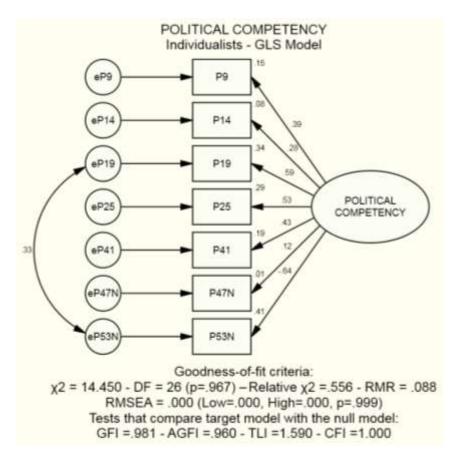


Figure 5.14: Political Competency GLS model - Individualists

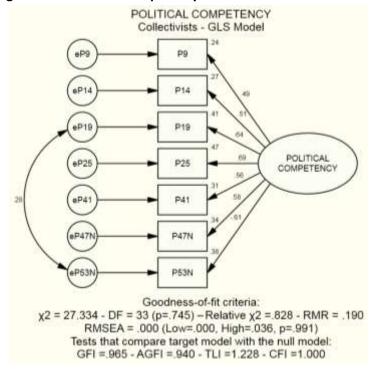


Figure 5.15: Political Competency GLS model - Collectivists

The results show that the PC model 'passes' the test of configural invariance between the two I/C groups (i.e. there is empirical evidence that the correlation

matrices are not different). Then, to test for metric invariance, it was conducted a chi-square difference test to find statistical evidence of a difference in factor loadings between the two I/C groups. The PC model was constrained to have equal unstandardized factor loadings and the variance of the latent construct equal to unity (see Figure 5.16).

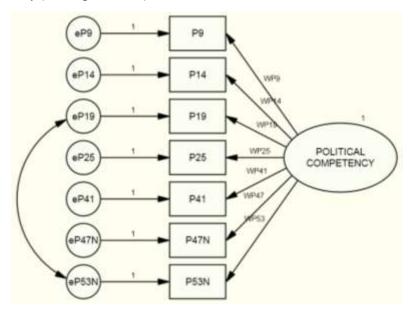


Figure 5.16: Political Competency constrained measurement model

The constrained model failed to pass the test for metric invariance using chisquare difference test on the constrained version of the model, as shown in Figures 5.17 & 5.18, and in Table 5.14.

Table 5.14: Chi-square difference test PC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	14,45	26		
Constrained	27.334	33		
I/C Groups		2		
Difference	14.666	7	0.075	NO

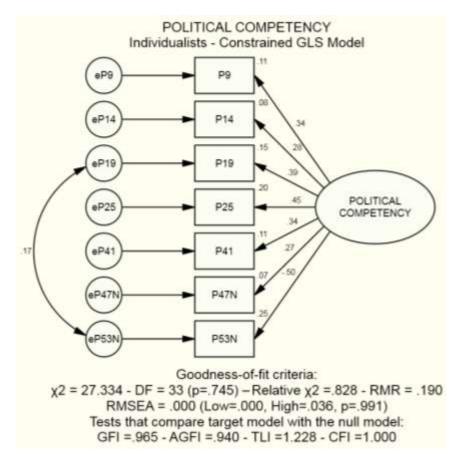


Figure 5.17: Political Competency constrained GLS model – Individualists

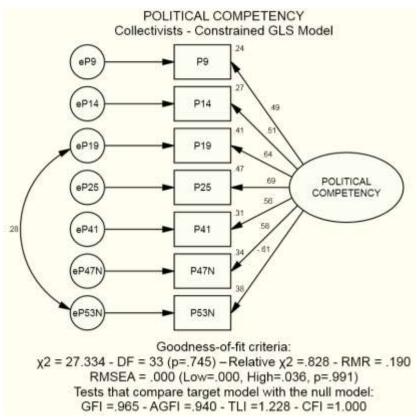


Figure 5.18: Political Competency constrained GLS model – Collectivists

With the above analyses, it was established that the factor loadings are statistically different between the two I/C groups. In other words, the meaning of the PC construct is shifting across I/C groups, and the empirical results confirmed the supposition that PC is negatively related to I/C. For six PC statements, the amount of variance accounted for by PC are lower in the individualistic group in comparison to the collectivistic group (see Table 5.15).

Table 5.15: Factor loadings by I/C Group of the PC model

Statements:	Р9	P14	P19	P25	P41	P47N	P53N	Aver.		
Indiv. factor loadings	0.39	0.28	0.59	0.53	0.43	0.12	-0.64	0,39		
Collect. factor loadings	0.45	0.54	0.53	0.67	0.55	0.62	-0.51	0,69		
Amount of statement's total variance accounted for by PC based on factor loadings (%)										
Individualists	15.21	7.84	34.81	28.09	18.49	1.44	40.96	5.9		
Collectivists	20.25	29.16	28.09	44.89	30.25	38.44	26.09	16.58		

Therefore, for public hospitals in Greece, the hypotheses (2a) and (2b) should be accepted.

Hypothesis 2a: It is expected a negative relationship between I/C values and political performance in boards, for individualist cultural groups.

Hypothesis 2b: It is expected a positive relationship between I/C values and political performance in boards, for collectivist cultural groups.

5.3.2.2.3 Re-specification of the PC model for taking into account national culture

Two of the seven statement of the validated PC model, (P47): At times this board has appeared unaware of the impact its decisions will have within our local community, and (P53): The Managing Director rarely report to the board on the concerns of those the organisation serves, had relatively low factor loadings (0.29 and 0.33, respectively) and also (P53) had negative loadings in the two I/C groups (i.e. -0.64 in the individualistic group and -0.51 in the collectivistic group) which were unexpected and they were excluded from the model. The CFA was conducted on the five statements that made up the PC after this re-specification to test the hypothesis that this PC factor model will not adequately fit the data. The CFA results of this hypothesised model are shown in Figure 5.19:

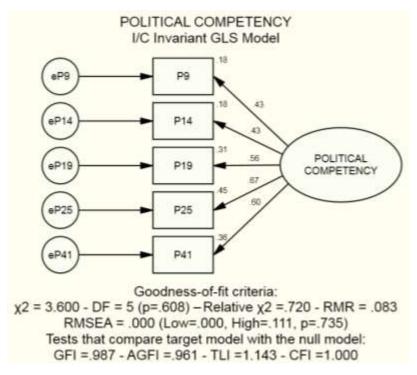


Figure 5.19: Political Competency GLS model – I/C Invariant

Testing for absolute fit, the model 'passes' the chi-square test (p=0.608). Additionally, the calculated metrics for determining goodness of fit (see Figure 5.19) all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.2.2.4 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.674 just off the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.298 lower of the threshold of 0.5 (Hair et al., 2010). AVE is a strict measure of convergent validity, and it is noted that 'AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error.' (Malhotra & Dash, 2011, p.702).

With the above analyses, the factorial validity of the Greek version of the five statement PC questionnaire for public hospitals has been established formally.

5.3.2.2.5 Measurement PC model invariance

The validated five statement PC model was estimated separately for the respondents with individualistic values (first group, n=156) and the respondents with collectivistic values (second group, n=68), separated in the complete data set (N=224), and the estimated results are shown in Figures 5.20 & 5.21. The model 'passes' the configural invariance test (chi-square p-value equals 0,979).

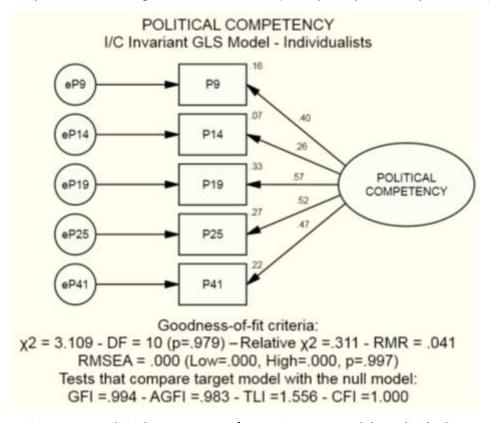


Figure 5.20: Political Competency I/C Invariant GLS model – Individualists

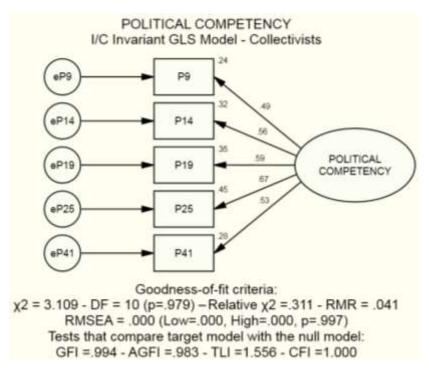


Figure 5.21: Political Competency I/C Invariant GLS model - Collectivists

The constrained model also passed the test for metric invariance using chi-square difference test on the constrained version of the model, as shown in Figure 5.22, and in Table 5.16.

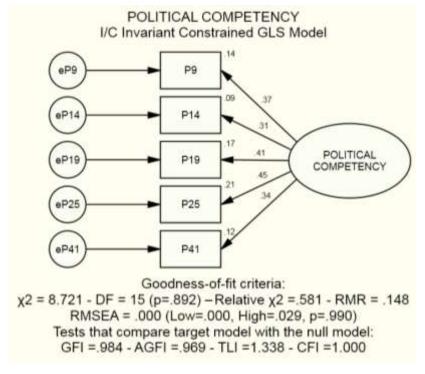


Figure 5.22: Political Competency I/C Invariant Constrained GLS model

Table 5.16: Chi-square difference test PC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	3.109	10		
Constrained	8.721	15		
UA Groups		2		
Difference	8.588	5	0.346	YES

With the above analyses, it was established that the factor loadings are statistically indifferent between the two I/C groups. In other words, the meaning of the 5 statement PC construct is the same across I/C groups.

It is important to note that even though this model fits the data well, there may be other equivalent models that fit the data equally well. To rule out alternative models, a fresh data sample is required.

5.3.3 Strategic Competency

5.3.3.1 Exploratory Factor Analysis

A variation of Parallel Analysis (PA) using Minimum Rank Factor Analysis (MRFA) and polychoric correlations available in FACTOR, version 10.3.01, was implemented for determining the dimensionality of the 12 Strategic Competency (SC) statements for public hospitals in Greece. Many of the univariate descriptive statistics (see Table 5.17) are higher than one in absolute value. Additionally, Mardia's (1970) multivariate test for skewness was not statistically significant (p=1.00) but showed evidence of kurtosis (p<0.001) (see Table 5.17), supporting the use of polychoric correlations.

Table 5.17: Univariate descriptive statistics for the 12 Strategic Competency statements

Statements	S7N	S8	S16N	S35N	S36	S40N	S43	S48	S54	S57	S61	S64
Skewness	-0.444	-1.019	-1.047	-0.732	-0.492	1.147	-0.377	-0.392	-1.510	-1.773	-1.386	-0.480
Kurtosis	-0.833	0.437	0.105	-0.413	-0.522	0.275	-0.746	-0.864	2.357	2.672	1.430	-0.579
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis												
						efficier	nt	Statist	ic	df		Р
Skewness corrected for small sample					3	4.504		664.041		364	1.0000	
Kurtosis					19	90.211		6.412	2		0.00	00**

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the SC statements (see Table IV.13). It was found that the sample sufficiency index KMO by Kaiser-

Meyer-Olkin is 85%, and it is good. Since the KMO meets the minimum criteria, it is not required the Anti-Image Correlation Matrix to be examined. Also, supposition test of sphericity by the Bartlett's is rejected on a level of statistical significance (p<0.5) (FACTOR output) (see Table 5.18). Therefore, the sample is suitable for factor analysis.

Table 5.18: Adequacy of the correlation matrix of the PC statements

• •		
Kaiser-Meyer-Olkin (KMO) test	0.85350 (good)	
Bartlett's Test of Sphericity	461.2	
	df = 66	
	P=0.000010	

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 50% of the variance (see Table 5.19), supporting the hypothesis that the eight PC variables measure a single theoretical concept.

Table 5.19: Overall Factor Analysis statistics of the SC statements

Total observed variance	12
Total common variance	6.031
Explained common variance	3.623 (60.06%)
Unexplained common variance	2.409

Nine of the twelve SC statements had a factor loading of at least 0.41 on the primary factor (see Table 5.20), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statements (S16): This board delays action until an issue becomes urgent or critical, and (S7): This board is more involved in trying to put out fires than in preparing for the future, had low factor loadings (0.10 and 0.23 respectively, below the 0.32 cut-off), while the statement (S35): Our board meetings tend to focus more on current concerns than on preparing for the future, had a factor loading of 0.32 but additionally, it had very low factor loading in the pilot study (0.24). Therefore they all were excluded from the CFA. The highest loaded SC statements were (S61): This board makes explicit use of the long-range priorities of this organisation in dealing with current issues (0.83), and (S57): The board discusses events and trends in the larger environment that may present specific opportunities for this organisation (0.72). The lowest loaded SC statements were (S43): This board often discusses where the organisation should be headed five or more years into the future (0.41), (\$36): At least once a year, this board asks that the Managing Director articulate his/her vision for the

organisation's future and strategies to realize that vision (0.43), and (S64): More than half of this board's time is spent in discussions of issues of importance to the organisation's long-range future, (0.51).

Table 5.20: Factor loadings of the SC statements

S	7N	S8	S16N	S35N	S36	S40N	S43	S48	S54	S57	S61	S64
0	.23	0.61	0.10	0.32	0.51	-0.61	0.41	0.67	0.61	0.72	0.83	0.51

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable:

Table 5.21: Significant factor loadings based on sample size

S7N	S8	S16N	S35N	S36	S40N	S43	S48	S54	S57	S61	S64
400	85	500	300	115	85	190	65	85	60	45	115

Therefore, the statement: (S43): This board often discusses where the organisation should be headed five or more years into the future, was excluded from CFA. The remaining eight variable loadings are averaging out 0.48, which is not close to the threshold of 0.70.

Face validity. The factor makes sense. All PC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.917 (FACTOR output), Armor's Theta is 0.84 (calculated by hand), and Cronbach's Alpha is 0.79 (SPSS output). Therefore, there is the consistency of item-level errors within the single SC factor.

The hypothesised (M₀) SC reflective factor model for CFA is shown using path diagram in Figure 5.23.

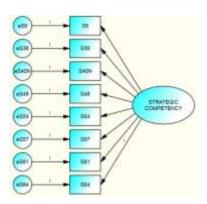


Figure 5.23: Strategic Competency measurement (M₀) model with eight statements identified in EFA

5.3.3.2 Confirmatory Factor Analysis

The CFA was conducted on the eight statements that made up the SC identified in EFA to test the hypothesis that the SC factor model derived by EFA will not adequately fit the data in CFA. Appendix IV displays the polychoric correlation matrix of the 8 SC statements (see Table IV.14). AMOS used the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.24:

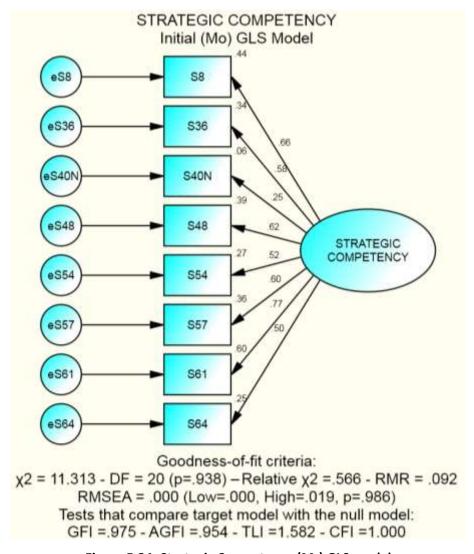


Figure 5.24: Strategic Competency (M₀) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.938), which indicates statistically insignificant discrepancies between observed and model-implied matrices. Additionally, the calculated metrics for determining goodness of fit (see Figure 5.24) that are inversely related to sample size and the number of variables in the model, all have values within the acceptable thresholds

showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted. However, the statement (S40): *This board has on occasion evaded responsibility for some important issue facing the organisation,* had a very low factor loading (0.25) influencing construct validity and, therefore, the model was re-specified, by excluding this variable and the results of the estimation are shown in Figure 5.25.

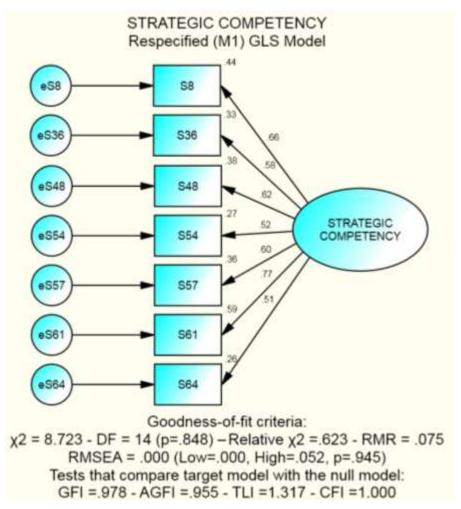


Figure 5.25: Strategic Competency (M₁) GLS model

5.3.3.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.792 for M_{\odot} and 0.806 for M_{1} , greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.337 for M_0 and 0.377 for M_1 , just off the lower threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of SC questionnaire for public hospitals has been established formally.

5.3.4 Analytical Competency

5.3.4.1 Exploratory Factor Analysis

A polychoric-based PA-MRFA that was implemented for determining the dimensionality of the 10 Analytical Competency (AC) statements for public hospitals in Greece didn't converge and the competency statement (A4): *I have been in board meetings where it seemed that the subtleties of the issues we dealt with escaped the awareness of a number of the members,* that had a low factor loading of 0.24 was excluded from further analysis. The remaining 9 AC variables univariate descriptive statistics (see Table 5.22) are higher than one in absolute value. Additionally, Mardia's (1970) multivariate test for skewness was not statistically significant (p=1.00) but showed evidence of excessive kurtosis (p<0.001) (see Table 5.22), supporting the use of polychoric correlations.

Table 5.22: Univariate descriptive statistics for the 9 Analytical Competency statements

	A1	A5	A11N	A22	A23	A28N	A46N	A52	2N	A60	
Skewness	-1.507	-1.591	-0.779	-2.020	-1.587	-0.719	-0.428	-1.7	49	-1.262	
Kurtosis	1.593	2.513	-0.265	4.212	2.578	-0.609	-1.071	2.90)1	1.005	
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis											
		Coeff	ficient	Statistic		df		Р			
Skewness co	25.	377	488.998		165	1	.0000				
Kurtosis	118.727		7.418			0.0	0000**				

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the AC statements (see Table IV.16). Assessing the suitability of the respondent data for factor analysis the KMO measure of sampling adequacy is 0.8 (meritorious) and Bartlett's Test of Sphericity is significant (p<0.5) (FACTOR output) (see Table 5.23). Therefore, the sample is suitable for factor analysis.

Table 5.23: Adequacy of the correlation matrix of the AC statements

Kaiser-Meyer-Olkin (KMO) test	0.79642 (meritorious)	
Bartlett's Test of Sphericity	260.3	
bartlett's rest of Spriencity		
	df = 36	
	P=0.000010	

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 71% of the variance (see Table 5.24), supporting the hypothesis that the nine AC variables measure a single theoretical concept.

Table 5.24: Overall Factor Analysis statistics of the AC statements

Total observed variance	9
Total common variance	4.092
Explained common variance	2.894 (70.71%)
Unexplained common variance	1.199

The eight AC statements had a factor loading of at least 0.36 on the primary factor (see Table 5.25), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statement (A46): Recommendations from the Managing Director are usually accepted with little questioning in board meetings, had a low factor loading (0.155, well below the 0.32 cut-off) and it was excluded from the CFA. The highest loaded AC statement was (A5): Our board explicitly examines the 'downside' or possible pitfalls of any important decisions it is about to make (0.72). The lowest loaded AC statements were (A52): This board tries to avoid issues that are ambiguous and complicated (0.36) and (A11): Many of the issues that this board deals with seem to be separate tasks, unrelated to one another (0.38).

Table 5.25: Factor loadings of the AC statements

A1	A5	A11N	A22	A23	A28N	A46N	A52N	A60
0.77	0.72	0.38	0.59	0.71	0.50	0.15	0.36	0.63

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable (see Table 5.26):

Table 5.26: Significant factor loadings based on sample size

A1	A5	A11N	A22	A23	A28N	A46N	A52N	A60
50	60	200	85	60	120	400	250	70

Therefore, the 4 statements: (A11): Many of the issues that this board deals with seem to be separate tasks, unrelated to one another, (A28): When issues come before our board, they are seldom framed in a way that enables members to see the connections between the matter at hand and the organisation's overall strategy, (A46): Recommendations from the Managing Director are usually accepted with little questioning in board meetings, and (A52): This board tries to

avoid issues that are ambiguous and complicated, were excluded from CFA. The remaining five variable loadings are averaging out 0.68, which is close to the threshold of 0.70.

Face validity. The factor makes sense. All AC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.88 (FACTOR output), Armor's Theta is 0.79 (calculated by hand), and Cronbach's Alpha is 0.76 (SPSS output). Therefore, there is consistency of item-level errors within the single factor.

The hypothesised (M₀) AC reflective factor model for CFA is shown using path diagram in Figure 5.26.

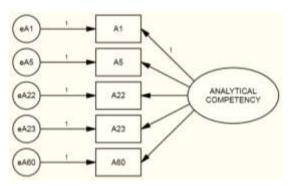


Figure 5.26: Analytical Competency measurement (M₀) model with five statements identified in EFA

5.3.4.2 Confirmatory Factor Analysis

The CFA was conducted on the five statements that made up the (M_0) AC identified in EFA to test the hypothesis that the AC factor model derived by EFA will not adequately fit the data in CFA. Appendix IV displays the polychoric correlation matrix of the 5 AC statements (see Table IV.17). AMOS used the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.27:

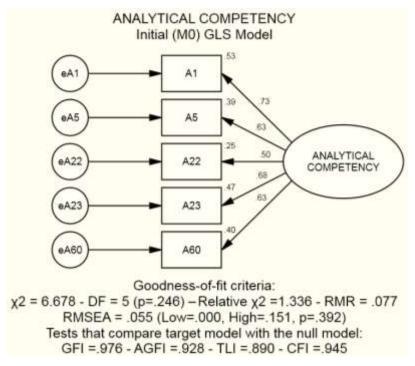


Figure 5.27: Analytical Competency Initial (M₀) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.246), which indicates statistically insignificant discrepancies between observed and model-implied matrices. The fit index for AGFI was 0.928 just off the acceptance point of 0.95 for a good fit while the RMSEA value of 0.055 was close to the 0.05 needed for a good fitting model, all showing misfit. MIs for the Initial (M_0) AC model indicated that one variable error constraint with positive parameter change could be added to the path diagram to improve model fit. One constraint was added to M_0 (i.e. covariance between eA23 and eA60), and the Modified (M_1) AC model achieved an improved and acceptable fit for all indices shown in Figure 5.28:

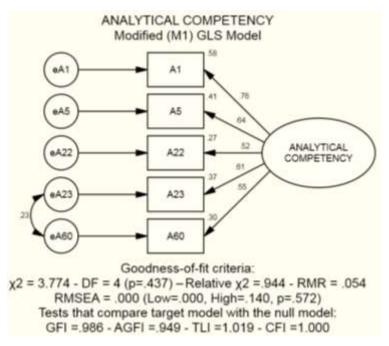


Figure 5.28: Analytical Competency Modified (M₁) GLS model

Therefore, the hypothesis that the AC factor model derived by EFA will not adequately fit the data in CFA is rejected. With the above analyses has been revealed with a high degree of certainty that the Analytical Competency truly causes the variance in the five AC statements.

5.3.4.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.756 greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.386 lower than the threshold of 0.5 (Hair et al., 2010). With the above analyses, the factorial validity of the Greek version of AC questionnaire for public hospitals has been established formally.

5.3.4.2.2 Consultation in group decision making and power distance

The AC reflects the consulting function of the board based on the capacity of its members to dissect complex problems and draw on multiple perspectives. The argument that needs to be posited is that in high PD cultures organisations prefer strong authority and steep hierarchies while in low PD cultures organisations are more decentralised, and there is more consultation in decision making.

To test the hypothesis that in public hospitals in Greece, with the consolidated chair that gives Manager Director greater stature and political influence over the board and with fewer outside directors, in parallel to the formalistic statutory rules governing board processes, the consultation function of the board is less demanding, the validated AC model was estimated separately for the respondents with high (first group, n=53) and for the respondents with low (second group, n=151) PD, separated in the complete data set (N=224) by SPSS, and the results are shown in Figures 5.29 & 5.30. Appendix IV displays the polychoric correlation matrices of the AC 5 statements of the two groups (Tables IV.18 & IV.19).

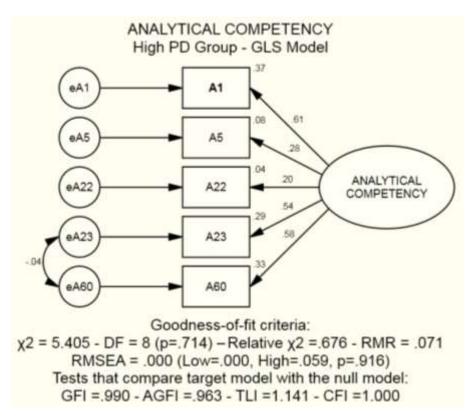


Figure 5.29: Analytical Competency (M₁) GLS model – High PD Group

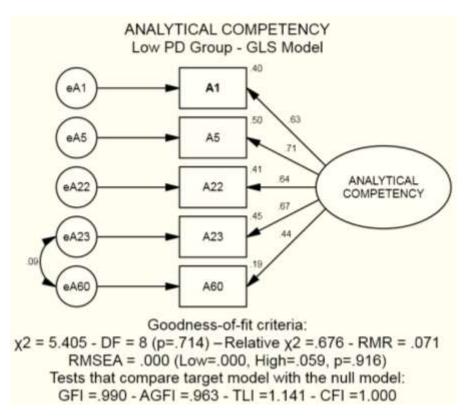


Figure 5.30: Analytical Competency (M₁) GLS model – Low PD Group

The results show that the AC model 'passes' the test of configural invariance between the two PD groups (chi-square test p-value equals 0.714). Then, to test for metric invariance, it was conducted a chi-square difference test to find statistical evidence of a difference in factor loadings between the two PD groups. The AC model was constrained to have equal unstandardized factor loadings and the variance of the latent construct equal to unity (see Figure 5.31).

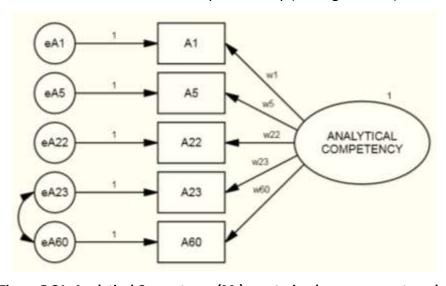


Figure 5.31: Analytical Competency (M₁) constrained measurement model

The constrained model 'passes' also the test for metric invariance using chisquare difference test on the constrained version of the model, as shown in figure 5.32 & 5.33, and in Table 5.27.

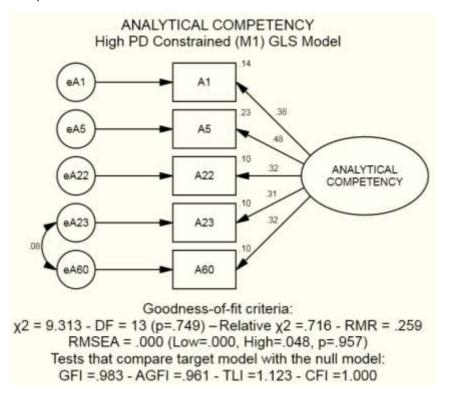


Figure 5.32: Analytical Competency (M₁) constrained GLS Model – High PD

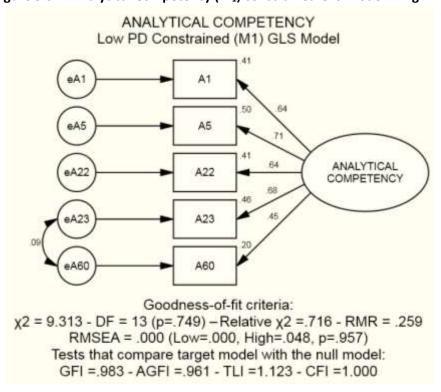


Figure 5.33: Analytical Competency (M₁) constrained GLS Model – Low PD

Table 5.27: Chi-square difference test AC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	5.404	8		
Constrained	9.313	13		
UA Groups		2		
Difference	8.588	5	0.563	YES

For all AC statements, the amount of variance accounted for by AC are lower in the high PD group in comparison to the low PD group (see Table 5.28). However, with the above analyses, it was established that the factor loadings are statistically indifferent between the two PD groups. In other words, the meaning of the 5 statement AC construct is the same across PD groups.

Table 5.28: Factor loadings by PD Group of the AC model

Statements:	A1	A5	A22	A23	A60	Average					
High PD Group factor loadings	0.61	0.28	0.20	0.54	0.33	0,39					
Low PD Group factor loadings	0.63	0.71	0.64	0.67	0.44	0,62					
Amount of statement's total variance accounted for by CC based on factor loadings											
High PD Group	37.21%	7.84%	4.00%	29.16%	10.89%	15.37%					
Low PD Group	39.69%	50.41%	40.96%	45.29%	19.36%	38.27%					

Therefore, for public hospitals in Greece, the hypotheses (3a) and (3b) are not supported by the data and should be rejected.

Hypothesis 3a: It is expected a negative relationship between PD and analytical performance in boards, for cultural groups high in PD.

Hypothesis 3b: It is expected a positive relationship between PD and analytical performance in boards, for cultural groups low in PD.

It is important to note that even though the modified (M_1) AC model fits the data well and the loadings are sufficiently equivalent across PD groups, there may be other equivalent models that fit the data equally well. To rule out alternative models, a fresh data sample is required.

5.3.5 Interpersonal Competency

5.3.5.1 Exploratory Factor Analysis

A variation of Parallel Analysis (PA) using Minimum Rank Factor Analysis (MRFA) and polychoric correlations available in FACTOR, version 10.3.01, was

implemented for determining the dimensionality of the 10 Interpersonal Competency (IC) statements for public hospitals in Greece. The univariate descriptive statistics (see Table 5.29) are higher than one in absolute value. Additionally, Mardia's (1970) multivariate test for skewness was not statistically significant (p=1.00) but showed evidence of excessive kurtosis (p<0.001) (see Table 5.29), supporting the use of polychoric correlations.

Table 5.29: Univariate descriptive statistics for the 10 Interpersonal Competency statements

	13	I15N	120	127	1	I31	132	I51	156N	159	163N
Skewness	-0.97	-1.668	-1.204	-1.70	8	1.805	-2.438	0.926	-1.047	-0.391	-0.986
Kurtosis	0.378	2.234	0.915	2.539	9	3.119	5.703	-0.365	-0.067	-1.049	-0.024
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis											
					Coe	efficient	St	Statistic			Р
Skewness corrected for small sample						3.379	64	642.858		1.0	0000
Kurtosis						16.056	8	8.900		0.00	000**

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the IC statements (see Table IV.21). It was found that the sample sufficiency index KMO by Kaiser-Meyer-Olkin, which compares the sizes of the observed correlation coefficients to the sizes of the partial correlation coefficients for the sum of analysis variables is 69%, and it is mediocre. Since the KMO meets the minimum criteria, it is not required the Anti-Image Correlation Matrix to be examined. Also, supposition test of sphericity by Bartlett's test (H₀: All correlation coefficients are not quite far from zero) is rejected on a level of statistical significance (p<0.5) (FACTOR output) (see Table 5.30). Therefore, the sample is suitable for factor analysis.

Table 5.30: Adequacy of the correlation matrix of the CC statements

Kaiser-Meyer-Olkin (KMO) test	0.69183 (mediocre)
Bartlett's Test of Sphericity	236.4
	df = 45
	P=0.000010

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 52.6% of the variance (see Table 5.31), supporting the hypothesis that the 10 IC variables measure a single theoretical concept.

Table 5.31: Overall Factor Analysis statistics of the IC statements

Total observed variance	10
Total common variance	5.281
Explained common variance	2.777 (52.59%)
Unexplained common variance	2.503

The eight of the ten IC statements had a factor loading of at least 0.36 on the primary factor (see Table 5.32), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statements (I63): Members of this board seldom attend social events sponsored by this organisation, and (I56): This board does not recognize special events in the lives of its members, had low factor loadings (0.18 and 0.26, respectively, well below the 0.32 cut-off) and they were excluded from the CFA. The highest loaded IC statements were (I27): At our board meetings, there is at least as much dialogue among non-executive members as there is between non-executive members and executive members (0.75), and (I15): Differences of opinion in board decisions are more often settled by vote than by more discussion (0.71). The lowest loaded IC statements were (I56): This board does not recognise special events in the lives of its members (0.36), and (I3): I have had conversations with other members of this board regarding common interests we share outside this organisation (0.38).

Table 5.32: Factor loadings of the IC statements

13	115N	120	127	131	132	I51	156N	159	163N
0.38	0.71	0.59	0.75	-0.54	0.65	-0.52	0.26	0.36	0.18

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable:

Table 5.33: Significant factor loadings based on sample size

				I31					
220	60	85	50	100	70	110	400	250	500

Therefore, the two statements: (I59): This board provides biographical information that helps members get to know one another better, and (I3): I have had conversations with other members of this board regarding common interests we share outside this organisation, were excluded from CFA. The remaining six variable loadings are averaging out 0.63, which is close to the threshold of 0.70.

Face validity. The factor makes sense. All IC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.88 (FACTOR output), Armor's Theta is 0.73 (calculated by hand). The Cronbach's Alpha was 0.64 (SPSS output) and the 'scale if item deleted' analysis showed that

α would increase to the value of 0.702, with the statement (I32): *This board has adopted some explicit goals for itself, distinct from goals it has for the total organisation,* deleted and, therefore, it was excluded from CFA. Therefore, there is consistency of item-level errors within the single IC factor.

The hypothesised (M₀) IC reflective factor model for CFA is shown using path diagram in Figure 5.34.

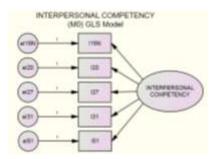


Figure 5.34: Interpersonal Competency measurement model with six statements identified in EFA

5.3.5.2 Confirmatory Factor Analysis

The five statements that made up the IC model (M_0) in EFA were all unidentified by AMOS, and the model was re-specified including the nine statements (M_1) (see Figure 5.35).

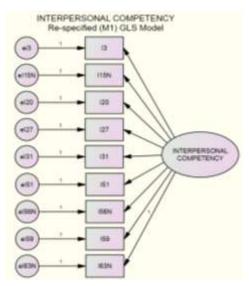


Figure 5.35: Interpersonal Competency re-specified (M₁) model

The CFA was conducted on the nine statements to test the hypothesis that the IC factor model (M_1) will not adequately fit the data. Appendix IV displays the polychoric correlation matrix of the IC statements (see Table IV.22). AMOS used

the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.36:

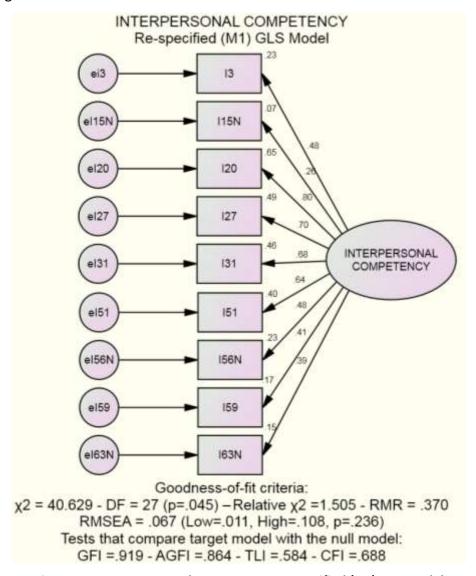


Figure 5.36: Interpersonal Competency re-specified (M₁) GLS model

The re-specified (M_1) model did not fit the data (chi-square test p-value less than 0.05). Modification Indices (MIs) indicated those variable error constraints with positive parameter changes that could be added to the path diagram to improve model fit. Three constraints were added, and the estimated results are shown in Figure 5.37.

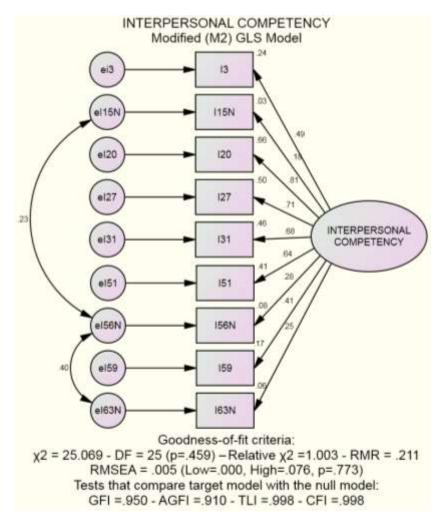


Figure 5.37: Interpersonal Competency Modified (M₂) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.497), which indicates statistically insignificant discrepancies between observed and model-implied matrices. Additionally, the calculated metrics for determining goodness of fit (see Figure 5.37) that are inversely related to sample size and the number of variables in the model, all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.5.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.756, greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.290, lower than the threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of IC questionnaire for public hospitals has been established formally.

5.3.5.2.2 Group interactions of board members for group problem solving and femininity

Groups and their interactions have been shown to have an impact on the effectiveness of group problem-solving. The IC reflects the development of board members as a group of peers, the board's collective welfare, cohesiveness, and teamwork. The argument that needs to be posited is that attention to quality of interpersonal relationships is essential in organisations with value orientation emphasising more on trusting people, on caring for others, and of been modest, which is described as more 'feminine' (Hofstede, 1980), than on assertiveness, on competitiveness and pursue of personal achievement, behaviours consistent with 'masculine' values, that undermine qualitative and creative interpersonal relations among peers.

To test the hypothesis that in public hospitals in Greece, where management by objectives, merit pay, and performance-contingent rewards, practices consistent with a 'masculine' culture, are not permitted by the current statutory rules of public administration framework, qualitative and creative interpersonal relations among board members are more likely, the validated IC model was estimated separately for the respondents of the 'masculine' type (first group, n=112) and for the respondents of the 'feminine' type (second group, n=112), separated in the complete data set (N=224) by SPSS, and the results are shown in Figures 5.38 & 5.39. Appendix IV displays the polychoric correlation matrices of the IC statements of the two groups (see Tables IV.23 & IV.24).

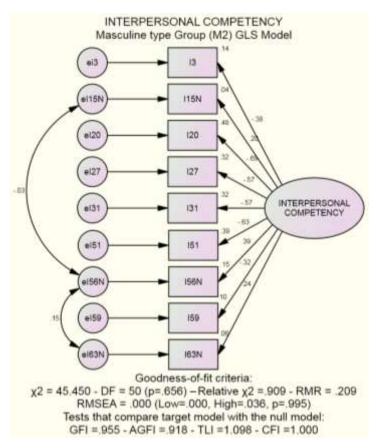


Figure 5.38: Interpersonal Competency (M₂) GLS model - Masculine type Group

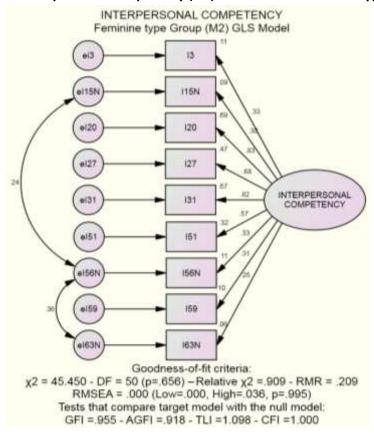


Figure 5.39: Interpersonal Competency (M₂) GLS model - Feminine type Group

The results show that the IC model 'passes' the test of configural invariance between the two M/F groups. Additionally, it was conducted a chi-square difference test to find statistical evidence of a difference in factor loadings between the two M/F groups. The IC model was constrained to have equal unstandardized factor loadings and the variance of the latent construct equal to unity (see Figure 5.40).

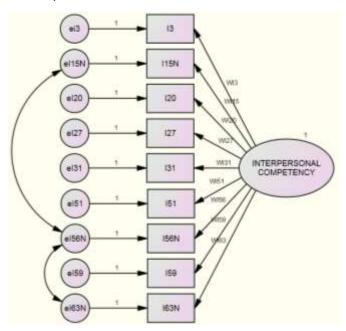


Figure 5.40: Constrained IC measurement (M2) model

The constrained model failed to pass the test for metric invariance using chisquare difference test on the constrained version of the model, as shown in Figures 5.41 & 5.42, and in Table 5.34.

Table 5.34: Chi-square difference test IC (M₂) model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	45.450	50		
Constrained	71.442	59		
UA Groups		2		
Difference	14.666	9	0.002	NO

With the above analyses, it was established that the factor loadings are statistically different between the two M/F groups. In other words, the meaning of the IC construct is shifting across M/F groups, and the empirical results confirmed the supposition that IC is negatively related to M/F.

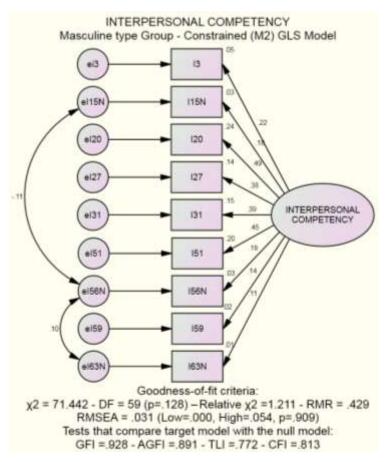


Figure 5.41: Constrained (M₂) GLS model - Masculine type Group

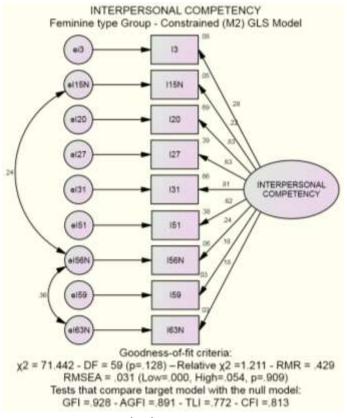


Figure 5.42: Constrained (M₂) GLS model – Feminine type Group

For 6 IC statements, the amount of variance accounted for by IC are lower in the Masculine type group in comparison to the Feminine type group (see Table 5.35).

Table 5.35: Factor loadings by M/F Group of the IC (M₂) model

Statements:	13	I15N	120	127	l31	I51	156N	159	163N	Average		
Masculine type Group factor loadings	-0.38	0.20	-0.69	-0.57	-0.57	-0.61	0.39	-0.32	0.24	-0.26		
Feminine type Group factor loadings	0.33	0.30	0.83	0.68	0.82	0.57	0.33	0.31	0.25	0.49		
Amount of state	Amount of statement's total variance accounted for by CC based on factor loadings (%)											
Masculine type Group	14.44	4.00	47.61	32.49	32.49	39.69	15.21	10.24	5.76	6.70		
Feminine type Group	10.76	9.00	69.56	46.51	67.24	32.49	10.89	9.86	6.15	24.18		

Therefore, for public hospitals in Greece, the hypotheses (4a) and (4b) should be accepted.

Hypothesis 4a: It is expected a negative relationship between M/F and interpersonal performance in boards, for cultural groups of a masculine type.

Hypothesis 4b: It is expected a positive relationship between M/F and interpersonal performance in boards, for cultural groups of a feminine type.

5.3.5.2.3 Re-specification of the (M2) IC model for taking into account national culture

Four statements of the (M2) IC model were excluded. The statements (I15): Differences of opinion in board decisions are more often settled by vote than by more discussion, and (I56): This board does not recognize special events in the lives of its members, both had low factor loadings in CFA (0.18 and 0.28, respectively) and also between M/F groups (0.20 vs. 0.30 and 0.39 vs. 0.33, respectively). The statements (I31): The leadership of this board typically goes out of its way to make sure that all members have the same information on important issues, and (I51): I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board, both had negative factor loadings in EFA (-0.54 and -0.52, respectively) but positive factor loadings in CFA (0.68 and 0.64, respectively). Additionally, it was indicated that the two statements had very different meanings across M/F groups, with factor loadings -0.57 vs. 0.82, for (I31) and -0.61 vs. 0.57, for (I51) (see Table 5.35). Therefore, the CFA was

conducted on the five statements that made up the (M_3) IC after this respecification to test the hypothesis that this IC factor model will not adequately fit the data. The CFA result of this hypothesised M/F invariant (M_3) model is shown in Figure 5.43:

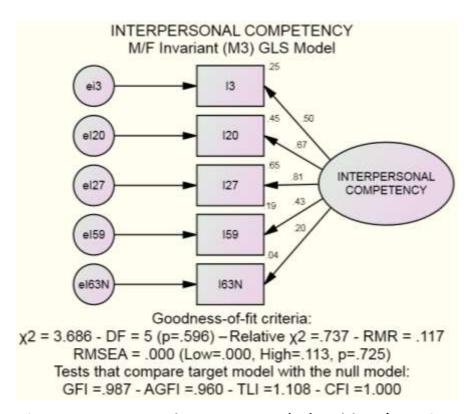


Figure 5.43: Interpersonal Competency GLS (M₃) model – M/F Invariant

Testing for absolute fit, the re-specified M/F invariant (M₃) model 'passes' the chi-square test (p=0.596). Additionally, the calculated metrics for determining goodness of fit (see Figure 5.43) all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted.

5.3.5.2.4 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.67 just off the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.316 lower than the threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of the 5 statement IC questionnaire for public hospitals has been established formally.

5.3.5.2.5 Measurement (M3) model invariance

The validated 5 statement M/F Invariant (M_3) IC model was estimated separately for the respondents of Masculine type (first group, n=112) and the respondents of Feminine type (second group, n=112), separated in the complete data set (N=224). The model 'passes' the configural invariance test (chi-square p-value equals 0,906) and the estimated results are shown in Figures 5.44 & 5.45.

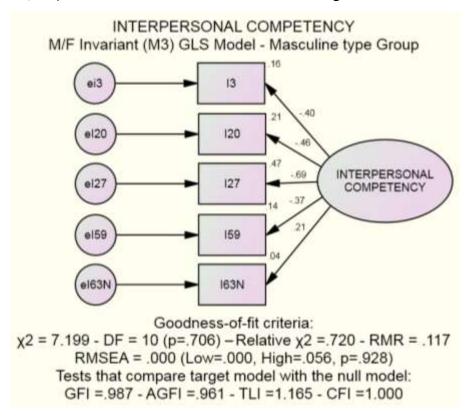


Figure 5.44: Interpersonal Competency M/F Invariant (M₃) GLS model – Masculine type Group

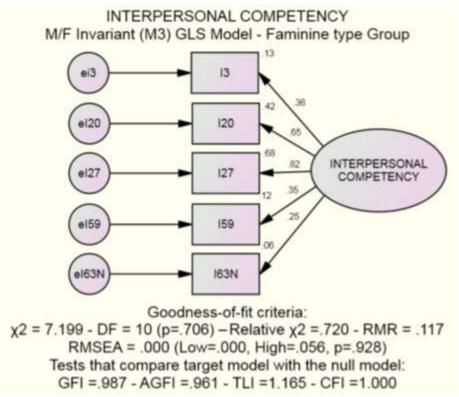


Figure 5.45: Interpersonal Competency M/F Invariant GLS (M₃) model – Feminine type Group

The (M3) IC model was constrained to have equal unstandardized factor loadings between M/F groups and the variance of the latent construct equal to unity. The constrained model 'passes' also the test for metric invariance using chi-square difference test, as shown in Figures 5.46, 5.47 and Table 5.36.

Table 5.36: Chi-square difference test CC model

	Chi-square	df	Implying p-value	Invariant?
Unconstrained	7.199	10		
Constrained	15.613	7		
UA Groups		15		
Difference	8.4.14	5	0.135	YES

With the above analyses, it was established that the factor loadings are statistically indifferent between the two M/F groups. In other words, the meaning of the five statement IC construct is the same across M/F groups.

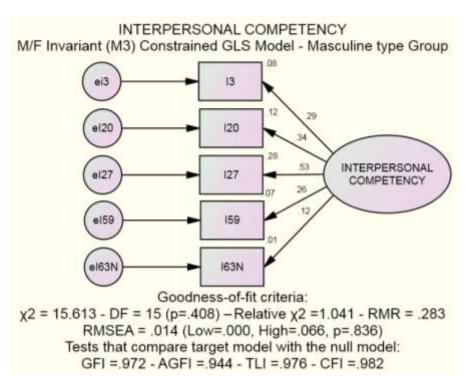


Figure 5.46: Interpersonal Competency M/F Invariant (M3) Constrained GLS model – Masculine type Group

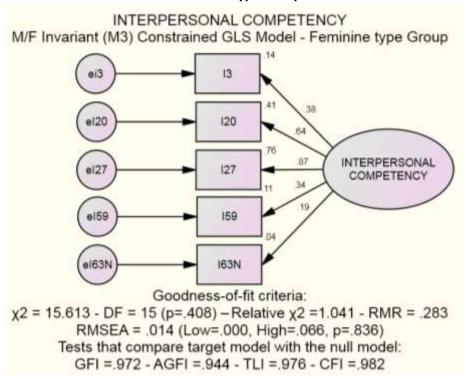


Figure 5.47: Interpersonal Competency M/F Invariant (M3) Constrained GLS model – Feminine type Group

It is important to note that even though this model fits the data well, there may be other equivalent models that fit the data equally well. To rule out alternative models, a fresh data sample is required.

5.3.6 Educational Competency

5.3.6.1 Exploratory Factor Analysis

A variation of Parallel Analysis (PA) using Minimum Rank Factor Analysis (MRFA) and polychoric correlations available in FACTOR, version 10.3.01, was implemented for determining the dimensionality of the 12 Educational Competency (EC) statements for public hospitals in Greece. Many of the univariate descriptive statistics (see Table 5.37) are higher than one in absolute value. Additionally, Mardia's (1970) multivariate test for skewness was not statistically significant (p=1.00) but showed evidence of mild kurtosis (p<0.001) (see Table 5.37), supporting the use of polychoric correlations.

Table 5.37: Univariate descriptive statistics for the 12 Strategic Competency statements

Statements	D2	D10	D17	D18	D21N	D24	D26	D29	D34	D38N	D45N	D50
Skewness	-0.875	0.196	-0.653	-0.608	-0.256	-0.686	-1.174	-0.578	-0.422	-0.558	0.189	-0.845
Kurtosis	-0.366	-0.66	-0.384	-0.623	-1.002	-0.359	1.323	-0.528	-0.691	-0.607	-0.818	-0.309
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis												
					Co	efficier	nt	Statistic		df		Р
Skewness corrected for small sample						8.856		555.34	10	364	1.0	000
Kurtosis						78.151		2.930			0.00)17**

^{**} Significant at 0.05

Appendix IV displays the polychoric correlation matrix of the EC statements (see Table IV.25). It was found that the sample sufficiency index KMO by Kaiser-Meyer-Olkin is 77%, and it is fair. Since the KMO meets the minimum criteria, it is not required the Anti-Image Correlation Matrix to be examined. Also, supposition test of sphericity by the Bartlett's is rejected on a level of statistical significance (p<0.5) (FACTOR output) (see Table 5.38). Therefore, the sample is suitable for factor analysis.

Table 5.38: Adequacy of the correlation matrix of the PC statements

Kaiser-Meyer-Olkin (KMO) test	0.77370 (fair)
Bartlett's Test of Sphericity	295.5
	df = 66
	P=0.000010

The MRFA extraction method, as implemented by FACTOR, advised the retention of one factor that explains the 47% of the variance (see Table 5.39), supporting the hypothesis that the eight PC variables measure a single theoretical concept.

Table 5.39: Overall Factor Analysis statistics of the SC statements

Total observed variance	12
Total common variance	5.258
Explained common variance	2.492 (47.39%)
Unexplained common variance	2.766

Eight of the twelve EC statements had a factor loading of at least 0.39 on the primary factor (see Table 5.40), above the minimum of 0.32 as advised by Tabachnick and Fidel (2001). The statements (D45): This board does not allocate organisational funds for the purpose of board education and development, (D21): Most people on this board tend to rely on observation and informal discussions to learn about their role and responsibilities, (D18): I can recall an occasion when the board acknowledged its responsibility for an ill-advised decision, and (D10): At least once every two years, our board has a retreat or special session to examine our performance, how well we are doing as a board, had low factor loadings (0.01, 0.14, 0.16 and 0.20 respectively, below the 0.32 cut-off) and they all were excluded from the CFA. The highest loaded EC statements were (D29): I have participated in discussions with new board members about the roles and responsibilities of a board member (0.72), and (D50): This board has conducted an explicit examination of its roles and responsibilities (0.72). The lowest loaded EC statements were (D2): I have participated in board discussions about what we should do differently as a result of a mistake the board made (0.39), (D34): I have participated in board discussions about what we can learn from a mistake we have made (0.49), and (D38): I have never received feedback on my performance as a member of this board, (0.49).

Table 5.40: Factor loadings of the EC statements

D2	D10	D17	D18	D21N	D24	D26	D29	D34	D38N	D45N	D50
0.39	0.20	0.54	0.16	0.14	0.54	0.62	0.72	0.49	0.49	0.01	0.69

Convergent validity. To achieve significant loadings, the following minimum sample sizes would be required for each variable:

Table 5.41: Significant factor loadings based on sample size

D2	D10	D17	D18	D21N	D24	D26	D29	D34	D38N	D45N	D50
200	450	110	500	500	100	80	55	115	115	-	60

The statement: (D2): I have participated in board discussions about what we should do differently as a result of a mistake the board made, had a factor loading of 0.44 and was not excluded from CFA. The remaining eight variable loadings are averaging out 0.56, which is not close to the threshold of 0.70, but it is over 0.50.

Face validity. The factor makes sense. All PC statements are similar in nature.

Reliability. The reliability estimate proposed by Mislevy and Bock (1990) is 0.854 (FACTOR output), Armor's Theta is 0.79 (calculated by hand), and Cronbach's Alpha is 0.74 (SPSS output). Therefore, there is consistency of item-level errors within the single SC factor.

The hypothesised (M₀) EC reflective factor model for CFA is shown using path diagram in Figure 5.48.

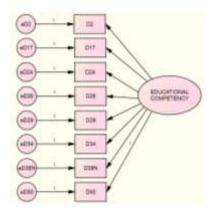


Figure 5.48: Educational Competency measurement model with eight statements identified in EFA

5.3.6.2 Confirmatory Factor Analysis

The CFA was conducted on the eight statements that made up the EC identified in EFA to test the hypothesis that the SC factor model derived by EFA will not adequately fit the data in CFA. Appendix IV displays the polychoric correlation matrix of the eight SC statements (see Table IV.26). AMOS used the GLS estimation method. The CFA result of this hypothesised model is shown in Figure 5.49:

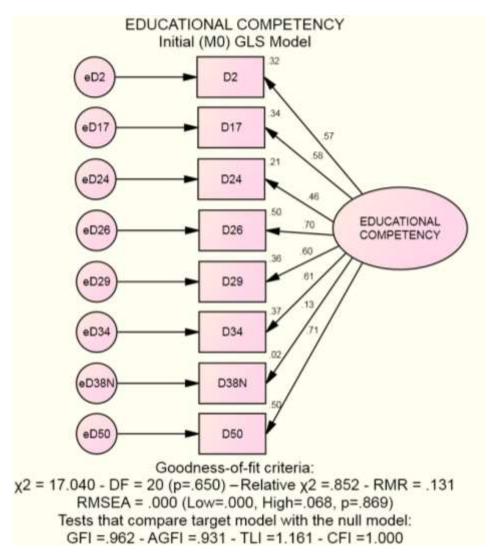


Figure 5.49: Educational Competency (M_o) GLS model

Testing for absolute fit, the model 'passes' the chi-square test (p=0.650), which indicates statistically insignificant discrepancies between observed and model-implied matrices. Additionally, the calculated metrics for determining goodness of fit (see Figure 5.49) that are inversely related to sample size and the number of variables in the model, all have values within the acceptable thresholds showing good model fit, and, therefore, the null hypothesis that the model fits the data is accepted. However, the statement (D38): *I have never received feedback on my performance as a member of this board,* had a very low factor loading (0.13) influencing construct validity and, therefore, the model was respecified, by excluding this variable and the results of the estimation are shown in figure 5.50.

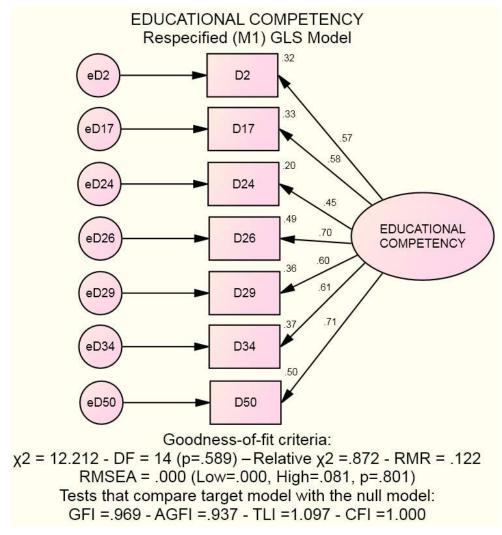


Figure 5.50: Educational Competency re-specified (M₁) GLS model

5.3.6.2.1 Construct validity

Reliability. The Composite Reliability (CR) was calculated equal to 0.792 for (M_0) and 0.806 for (M_1) , greater than the lower threshold of 0.7 (Hair et al., 2010).

Convergent validity. The Average Variance Extracted (AVE) was calculated equal to 0.337 for Mo and 0.377 for M1, just off the lower threshold of 0.5 (Hair et al., 2010).

With the above analyses, the factorial validity of the Greek version of EC questionnaire for public hospitals has been established formally.

5.4 Measuring board competencies in public hospitals in Greece

The results of the six CFAs and the four invariance tests between the relevant culturally groups, as identified by Hofstede, on the measurement instruments of public hospital board competencies in Greece, indicated the six culturally invariant questionnaires as valid and reliable (see Table 5.43). To measure board competencies with the six culturally invariant questionnaires a fresh sample was needed which was objectively unattainable. Therefore, a less accurate approach was chosen. Following a scoring approach compatible to one proposed by Prof. Thomas P. Holland⁷⁷, the following table (see Table 5.42) shows the average scores on the six competencies from the board reports of the public hospitals in Greece of the culturally invariant models in comparison with the non-culturally invariant models and the scores of over 200 diverse non-profit organisations in USA, reported by Prof. Thomas P. Holland.

Table 5.42: Average scores on the six board competencies, public hospitals in Greece and diverse non-profit organisations in the USA

Competencies:	CC	PC	SC	AC	IC	EC
Avg. of Culturally Invariant model	0.82	0.76	0.72	0.81	0.74	0.68
Avg. of Non culturally invariant model	0.70	0.75	0.72	0.78	0.72	0.64
Avg. of over 200 diverse non-profit organisations	0.69	0.65	0.66	0.62	0.64	0.54

In this research, the average scores of all the six board competencies of the culturally invariant model for the public hospitals in Greece were consistently at higher levels than, both, the non-culturally invariant models, and the compatible average scores for the over 200 diverse non-profit organisations in previous research in the USA. This may be due to the difference in hospitals versus non-profit organisations, which included academic and charitable organisations. Indeed, hospitals are complex organisations that require high performing

⁷⁷ Prof. Thomas P. Holland, The University of Georgia, USA, has kindly provided to this researcher his soring method of the six competencies questionnaires and the average scores from the board reports of over 200 diverse non-profit organisations. By assigning a 7 to a response of 'strongly agree' to 1 to 'strongly disagree', each respondent's item-scores are added up (items with negative meaning – indicated by the letter N, e.g. C13N for statement labelled 13 in CC - are reverse-scored); the sum is divided by the number of items (e.g. 5 for the statements in CC) and then the respondent's average score of the governance competence is computed (i.e. dividing by 7); the average score of the group is calculated by adding up all respondents' average scores and dividing (the sum) by the number of respondents (i.e. N=224).

governance boards, which may account for the higher scores. Notwithstanding, the scores allow some frame of comparison for a board to examine its scores, as a stimulus for group discussion and identification of areas to which attention may be directed further. For the purposes of this research, the non-culturally invariant board governance competencies scores were used.

The non-culturally invariant board governance competencies average scores in this research (see Table 5.42) would indicate that the public hospital boards in Greece performed well in the analytical arena (0.78), were politically sensitive to the various constituencies (0.75), were strong from a strategic standpoint (0.72), and also, on the interpersonal or nurturing aspects among the board members (0.72), as well as in terms of understanding the context of the healthcare environment (0.70). There seemed to be less emphasis and less strength in the educational competence (0.64), which may indicate a need for greater board instruction and development.

When a board has knowledge of what competencies are important for improved performance, plans can be developed and implemented to enhance behaviours and competencies. Conducting the self-assessment culturally invariant questionnaires, they can be instrumental in developing improvement plans for board performance, resulting in stronger organisational performance. It must be noted though that self-assessments are not usually consistent with assessments by outside observers or with another kind of performance indicators.

5.5 Conclusions

In chapter five were included the results of the various analyses conducted for this study. The main section consisted of the results of exploratory and confirmatory factor analyses and invariance tests between culture groups, for constructing six valid and reliable questionnaires to measure board competencies in public hospitals in Greece, taking into account national culture. A description of the public hospital boards in Greece by studying the information included in the ministerial board members appointing decisions posted in the official

government gazette for the period 2010-2014, focusing on the participation of women on the board of directors and the board members professions, was also discussed.

Table 5.43: Culturally invariant questionnaires of public hospital board competencies*

	STATEMENTS	CR	AVE		
	Values are seldom discussed explicitly at our board meetings.				
CONTEXTUAL	It is apparent from the comments of some of our board members that they do not understand the				
	mission of the organisation very well.				
EX	There have been occasions where the board itself has acted in ways inconsistent with the				
ON.	organisation's deepest values.				
Ö	One of the reasons I joined this board was that I believe strongly in the values of this organisation.				
	This board understands the norms of the professions working in this organisation.				
	This board communicates its decisions to all those who are affected by them.				
	If our board thinks that an important internal or external stakeholder or stakeholder group is likely to disagree with an action we are considering; we will make sure we learn how they feel before				
	we actually make the decision.				
S	This board has formed ad hoc committees or task forces that include staff as well as board				
POLITICAL	members.				
ЬО	I have been in board meetings where explicit attention was given to the concerns of the local				
	community.				
	Before reaching a decision on important issues, this board usually requests input from persons				
	likely to be affected by the decision.				
	The board sets clear organisational priorities for the year ahead.				
	At least once a year, this board asks that the Managing Director articulate his/her vision for the				
	organisation's future and strategies to realise that vision.				
	Within the past year, this board has reviewed the organisation's strategies for attaining its long-				
2	term goals.				
TEG	I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness.				
STRATEGIC	The board discusses events and trends in the larger environment that may present specific				
S	opportunities for this organisation.				
	This board makes explicit use of the long-range priorities of this organisation in dealing with				
	current issues.				
	More than half of this board's time is spent in discussions of issues of importance to the				
	organisation's long- range future.				
	This board takes regular steps to keep informed about important trends in the local health				
Ļ	economy, and in the wider national healthcare environment, that might affect the organisation.				
Z).	Our board explicitly examines the 'downside' or possible pitfalls of any important decisions it is about to make.	LO.	0.39		
ANALYTICAL	I find it easy to identify the key issues that this board faces.	0.76			
N	When faced with an important issue, the board often 'brainstorms' and tries to generate a whole	0			
1	list of creative approaches or solutions to the problem.				
	This Board seeks information and advice from leaders of other similar organisations.	-			
	I have had conversations with other members of this board regarding common interests we share				
RPERSONAL	outside this organisation.				
SO	This board is as attentive to how it reaches conclusions as it is to what is decided.				
PEF	At our board meetings, there is at least as much dialogue among non-executive members as there				
INTER	is between non-executive members and executive members.				
Z	This board provides biographical information that helps members get to know one another better.				
	Members of this board seldom attend social events sponsored by this organisation. I have participated in board discussions about what we should do differently as a result of a				
	mistake the board made.				
	This board periodically sets aside time to learn more about important issues facing organisations				
٩L	like the one we govern.				
O	When a new member joins this board, we make sure that someone serves as a mentor to help this				
ATI	person learn the ropes.				
EDUCATIONAL	I have participated in board discussions about the effectiveness of our performance.		0.38		
日	I have participated in discussions with new board members about the roles and responsibilities of				
	a board member.				
	I have participated in board discussions about what we can learn from a mistake we have made. This board has conducted an explicit examination of its roles and responsibilities.				
	This board has conducted an explicit examination of its roles and responsibilities.				

^{*} The Greek versions of the six models are placed in Appendix VII.

Chapter 6: Conclusions and Recommendations

6.1 Introduction

In this chapter, a brief conclusion in the form of evaluation of the empirical findings is provided to comment on the relative successes and shortcomings of this research about the aim and objectives cited in chapter two. Policy recommendations related to this research product are also discussed along with some areas for further research that have emerged from the research.

6.2 Evaluation of empirical findings

The main aim of this research was to investigate board performance and cultural issues. The ultimate aim was to contribute to the understanding of governance competencies in public hospitals, for cultural groups that had not been explored.

6.2.1 Public hospital board competencies models

The first objective which needed to be carried out to realise the aim (i.e. to hypothesise board competencies models) was fulfilled in the exploratory research phase. Applying an investigation process presented rigorously in chapter 4 the research constructs were identified (i.e. the six board competencies and the four national culture dimensions) with their related statements (i.e. 64 statements for the six board competencies and 20 for the four cultural dimensions) for which discernible patterns had to statistically be researched for. Hence, the initially hypothesised measurement models (see Figure 6.1) were created, and the hypotheses that had to be supported by the data were formed, summarised here:

Cultural Variables	Rel.	Board Competencies	Hypotheses
High-UA	-	Contextual	Hypothesis 1a: It is expected a negative relationship between UA and contextual performance in boards, for cultural groups with high UA.
Low-UA	+	Contextual	Hypothesis 1b: It is expected a positive relationship between UA and contextual performance in boards, for cultural groups with low UA.
Individualist	-	Political	Hypothesis 2a: It is expected a negative relationship between I/C values and political performance in boards, for individualist cultural groups.
Collectivist	+		Hypothesis 2b: It is expected a positive relationship between I/C values and political performance in boards, for collectivist cultural groups.
High-PD	-	A - +	<i>Hypothesis 3a</i> : It is expected a negative relationship between PD and analytical performance in boards, for cultural groups high in PD.
Low-PD	+	- Analytical	Hypothesis 3b: It is expected a positive relationship between PD and analytical performance in boards, for cultural groups low in PD.
Masculine	-		Hypothesis 4a: It is expected a negative relationship between M/F and interpersonal performance in boards, for cultural groups of a masculine
Feminine	+	Interpersonal	type. Hypothesis 4b: It is expected a positive relationship between M/F and interpersonal performance in boards, for cultural groups of a feminine type.

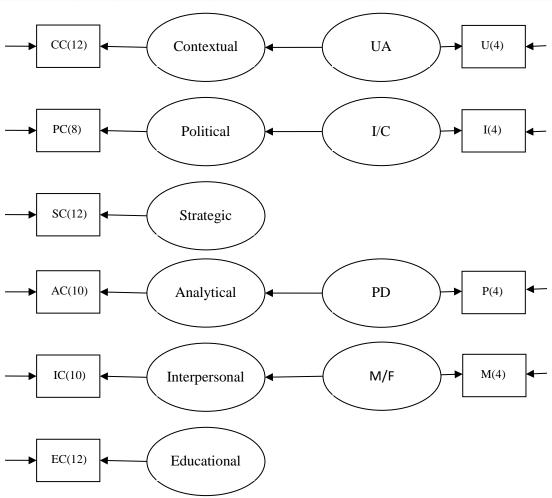


Figure 6.1: The initial models of public hospital board competencies, taking into account national culture

UA = Uncertainly Avoidance Index, I/V = Individualism, PD = Power Distance Index, M/F = Masculinity.Numbers in parentheses indicate the questionnaire items count.

The research constructs (i.e. the board competencies, cultural dimensions) are in conceptual terms and therefore non-observable. They are measured by a set of survey items (i.e. statements), where each item measures some aspects of the construct. All the survey items of this research have been drawn from the literature, where they were quoted to be reliable and valid to measure the constructs they intend to. The same board competencies models have been used successfully in non-profits in the USA (But do not take into account complicated constraints across sectors and societies).

6.2.2 Public hospital board competencies data collection

The second objective (i.e. to develop a base of information about board competencies, drawn from actual experiences of board directors in Greek public hospitals) was carried out by collecting survey data from public hospitals in Greece. The self-administered in paper and online forms questionnaires with closed Likert-type questions were completed by board directors who function as an informant on the public hospital's behalf and the data collection techniques used are described in subsection 3.4. With a contact rate of 100%, the non-response rate was 49.9%, and the data screening showed that the data set was usable and reliable for statistical analyses (subsection 4.3). The data analysis methods were specified in subsection 3.5 and the data estimation methods in subsection 4.4.

6.2.3 Effects of national culture on the board competencies models

The third objective (i.e. to design a research framework to study the effect of national culture on board competencies) concerns the issue of avoiding using national culture measures at the individual level, because of statistical problems. With the adopted methodological framework thoroughly set out in subsection 4.4.2.6 the dataset of the second objective was segmented into groups by national culture variable levels (i.e. high and low). This categorization of the dataset allowed the understanding of the board performance perception within a cultural context. By achieving this objective, the strength of the measurement

models was possible to be accessed and the final theoretical models to be developed.

The fourth objective (i.e. to empirically assess the effect of national culture on the hypothesised models) was carried out in the confirmatory phase of the research framework in two stages; one for the overall dataset and a second for each cultural variable group created (i.e. the third objective). The theoretical hypotheses that guided factor analyses were presented in chapter 4, and information about the research methodologies and the collected data in chapters 3 and 4. The statistical methods used (i.e. exploratory and confirmatory factor analyses and invariance tests between culturally different groups of board members in public hospitals in Greece) allowed modifications of the models and retesting for goodness of fit, with the final goal to construct research instruments for measuring public hospitals board performance in a national culture context, which is the fifth research objective. Once a non-invariant model was identified, re-specification of the model and modification indices were used to fit the model for both groups simultaneously (i.e. to pass the tests for configural and metric invariance), for the purpose of creating culturally invariant questionnaires for governance competencies in public hospitals in Greece. The results of the six CFAs and the four invariance tests between the relevant culturally groups, as identified by Hofstede, on the measurement instruments of public hospital board competencies in Greece, indicated the six culturally invariant questionnaires as valid and reliable (see Figure 6.2 & Table 5.43). The empirical results confirmed the three of the four suppositions of this research about the relations between the cultural groups and the relative governance competence.

<u>6.2.3.1 Uncertainty Avoidance and board's monitoring function (Contextual Competency)</u>

'At 100 Greece has the highest score on Uncertainty Avoidance which means that as a nation Greeks are not at all comfortable in ambiguous situations... In Greece, as in all high Uncertainty Avoidance societies, bureaucracy, laws and rules are

very important to make the world a safer place to live in'⁷⁸. At a score of 74, board directors in public hospitals show lower but still significant UA (see Table 6.1). Data confirmed the hypotheses (1a) and (1b), that the adherence of board members to mission or purpose of the organisation is more essential for the effectiveness of board's monitoring function in the low-UA group, where less formalization doesn't contradict with legitimacy, than in the high-UA group with management bound to comply with the detailed administrative formal rules (see Table 5.7).

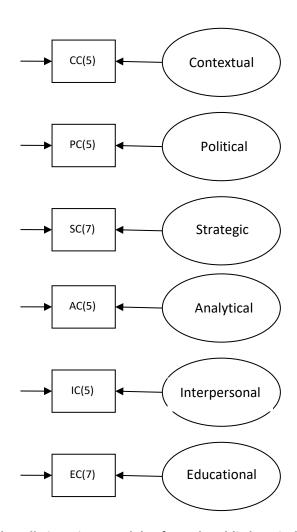


Figure 6.2: Culturally invariant models of Greek public hospital board competencies

Numbers in parentheses indicate the questionnaire items count (for the statements of the

models see Table 5.43 and Appendix VII for the Greek version of the statements).

-

⁷⁸ Itim International (https://geert-hofstede.com/greece.html)

Table 6.1: Hofstede's culture indices for Greece⁷⁹

Dimensions	*	**	Index value range
UA	74	100	'0 weak UA' - '100 strong UA'
I/C	63	35	'0 strongly collectivist' - '100 strongly individualist'
PD	25	60	'0 small PD' - '100 large PD'
M/F	36	57	'0 strongly feminine' - '100 strongly masculine'

^{*} Calculated Greek public hospitals board directors' national culture indices (N=224) (2015)

<u>6.2.3.2 Individualism / Collectivism and board's connection to the community</u> (Political Competency)

'At a score of 35 Greece is a collectivist culture, 'we' defined, which means that in this country people from birth onwards are integrated into the strong, cohesive in-group (especially represented by the extended family; including uncles, aunts, grandparents and cousins) which continues protecting its members in exchange for loyalty.'80 Concerning public services and thus public hospitals, constituency and taxpayers in such national culture expect aggregate interests to prevail over autonomous ones and they have a preference for group consensus over individual decision making. Data confirmed the hypotheses (2a) and (2b), that is more essential for the effectiveness of board's connection to the community function in the collectivist group (i.e. low-I/C), in order to improve the legitimacy and reputation of public hospitals by conforming to the societal norm of collectivist values, and the ability to acquire the necessary public funds (i.e. budget and other financial plan approvals) and scarce resources (e.g. approvals for personnel positions), than in the individualist group (i.e. high-I/C) (see Table 5.15). At an intermediate score of 63 board directors in public hospitals show a slight tendency to individualism (see Table 6.1).

^{**}From Hofstede's official matrix of national culture indices for Greece (2015) (Hofstede's private website: http://geerthofstede.nl/dimension-data-matrix).

⁷⁹ Formulas for index calculation are demonstrated in Appendix III.

⁸⁰ Itim International (https://geert-hofstede.com/greece.html)

<u>6.2.3.3 Power Distance and consultation in decision making (Analytical Competency)</u>

'At 60 Greece has an intermediate score, but it indicates a slight tendency to the higher side of PDI (Power Distance) – i.e. a society that believes hierarchy should be respected, and inequalities amongst people are acceptable. The different distribution of power justifies the fact that power holders have more benefits than the less powerful in society... In companies there is one boss who takes complete responsibility.'⁸¹ In the Greek public hospitals, the consolidated Chair and Managing Director represents a steep hierarchy, exemplifies high Power Distance (PD) and gives the Managing Director greater stature and political influence over the board. However, for public hospitals in Greece, the hypotheses (3a) and (3b), that in low-PD cultures organisations are more decentralized, and there is more consultation while in high-PD cultures organisations prefer strong authority, steep hierarchies, and less consultation are not supported by the data and they were rejected (see Table 5.28). Probably, because at score 25, board directors in public hospitals show non-significant PD (see Table 6.1).

6.2.3.4 Masculinity / Femininity and interpersonal relations among board directors (Interpersonal Competency)

'At 57 Greece is a medium ranking Masculine society – success oriented and driven. ... In Collectivistic and Masculine cultures the success of a member of a family gives social value to the whole in-group ...'82 Data confirmed the hypotheses (4a) and (4b), that in the masculine group qualitative and creative interpersonal relations among board directors are undermined but not in the feminine group (see Table 5.35). This is consistent with the reasoning that assertiveness, competitiveness and pursue of personal achievement are behaviours consistent with 'masculine' values while 'feminine' values give emphasis on trusting people, on caring for others, and of been modest. At a score

⁸¹ Itim International (https://geert-hofstede.com/greece.html)

⁸² Ibid.

of 36 board directors in public hospitals show a rather feminine culture (see Table 6.1).

6.2.4 A tool to be used for strengthening Greek public hospital board governance competencies

The six valid and reliable culturally invariant questionnaires are freely available to public hospitals boards in Greece, which is the fifth objective (i.e. to equip public hospital boards with tools to be used for strengthening board governance competencies). By meeting the fifth research objective, it is feasible for the Greek Ministry of Health to equip public hospital boards with the tool to be used for strengthening board governance competencies. The MoH intends by using the product of this research (i.e. the self-assessment instrument) to provide public hospital boards with educational information on the factors that contribute to positive board effectiveness.

6.2.5 Implications for Greek public hospital boards' performance improvement

The effects of national culture on the board competencies models previously discussed and the calculated scores of all the six board competencies (see Table 5.42) produced by the statistical analyses made possible a description of the implications for board performance improvement in public hospitals, which was the sixth objective of the research (i.e. to describe implications, that emerge from the research in public hospitals for board performance improvement). The average scores of all the six board competencies of the non-culturally invariant model for the public hospitals in Greece are at higher levels than the compatible average scores for the over 200 diverse non-profit organisations in previous research in the USA. This may be due to the difference in hospitals versus non-profit organisations, which included academic and charitable organisations. Hospitals are complex and sophisticated organisations that require highly performing governance boards and especially public hospitals which attract the attention of taxpayers and often become an issue in the political arena for criticising the government.

The average scores on the six board competencies from the board reports of the public hospitals in Greece of the non-culturally invariant relative models in comparison to the compatible scores of over 200 diverse non-profit organisations in the USA, reported by Holland (see Table 5.42), would indicate that on the average:

(a) The public hospital boards in Greece performed strongly (i.e. 0.70 vs. 0.69) regarding understanding the context of the Greek healthcare environment. However, concerning the monitoring function, the conclusion of the previous subsection 6.2.3.1, the high UA of the constituency (i.e. the highest 100), and the calculated from this research board directors' significant level of UA on the average (i.e. 74) would suggest that the detailed administrative formal rules are considered self-evident in the Greek case and, also, that it is fundamental for the hospital management to comply fully. This indication is consistent with this Researcher's administrative experience from the Greek public hospitals mentioned in subsection 2.8, in that the central administration is by law fundamental to ensure the fulfilment of government's and taxpayer's priorities in healthcare services, but it is partly inconsistent with the Agency Theory that it is the board's duty to monitor the self-interested behaviour of the appointed, by the Health Minister, CEO to pursue the public interest or that board directors in fulfilling their legal and fiduciary duties should not allow the hospital to engage in activities outside its bylaws, statutes, and governmental regulations. However, it seems that in high-UA cultures, boards act as agents of the governments (i.e. the principles) and board directors comfortably rely (or shirk, probably) for monitoring mostly on effective governmental regulations, on a priori approvals by controlling ministerial agencies and judicial bodies, and on a posteriori controls, left for them to monitor only the unresolved agency problems. In the Greek case, this conclusion may be helpful for explaining the reduction of the outside board directors in the public hospitals by the governmental reform of 2012 (Act, Law No. 4052/2012, entry in to force 1.1.2013), contrary to well established in the literature theoretical position and governance practice, that outside directors holding the majority of seats can add value both as monitors of management and providers of 'relevant complementary knowledge' (Fama & Jensen, 1983, p. 315).

- (b) The public hospital boards in Greece were strong (i.e. 0.75 vs. 0.65) in their political performance, which means that they were politically sensitive to the various constituencies. Actually, the conclusion of the previous subsection 6.2.3.2, the fact that public hospitals in Greece operate in an environment where political and legal forces are strong (subsection 2.8), and the collectivist national culture of the constituency (i.e. at a score of 35) would imply that boards in order to acquire the necessary public funds (i.e. budget and other financial plan approvals) and scarce resources (e.g. approvals for personnel positions) comply to the societal norm of collectivist values for legitimacy and reputation; this, despite the calculated from this research board directors' slight tendency to individualism on the average (i.e. 63). Both indications are consistent, first with the position of the Resource Dependence Theory that the resource dependence tasks entail board directors acting as boundary spanners who link the organisation and its environment helping to create favourable environmental contexts, and second with the experience from the attempted healthcare system reform in Greece concerning public hospitals, mentioned in subsection 2.8. Actually, during the attempt of public hospital sector restructuring and sizing down of the year 2012 by the government, using mergers and consolidations, the number of hospital beds nationwide were not affected. In other words, board directors were politically sensitive to the local or regional constituencies, regional stakeholders, professional interested parties, networks, and local politics, following, on behalf of every individual hospital governed, the individualistic value 'everyone looks after himself'.
- (c) The public hospital boards in Greece performed well (i.e. 0.78 vs. 0.62), on average, on the analytical arena, which means that board directors recognise complexity and there is consultation. This is interesting since the tendency of the Greek citizens to be on the higher side of PD (i.e. 60) justifies the consolidated chair and CEO or the 'one boss who takes complete responsibility' scheme in the Greek public services organisations in general and in the hospitals in particular.

However, the calculated from this research board directors' average PD score of 25, would denote that board directors in public hospitals show non-significant PD. This finding is consistent with this Researcher's managerial experience in Greek public organisations in that centralisation does not necessarily gives the CEO greater stature and political influence over the board, although she or he may influence the decision-making on the board level, and often is capable of making the decisions within her or his position. However, very often, also, managerial decisions are taken, instead, in the boardroom as CEOs show risk aversion or risk shifting behaviour.

- (d) The public hospital boards in Greece performed strongly (i.e. 0.72 vs. 0.64), on average, on the interpersonal or nurturing aspects among the board members. Greece is a medium ranking Masculine society (i.e. 57), however, the calculated from this research board directors' average M/F score of 36 shows a rather feminine culture for the board directors in public hospitals, which coincides with the administrative experience in the Greek public service sector in general, especially on the issues of trusting people, and on caring for others. Indeed, competitiveness and pursue of personal achievement characterise mostly agents in private than in the public sector.
- (e) The public hospital boards in Greece performed strongly (i.e. 0.72 vs. 0.66), on average, from a strategic standpoint. However, this Researcher's administrative and managerial experience from the Greek public hospitals and organisations, mentioned in subsection 2.8, is that CEOs and clinical managers are currently mostly confronted with day-to-day issues which, in the end, impede the strategic planning necessary to improve hospital's performance.
- (f) In the public hospital boards in Greece, there seems to be less emphasis and less strength in the educational competence (i.e. 0.68 vs. 0.64), which indicate the need for greater board instruction and development.

The above-described implications for board performance improvements have emerged from the research in the Greek public hospitals and were the sixth objective of this research. By meeting this last research objective, a contribution

to the understanding of governance competencies in public hospitals has been made. All six objectives have come to be realised, and therefore the ultimate aim of this programme to contribute to the understanding of governance competencies in public hospitals, for cultural groups that had not been explored has been accomplished.

6.3 Policy Recommendations

Several recommendations based on this research study have implications for policy changes. The board competencies of public hospitals were found to be related to certain dimensions of national culture. The following section considers the implications of this study for theory, specifically public hospital governance and national culture.

Data confirmed that the adherence of board members to mission or purpose of the public hospital (i.e. contextual competency) is more essential for the effectiveness of board's monitoring function in low-UA cultures, where less formalization doesn't contradict with legitimacy, than in the high-UA cultures with management bound to comply with the detailed administrative formal rules (subsection 6.2.3.1). In situations that central administration weaknesses in monitoring, coordination, and information-sharing paralleled by excessive legal formalism prevail, it was elaborated in subsection 6.2.5(a) that the detailed administrative formal rules for public hospitals are considered self-evident and, also, that it is fundamental for the hospital management to comply fully. Administrative rules describe the course or general plan of action adopted by an organisation and define what should or should not be done at all levels in the organisation. Effective writing uses words carefully to ensure precise meaning or intention, always aiming to convey the greatest meaning with the fewest words. To mitigate shirking from monitoring by the board in high-UA cultures the effective detailed administrative rules should be written proscriptively (i.e. stating what must not or should not happen) instead of prescriptively (i.e. stating what must or should happen), as it is in the Greek case. Such a change would, also, make CEOs and clinical managers less occupied with day-to-day issues as it

was mentioned in subsection 6.2.5(e) and therefore improve the preconditions for the strategic planning necessary to improve hospital's performance. In that case, however, for the hospital management to fully comply the appointed Managing Director must incorporate both leadership and vision. It is essential, finally, that the board should regularly monitor throughout the year compliance with the approved budget developed by the CEO.

Data also confirmed that it is more essential for the effectiveness of board's connection to the community function (political competency) in collectivist cultures, to improve the legitimacy and reputation of public hospitals by conforming to the societal norm of collectivist values, than in the individualist cultures (subsection 6.2.3.2). In collectivist cultures, therefore, holds the mentioned position of the Resource Dependence Theory that the resource dependence tasks entail board directors acting as boundary spanners who link the organisation and its environment helping to create favourable environmental contexts. In cases of collectivist constituencies and public hospitals operating in an environment where political and legal forces are strong, as in the case of Greece (mentioned in subsection 2.8), healthcare system reforms concerning public hospitals should not be attempted without securing well in advance the widest social acceptance possible to be implemented successfully.

Finally, data confirmed that in cultures with 'feminine' values that give emphasis on trusting people, on caring for others, and of been modest the qualitative and creative interpersonal relations among board directors (interpersonal competency) prevail (subsection 6.2.3.4). In feminine cultures, consequently, is probable to be realised the mentioned general conclusion of the Group/Decision Process Theories that the effectiveness of an organisation's governance system relies on an effective board operating well together as a team.

Although it was estimated a rather feminine culture for the board directors in public hospitals in Greece and a relatively strong performance on the interpersonal or nurturing aspects among the board members [subsection 6.2.5(d)] the observed reduction in the board gender diversity for the four-year period 2010-2014, with the descriptive data presented in the tables and figures

of subsection 5.1.2, is contrary to the argument found in the relevant literature (Fanto, Solan, & Darley, 2011), that women participation in the board protects the decision-making process from the pathology of 'groupthink'⁸³. It is widely argued that when women are represented at board level, they are often key inhibitors of 'groupthink' and champions of different thought in the boardroom. Groupthink is a social phenomenon where management and board adopt a certain identity that excludes outside viewpoints. This can lead to risky decisions as crucial decisions are not questioned or tried and externally provided evidence be ignored. The policy recommendation here is for restoring board gender diversity at least at the before 2010 levels. This policy recommendation for adequate gender diversity on hospital boards of directors is of the status of encouragement instead of the requirement by implementing quotas. Quotas imply that less experienced women will join boards in cases where the supply of qualified women is thin.

In the public hospital boards in Greece, there seems to be less emphasis and less strength in the educational competence, which indicate the need for greater board instruction and development [subsection 6.2.5(f)]. Hospital boards should engage in a programme of ongoing development and improvement using well tested, evidence-based tools. The BSAQ instrument employed in this study is one example of such a tool and one that can inexpensively be utilised to improve board and organisational performance. When a board has knowledge of what competencies are essential for improved performance, plans can be developed and implemented to enhance behaviours and competencies. Conducting the self-assessment culturally invariant questionnaires, which are the product of this research project, they can be instrumental in developing improvement plans for board performance, resulting in stronger organisational performance. The scores allow some frame of comparison for a board to examine its scores, as a stimulus

-

⁸³ 'In its classic description, groupthink appears when group members embrace a group viewpoint (generally one adopted by a strong leader), enforce conformity with that viewpoint among fellow group members, react hostilely to anyone (whether insider or outsider) challenging it, and maintain the perspective even in the face of conflicting evidence. Groups in the thrall of groupthink can make disastrous decisions, often because they ignore conflicting viewpoints and evidence.' (Fanto, Solan, & Darley, 2011, p. 913).

for group discussion and identification of areas to which attention may be directed further. However, board development activity cannot be imposed – the entire board must acknowledge the importance of effective governance and must be committed to improving proficiency through board development (Chait et al., 1996).

Therefore, the policy recommendation is to set the requirements for the hospital board's work evaluation and its engagement in programme of ongoing development and improvement as part of the governance processes that are formulated and specified in governance guidelines (i.e. beside the number of board members, board officers, board member appointment and election processes, requirement for and processes for calling and running annual general meetings or special general meetings). The more specifically the requirement for an evaluation of the board's work is formulated, and the more strongly adherence to these guidelines is monitored, the more likely is boards will selfassess. The argument here is that the creation of governance guidelines or quality standards promotes a tendency toward much greater institutional isomorphism. It is easier to change a board's behaviour through system and process changes that enable board members to act differently, than through exhortation. Relatively small and simple changes in board structure, process and procedures can result in significant, positive impact on board behaviour. For example, the process of creating a set of critical performance indicators can both educate board members and build group cohesion, as well as generating a substantive board product (Chait et al., 1996). The hospital boards should evaluate its effectiveness at least annually. This is in line with the research finding that selfassessment requires regular repetition to achieve a useful effect (Carver, 2007; Hacker, 2003). The main disadvantage of self-assessment is the subjectivity of the appraisal. Responses from board members may not always be honest, as they may say what seems socially or politically acceptable. Like any form of professional or organisational development, board development must be approached as an intensive, long-term process and not a quick-fix. Board development must be embedded in all aspects of board activity and must be seen

to be advantageous in both enabling the board to work better and in producing results that are beneficial to the organisation (Chait et al., 1996).

6.4 Areas of future research

The findings and limitations of this study provide a basis to make several recommendations for further research on the boards of public hospitals. The following recommendations for further research may help to clarify additional elements that are related to board performance, as well as other potential correlates of board performance. They may also contribute to a better understanding of the overall governance of public organisations.

Similar studies need to be conducted to validate further the six culturally invariant questionnaires. Different samples of public hospital board members could further enhance reliability and validity, especially of the Political Competency and the Interpersonal Competency. The composite reliability of those two competencies needs to be at least 0.7 and the convergent validity close to 0.5 (see Table 5.43).

Further research could compare state-owned hospital board competencies to state-owned social services organisation board competencies to identify any differences. Social services are provided by governments to improve the life and living conditions of the children, disabled, the elderly, and the poor in the community. In Greece, state-owned organisations offer benefits and facilities such as education, food subsidies, health care, and subsidized housing. If both kinds of state-owned organisations board members are sampled, then the reliability and validity could be measured, and the results could further enhance the culturally invariant questionnaires.

The scope of this research was constrained to study one particular aspect of culture which is national identity. Board members from a single country (i.e. Greece) were employed in the survey. Another approach for studying the effect of national culture on board performance would be to include board members from various countries known to be of different cultural characteristics. In

contrast to Greece, for instance, UK sits in the lower rankings of PD (35). A sense of fair play drives a belief that people should be treated in some way as equals. Also, UK is amongst the highest of the Individualist scores (89) and a Masculine society (66). The route to happiness is through personal fulfilment and they have a clear performance ambition. Finally, UK has a low score on UA (35) meaning that they are comfortable in ambiguous situations. There are generally not too many rules in, but to those that are there people are adhered to due to the values of fair play. This results in planning that is not detail oriented. Due to high M/F, the end goal will be clear but the detail of how to get there will be light and the actual process flexible to emerging and changing environment⁸⁴.

The scope of this research was also limited by applying already established models of the concepts of interest (i.e. the competencies models for board performance in nonprofits, and the Hofstede's cultural model), rather than seeking an understanding of them from scratch. Other types of methodologies to gain more knowledge about board competencies should be utilised. Applying grounded theory research methodology and operating inductively, interviews with hospital board members could be conducted to identify new board competencies and compare with the ones that have already been identified.

The relationship between board member attributes and board performance was not explored in this research. In Greece, for example, the issue of public hospitals performance is brought up extensively by the media every time governments replace the CEOs and board members with insinuations to their skills and experience about effectiveness⁸⁵. It was mentioned in subsection 4.2.1 that in the case of public hospitals it might be relevant the concept of 'board capital', suggested by Hillman & Dalziel (2003), which combines human capital (i.e. expertise, experience, and reputation) and relational capital (i.e. networks and linkages to external constituencies). Future empirical research should explore the

-

⁸⁴ Itim International (https://geert-hofstede.com/united-kingdom.html)

⁸⁵ Perhaps, because hospitals directors are political appointees inferring to cronyism. Since the year 2010, customarily the Greek MoH publish short CV notes of the appointed managing directors. It is interesting to note that during the period 2001-2004 it was the first time hospital directors were appointed in Greece on the basis of a CV (Liaropoulos et al., 2012, p. 51).

nature of the relationship between board competencies and attributes of board members such as skills and experience.

Finally, there need to be longitudinal studies focusing on the improvements in organisational performance resulting from implementing, in a systematic and controlled manner, identified governance practices. It was mentioned in subsection 2.3, that based on human resource management and volunteer management literature, board development activities have been developed concerning, among others, recruitment, orientation, and evaluation. A broad range of books and articles offer job descriptions, definitions, models and templates related to board structures and processes. All are based on practitioner experience, not empirically tested. Longitudinal research on board development practices leading to more capable board members will provide empirical support to best practice recommendations.

Chapter 7: Epilogue – Reflections on Impact and professional learning

7.1 The impact of the research

7.1.1 Contribution to innovation

By enriching the non-profit board competencies models to take into account cultural values (i.e. the first research objective) and creating a research framework for testing and modifying for certain sector (i.e. public hospitals) and cultural setting (i.e. Greek) (i.e. the second research objective), the models become universal. This is the benefit gained by having culturally informed board competencies models, and this is the contribution to the innovation of this programme. By meeting the first five of the research objectives, the board competencies models have been enriched to be useful for any sector and cultural setting.

7.1.2 Board self-assessment instrument's impact

The research dimension of the project is significant in the context of public hospital governance and of great interest to the Greek Ministry of Health since it is ultimately accountable for Health System's governance. The Ministry is seeking to secure access of the citizens to quality care and improvement in the health status of the population. The public hospital boards are accountable for the performance of the organisations. Hospital boards that are underperforming and ineffective may result in poor organisational performance and, thus, it seems wise to evaluate board performance. It is, therefore, important for boards to work on the factors (i.e. board competencies) that contribute to public hospital board performance. The Ministry of Health intends by using the product of this research to provide public hospital boards with educational information on the factors that contribute to positive board effectiveness. This information is essential for planning strategies to strengthen board performance that could result in stronger public hospital performance, which includes better quality patient care, improved productivity, improved efficiency, and stronger financial results.

7.1.3 Board self-assessment instrument's implementability

The research instrument (i.e. the board self-assessment instrument) and documentation for implementation in the Greek language (attached in the Appendix X) will be available to the Greek public hospital boards, and their executive directors to self-evaluate board competencies. Self-evaluation is a common practice in the U.S. and has been extensively reviewed from the nonprofit perspective (Ingram, 2008). External bodies have a limited ability to review the board's performance because they have insufficient information. Organisation's personnel who are subordinate to the board and under its control should not evaluate it. The CEO works in close collaboration with the board or is a board member (as it is the case in the Greek public hospital boards where she or he presides) and understands its work, but according to agency theory, the board is an adversary of management for protecting the stakeholders' interests and, thereupon, CEO should not evaluate it. Therefore, as third parties cannot be competent to appraise the board's work, the deduction is in favour of self-assessment.

The issue of implementation by the boards has to do with the motive to self-evaluate. It was stated that according to agency theory, the governing board, inserted between the principal and the agent, act in the best interest of the principal, fulfilling their legal and fiduciary duties. Therefore, it is plausible to expect a demand for self-assessment from boards that comply with its tasks in a systematic, formalised, and reflective manner and the performance of this evaluation in a standardised way.

Furthermore, it was referenced that the resource dependence tasks, according to Resource Dependence Theory, entail board directors acting as boundary spanners who associate the organisation and its environment. Hence, that board directors can deliver information to influence exogenous decisions, thereby bringing resources to an organisation that will strengthen its performance. Therefore, even though self-assessment may not take on willingly in cases where board directors are not convinced of its value, the application of self-assessments could be the result of indirect pressure, in trying to meet requirements (e.g.

governmental). Such a motivation for self-assessment, explained primarily by resource dependency theory, was concluded in a recent empirical study about the use of self-assessment by nonprofit boards in Switzerland (Lichtsteiner & Lutz, 2012, p. 501).

Additionally, it was indicated that according to Institutional Theory, organisations are seeking legitimacy, resources, and ultimately survival by conforming its structures to institutional norms and that this results in institutional isomorphism, as organisations increasingly adopt elements of successful organisations. Self-evaluation gives the board a means to comply with the requirements of legitimacy, because government agencies may demand this, because professional standards require it or simply because orienting one's organisation toward other organisations provides a certain sense of security.

Finally, about the Group/Decision Process Theories with the focus on the board functioning more effectively so that the organisation benefits from better decisions, it is expected the board directors to have a more positive aspect of the value of self-assessment as self-evaluations are carried out more frequently.

7.2 Reflections on professional learning and development

According to the UK Economic & Social Research Council (ESRC), Professional Doctorates '...make a contribution to both theory and practice in their field'. A 'Doctorate' is an umbrella term for a degree rank, denoting the highest degree awarded by a university. All holders of doctoral degrees are acknowledged as experts in their field of study and are entitled to use the title 'doctor'. The Professional Doctorate research is informed by the researcher's professional practice and has a professional focus intending to create knowledge that advances professional practice. The Middlesex University DProf program of studies gave me the opportunity to apply my academic knowledge and professional experience to analyse the problem of the ineffectiveness of control, monitoring, and oversight over the state-owned hospitals of the Greek National Healthcare System in a broader scientific topic.

In the year 2001, I was appointed by the Minister of Health as a Director of the Governing Board in the newly established 'Regional Health and Social Care System of the Peloponnese'. The Governing Board was responsible for the governing, administrative and professional direction of the Health Region of the Peloponnese, with a catchment area of almost seven hundred thousand citizens, within the national health policy guidelines approved by the government. It established priorities, had oversight over health and social care providers' activities and approved budgets and annual accounts. It focused on strategic issues and provided guidance. In the year 2010, I was appointed by the Minister of Health as a Managing Director and President of the Board at the 'Physical and Rehabilitation Medicine Centre of Messenia', and in the year 2012, as a Deputy Director of the Board in the 'Public Hospital of Messenia'. Therefore, I involved myself in direct, in-depth, ongoing contact with organisational participants engaged in real tasks and processes. This involvement facilitates a view of boardroom control processes and institutional behaviours and relationships, immersion in the organisational culture, the development of an inductive understanding of actors' perceptions and worldviews, access to informal deliberations and actions that lie behind formal statements, and a longitudinal observation of process and change. Most importantly, this close encounter facilitates a depth of penetration of processes and behaviours not otherwise possible.

As a practitioner on governance, I have been witnessing numerous occasions of governance ineffectiveness in the state-owned health and social care services organisations in Greece. To understand the problem, I studied literature on the governance of economic transactions. I realised then that this scientific approach is multidisciplinary and that recently the governance issue has been the subject of lively debate. After narrowing down to the issue of the nonprofit sector governance, I processed extended material in a great detail on structural issues for board development to a point that I've then reached a critical stance on nonprofit board development and got a grip on the issue of good governance principles for nonprofits and public organisations, from a practitioner's point of

view. However, I found those guidelines to be just opinions and not theory based and also I found that board members develop their capacity for governance most effectively when they personally commit to it. Additionally, it became apparent to me from searching the literature that the governance issues in Greece are not researched adequately, especially in the nonprofit sector. Therefore, researching for models to measure board competencies for effective governance in Greek health and social care public organisations came as a consequence. A self-assessment instrument based on that models is valuable for any board to develop governance competencies on a self-commitment basis.

While formulating the main research questions, I realised that the previous work done by the creators of a board self-assessment questionnaire for nonprofits in the USA influenced my research project. Additionally, in meetings that I attended with industry people, I reinforced my belief that the degree of applicability of the research outcome is of high priority to the state officials and the practitioners. Specifically, I sensed from their reactions to my request for engagement in a research project a sort of tiredness from participating in numerous surveys without some practical use at the end. Those were the main influences that I had in my project for its product to be immediately applicable, and I realised those influences while I was shaping the rationale for research approach and data collection.

Designing a research project requires to take a stance about a basic belief system or worldview and then operate explicitly or implicitly within a specific scientific paradigm. I have addressed the issue of scientific paradigms in social research, and I have found the advancements in qualitative research methods astonishing during the last two decades. However, its quality remains to be defined and evaluated. As far as the methods, I have changed my views on the relevance and usefulness of methods and techniques developed by psychometricians to management research. These methods permit statistical models to be fitted to data and tested to determine if they are adequate fits. Since survey research plays such an important role in nonprofit data collection efforts, it is incumbent on researchers to ensure that their instruments are valid proxies for the

phenomena they intend to measure. However, the validation of instruments is often a complicated process, requiring expertise in multiple disciplines. For example, proper instrument evaluation requires skills in relevant research theory, statistical methods, and practice. For the data collection anticipated difficulties, I got some ideas from the literature to overcome some of them with pilot testing and techniques for raising the response rate. Generally, besides insights about epistemology, management research methodology, and survey improvement techniques that I have gained while conducting this research, I have also advanced my perception on the issues of board development and most importantly on the limitations of research in that area. Such a study embodies a reflexive process in which the researcher is intimately involved. Reflexivity is potentially inherent in being a director and member of the board and also by my background qualification and expertise.

The following year the pilot study was conducted, governmental reforms that took place in Greece had unforeseen consequences for this research. Social Care went under the responsibility of the Ministry of Employment from the Ministry of Health, the governance of social care organisations entered a transitional phase, and I was confronted with a rightful inclination in acquiring official approval for conducting the research by the Ministry of Employment. Therefore, the state-owned social care organisations had to be excluded from the study and the Project title had to be revised to: 'Measuring State-owned Healthcare Organisations Board Performance, Accounting for National Culture: The Case of Greece.' from 'Measuring State-owned Health and Social Care Organisations Board Performance, Accounting for National Culture: The Case of Greece.' Additionally, almost the entire population of hospital board directors and CEOs were gradually relieved from duty and replaced by others.

As it was mentioned in section 2.8, due to the Greek government's major debt crisis, the hospital sector in Greece underwent a major restructuring phase with mergers and consolidations and in some cases with unsettled forms of governance, starting in the year 2012, that lasted almost two years. In many cases reorganisation affected hospital's organisational status, and in some instances

even their very existence. As a result, the population under study (i.e. the respective Boards of Directors) was at that period unsettled in number and in size and the Directors' behaviour unconventional, making the measuring of board of directors performance temporally unattainable and stressing the validity of the research, in such a context, to be questionable, at least. Furthermore, all that time the country was marked by a lack of political stability causing an unaccustomed reposition of the political personnel at the top levels of the Ministry of Health and also at the top administrative positions in the healthcare organisations. In addition to the rapidly changing political setting, I was confronted with the person-centered inclination for an ample range of decisions in top administrative levels that pertains political personnel, facing, therefore, considerable difficulties in acquiring official approval for the research, and the essential support for adequate response rate for the survey.

Limitations of this study include the nonrandom selection of participants that may lead to selective involvement by health care leaders who are more open to discussion about governance and not threatened by a topic that traditionally has been kept confidential. Although every attempt was made to include hospitals from all over the country and with various attributes such as bed size and teaching status, convenience sampling led to a selection of hospitals known to the researcher or colleagues of the researcher.

I could fairly argue that as a researcher I've learned how to apply and justify aims and objectives, evaluate theories and research methodologies, analyse and synthesise data, ideas, theory, and proper research tools, create new understandings of economic problems, understand the underpinning values, manage my own learning, realise the weaknesses of own research, argue for alternative approaches, and communicate the research results.

Total Number of Words: revised submission 62,907 (first submission: 46,319)

Endnotes

¹ The central administration is fundamental to the supervision, steering and management of the public sector as a whole, but monitoring, co-ordination and information-sharing mechanisms are extremely weak throughout the central administration, which makes it very difficult for individual ministries to supervise and control public sector entities effectively. Additionally, there is a massive issue of 'legal formalism' which stands in the way of effective and efficient governance. Legal formalism is partly the by-product of a legal system based on civil law, which traditionally emphasises the need for a comprehensive and detailed structure of laws and regulations to cover all issues (OECD, 2011).

^{II} A Greek version of Diagnostic Related Groups (called KEN-DRG) was introduced in 2011 which has run into implementation issues and it is, currently, in a process of revision to be soon a full DRG costing and reimbursement system.

In the best of circumstances, the board meets twice a month, with the exceptions of Christmas and over the summer.

iv A number of ministries have responsibilities on the NHS: the Ministry of Employment, responsible for the insurance funds; the Ministry of Defense, that runs 14 military hospitals; the Ministry of Education, responsible for training health professionals and for 2 small teaching hospitals; the Ministry of Development, responsible for the procurement of medicinal products; the Ministry of Finance, that allocates funds to NHS.

^v Many people from the public hospitals sector would agree with the Researcher's view that when there has been a major disagreement among the hospital's senior management and the leading physicians, and the intention of the physicians is to try to have the CEO dismissed, since it is difficult to replace the hospital physicians, the typical solution for the MoH is to replace the CEO.

vi After the hospital sector restructuring in 2012 by mergers and consolidations, Greece has currently 87 from 158 public hospitals as legal entities of public law and around 80 private hospitals and small clinics. The restructuring of the public hospitals was based on criteria as the small bed capacity, the age of the infrastructure, and their uneven geographical distribution. However, the number of hospital beds were not affected due to long historical lines and patterns of political patronage.

vii Greece could look at the United Kingdom, Spain or Portugal: in 1991, British hospitals became independent trusts owned by the National Health Services, but with managerial autonomy; in Spain, since 2001, the system authorizes a private firm to manage a public hospital; in November 2002, Portuguese hospitals are autonomous with the same bylaws as a private firm, but 100% of the shares are state-owned (OECD, 2010). However, the recent difficult economic situation has provided a convenient justification for a rollback to a quasi-autonomous authority for these hospitals and in UK the hospitals'

grant of quasi-autonomy lasts only until they make a decision that does not align with the preferences of the sitting government.

viii It has been argued from Swedish experience that national policy-makers in decisions about health sector, are based on their sense of the social expectations of the citizenry (Saltman & Bergman, 2005). In high PD cultures strong authority and steep hierarchies are preferred to help preserve the existing social order and its related distribution of power (Hofstede, 1980). Note that PD in Greece is considered high and twice as much as the PD in Sweden.

- ^{ix} The argument is that fiscal adjustment is quicker due to greater economies of scale in public goods production and people benefit from a higher quality of human capital. On the contrary, decentralization entails a loss in both respects, leading to more expensive or lower quality public goods.
- * Relates to the nature of reality (physical reality, such as a bundle of paper or a computer monitor, and social reality, such as an organisation) and its characteristics (e.g. realism, critical realism, historical realism, relativism). If a 'real' world is assumed, then what can be known about it is 'how things really are' and 'how things really work'. Questions of aesthetic or moral significance fall outside the realm of legitimate scientific inquiry.
- xi Relates to the way the researcher gets close to participants being studied (e.g. dualist and objectivist, transactional and subjectivist). If a 'real' reality is assumed, then the posture of the would-be knower must be one of objective detachment to be able to discover 'how things really are' and 'how things really work'. On the contrary, if the investigator and the object of investigation are interactively linked, the 'findings' are *literally created* as the investigation proceeds.
- xii To summarise, 'The way we think the world is (ontology), influences: what we think can be known about it (epistemology); how we think it can be investigated (methodology and research techniques); the kinds of theories we think can be constructed about it; and the political and policy stances we are prepared to take.' (Fleetwood, 2005, p. 197). Pragmatists, though, have argued that research practices are not determined by, or dependent on, philosophical paradigms. A research strategy or method is not necessarily linked to a single philosophical stance, and any approach may be informed by one or more of a number of paradigms (Greene, 2002).
- viii One alternative that has been proposed was inspired by Jurgen Habermas's writings about the role of interest and purpose in human understanding. The author argues that purpose-talk has a number of advantages over the paradigm-talk. He argues, for example, that talk of differing purposes does not assume a priori that different research orientations are so incommensurable that researchers guided by one purpose cannot understand and learn from the work of those guided by a radically different purpose. It is not clear, at this point, whether purpose-talk will replace talk of different, incommensurable paradigms (Donmoyer, 2008).

xiv Consequently, our knowledge is true or nearly true just because it corresponds to the external reality through our 'scientific' minds and appropriately designed methodology. The prevailing motivations of much of the research appears to have been the orderly and incremental pursuit of knowledge.

^{xv} Deductive approaches are considered to be well suited to testing of hypotheses: to problems for which a theory is known, empirical data can be gathered, and for which a single conclusive outcome can be determined (Creswell, 2014).

wi Inductive approaches enable researchers to utilise statistical analyses and generalisation techniques to move from empirical data towards generalised theory (Eisenhardt, 1989b). The merits of the use of exclusively deductive or inductive approaches for the advancement of research and the creation of new knowledge have been extensively debated across millennia.

retrospectively, especially failures. Much of this latter research is published as rich case studies. Very few large-scale qualitative studies exist: those that do appear to have been well received, especially by the practitioner community.'(Lockhart, 2010, p. 1).

Despite the criticism, it should be acknowledged that positivistic studies are characterized by rigor, internal/external validity and intelligible results. Since the results are to a great extent context-free and independent of researchers, they may be replicated to similar cases and this enhances their predictability. The proponents of positivist approach maintain that many of the criticisms directed to this approach are due to poor research methods, and therefore more advanced statistical techniques should be developed. They argue that the problems encountered in positivistic research are due to underdeveloped methods and as more complicated methods are introduced, the quality of research will improve.

xix This worldview is sometimes called the *scientific method*, or doing *science research*. It is also called *positivist/postpositivist research*, and *empirical science*. This tradition comes from 19th-century writers, such as Comte, Mill, Durkheim, Newton, and Locke and it is called post-positivism because it represents the thinking after positivism, challenging the naïve notion of the absolute truth of knowledge (Creswell, 2014).

** In the retroduction reasoning the minor premise is an 'observation' that demands an explanation and the major premise is a 'rule' suggested by the observation. The conclusion is a 'case' which asserts that the observation might be explained by fitting it into the general pattern provided by the rule. The retroduction is also known as 'abduction' and was first systematized during the late 19th century by the American philosopher and logician Charles Peirce (Shank, 2008).

^{xxi} Retroductive arguments are weak, and never offer their conclusions as more than a suggestion. Because it is generally not possible to strengthen or weaken individual retroductive arguments, what we can do is *compare* two or more retroductive arguments to judge which is most satisfying. Retroductive reasoning, like the other forms of reasoning (i.e. inductive, deductive), is subject to a variety of fallacies.

^{xxii} Relates to the way the researcher go about finding out whatever believes that can be known (e.g. experimental and manipulative, dialogic and dialectical, hermeneutical and dialectical). A 'real' reality pursued by an 'objective' researcher mandates control of possible confounding factors. On the opposite, for a reified reality or even multiple realities a dialogue is required between the investigator and the subject of inquiry with the final aim a consensus reconstruction of the previously held construction.

Another type of nonexperimental quantitative research, among the strategies of inquiry associated with quantitative research that invoked the post-positivist worldview, is *causal-comparative research* in which the investigator compares two or more groups in terms of a cause (or independent variable) that has already happened. On the other hand, experimental strategies of inquiry include *true experiments*, the less rigorous experiments called *quasi-experiments*, and the *applied behavioral analysis or single-subject experiments* in which an experimental treatment is administered over time to a single individual or to a small number of individuals, all originated mainly in psychology (Creswell, 2014).

wiv When responding to a Likert-type questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale. Thus, the range captures the intensity of their feelings for a given item. On the other hand, open-ended questions are those where response categories are not provided to the respondent and are used in qualitative research designs.

xxv A 'pilot test' is when the instrument is administered before using it to collect the data to be used in the research; it duplicates the final survey design on a small scale from beginning to end (data collection, editing, imputation, processing, data analysis, etc.). The pilot test should attempt to simulate the real field setting and administration protocol as much as possible.

Essides the widely applied in the field of social science during the past several decades covariance-based SEM, using software packages such as AMOS, EQS, LISREL and MPlus, the Partial Least Squares (PLS) focuses on the analysis of variance and can be carried out using PLS-Graph, VisualPLS, SmartPLS, and WarpPLS, and the component-based SEM known as Generalized Structured Component Analysis (GSCA), implemented through VisualGSCA or a web-based application called GeSCA (Wong, 2013, p. 2).

^{xxvii} Reflexivity has been described as 'an attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher, at every step of the research process' and as a metaphor 'The knower's mirror' (Malterud, 2001, p. 484).

xxviii A non-parametric test is one that makes no assumptions about the parameters (i.e. the defining properties) of the population distribution(s) from which one's data are drawn. Non-parametric statistical procedures are less powerful than parametric tests because they use less information in their calculation.

As opposed to formative factor models. In a formative factor model the phenomenon is defined by, or is a function of, the observed variables: changes in the indicators determine variations in the latent variable (index), while changes in the index does not necessarily imply variations in the causal indicators. The observed variables are then called composite indicators and the model could be called index model (Edwards & Bagozzi, 2000).

variable is accounted for by a factor that was extracted the factor loading is squared, called the communality of the variable.

voxi Pearson's, Spearman's and Kendall's correlation coefficients are the most commonly used measures of monotone association of two or more variables. Measures of association are descriptive statistical measures that demonstrate the strength or degree of relationship between two or more variables. Correlation coefficients can be represented as the differently weighted averages of the same concordance indicators. The weighting used in the Pearson's correlation coefficient could be preferable for reflecting monotone association in some types of continuous and not necessarily bivariate normal data (Shong, 2010).

Identification is a mathematical requirement in order for the SEM analysis to take place. SEM software programs such as AMOS perform identification checks as part of the model fitting process. Models in which there is only one possible solution for each parameter estimate are said to be *just-identified*, when there are an infinite number of possible parameter estimate values are said to be *underidentified*, and when models have more than one possible solution (but one best or optimal solution) for each parameter estimate they are considered *overidentified*.

References

- Adams, R. B., Hermalin, B. E., & Weisbach, M. S. (2010). The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *Journal of Economic Literature*, 48(1), 58–107.
- Ahrens, J., & Rudolph, P. M. (2006). The Importance of Governance in Risk Reduction and Disaster Management. *Journal of Contingencies and Crisis Management*, *14*(4), 207–220.
- Anderson, J., & Gerbing, D. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411–423.
- Arbuckle, J. (2012). IBM SPSS Amos 21 User's Guide. Amos Development Corporation.
- Armor, D. J. (1974). Theta reliability and factor scaling. In H. Costner (Ed.), Sociological methodology (pp. 17–50). San Francisco: Jossey-Bass.
- Axelrod, N. R. (2005). Board Leadership and Development. In R. D. Herman (Ed.),

 The Jossey-Bass Handbook of Nonprofit Leadership and Management

 (Second). Hoboken: John Wiley & Sons, Inc.
- Babbie, E. R. (2009). *The Basics of Social Research* (4e ed.). Belmont, CA: Thomson Wadsworth.
- Bae, S. C., Chang, K., & Kang, E. (2012). Culture, Corporate Governance, and Dividend Policy: International Evidence. *Journal of Financial Research*, 35(2), 289–316.
- Baglin, J. (2014). Improving Your Exploratory Factor Analysis for Ordinal Data: A Demonstration Using FACTOR. *Practical Assessment, Research & Evaluation*, 19(5), 1–14.

- Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Aministrative Science Quarterly*.
- Bainbridge, S. M. (2002). Why a Board? Group Decisionmaking in Corporate Governance School of Law. *Vanderbilt Law Review*, *55*(1), 1–58.
- Bainbridge, S. M. (2010). Director Primacy. *UCLA School of Law, Law-Econ Research Paper No. 10-06. Available at SSRN:*Http://Ssrn.Com/Abstract=1615838.
- Baskerville, R. F. (2003). Hofstede never studied culture. *Accounting, Organizations and Society*, 28(1), 1–14.
- Bearden, W., Netemeyer, R., & Haws, K. (2011). *Handbook of marketing scales:* multi-item measures for marketing and consumer behavior research (3rd ed.). City: Los Angeles: SAGE.
- Bebchuk, L., & Roe, M. (1999). A Theory of Path Dependence in Corporate Governance and Ownership. *Stanford Law Review*, *52*, 127–168.
- Bentler, P. M. (2006). *EQS 6 structural equations program manual. Los Angeles:*BMDP Statistic Software. Encino, California USA: Multivariate Software, Inc.
- Berle, A. A., & Means, G. C. (1932). *The Modern Corporation and Private Property*.

 New York: Macmillan.
- Bertrand, M., & Schoar, A. (2006). The role of family in family firms. *Journal of Economic Perspectives*, *20*(2), 73–96.
- Bhaskar, R. (2005). The Possibility of Naturalism, A Philosophical Critique of the Contemporary Human Sciences (Third edit). London: Taylor & Francis e-Library.
- Block, S. R. (1998). *Perfect Nonprofit Boards: Myths, Paradoxes and Paradigms*. Needham Heights MA, USA: Simon Sz Schuster.
- Blomberg, R., Harmon, R., & Waldhoff, S. (2004). One more time: improve your

- board through self-assessment. Hospital Topics, 82(1), 25-9.
- Boomsma, A. (2000). Reporting Analyses of Covariance Structures. *Structural Equation Modeling*, 7(3), 461–483.
- Borgen, W., Amundson, N., & Butterfield, L. (2008). The SAGE Encyclopedia of Qualitative Research Methods. In L. M. Given (Ed.), *The Sage Encyclopedia of Qualitative Research Methods*. Thousand Oaks, California: Sage Publications, Inc.
- Boyd, B. K., Haynes, K. T., & Zona, F. (2011). Dimensions of CEO-Board Relations. *Journal of Management Studies*, 48(8), 1892–1923.
- Bradley, J. (1968). *Distribution-Free Statistical Tests*. NJ: Prentice-Hal: Englewood Cliffs.
- Bradshaw, P., Murray, V., & Wolpin, J. (1992). Do Nonprofit Boards Make a Difference? An Exploration of the Relationships Among Board Structure, Process, and Effectiveness. *Nonprofit and Voluntary Sector Quarterly*, *21*(3), 227–249.
- Brislin, R. W. (1986). The wording and translation of research instruments. In W. L. Lonner, J.W.; Berry (Ed.), *Field methods in cross-cultural research* (pp. 137–164). Newbury Park: Sage Publications.
- Brown, W. A. (2005). Exploring the association between board and organizational performance. *Nonprofit Management & Leadership*, *15*(3), 317–329.
- Brown, W. A. (2007). Board Development Practices and Competent Board Members Implications for Performance. *Nonprofit Management & Leadership*, *17*(3), 301–317.
- Buchanan, J. M. (1972). *Theory of public choice*. Ann Arbor: University of Michigan Press.
- Burns, L. R., & Wholey, D. R. (1993). Adoption and Abandonment of Matrix

- Management Programs: Effects of Organizational Characteristics and Interorganizational Networks. *Academy of Management Journal*, *36*(1), 106–138.
- Butterfield, L. D. (2005). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qualitative Research*, *5*(4), 475–497.
- Canadian Council on Health Services Accreditation. (1998). *Governance Check-up Guidance for Health Care Organizations*. Ottawa, Ontario.
- Carman, J. G. (2011). What you don't know can hurt your community: Lessons from a local United Way. *Nonprofit Management and Leadership*, *21*(4), 433–448.
- Carter, S. M., & Little, M. (2007). Justifying Knowledge, Justifying Method, Taking Action: Epistemologies, Methodologies, and Methods in Qualitative Research. *Qualitative Health Research*, *17*(10), 1316–1328.
- Carver, J. (2006). Boards That Make A Difference: A New Design For Leadership In Non Profit And Public Organisations (Third). San Francisco, CA: Jossey-Bass.
- Carver, J. (2007). Beyond Board Self-Evaluation. *Board Leadership*, (January/February), 4–5.
- Cattell, R. B. (1966). The Scree test for the number of factors. Multivariate Behavioral Research, (1), 245-276, 1.
- Chait, R., Holland, T., & Taylor, B. (1996). *Improving the Performance of Governing Boards (American Council on Education/Oryx Press Series on Higher Education)* (1St ed.). Phoenix, Ariz.: Rowman & Littlefield Education.
- Chait, R. P., Holland, T. P., & Taylor, B. E. (1993). *The effective board of trustees*. Phoenix: Oryx Press.
- Chakravarthy, B. S. (1986). Measuring Strategic Performance: Summary. *Strategic Management Journal*, 7(February 1984), 437–458.

- Chang, K., & Noorbakhsh, A. (2009). Does national culture affect international corporate cash holdings? *Journal of Multinational Financial Management*, 19(5), 323–342.
- Clark, A. M. (2008). The SAGE Encyclopedia of Qualitative Research Methods. In The Sage Encyclopedia of Qualitative Research Methods. Sage Publications, Inc.
- Coase, R. H. (1937). The Nature of the Firm. *Economica N.S.*, 4(16), 386–405.
- Cochran, W. G. (1968). Errors of measurement in statistics. *Technometrics*, *10*, 637–666.
- Cohen, S. G., & Bailey, D. E. (1997). What Makes Teams Work: Group Effectiveness Research from the Shop Floor to the Executive Suite. *Journal of Management*, *23*(3), 239–290.
- Cole, C., Chase, S., Couch, O., & Clark, M. (2011). Research methodologies and professional practice: Considerations and Practicalities. *Electronic Journal of Business Research Methods*, *9*(2), 141–151.
- Coles, J. W., McWilliams, V. B., & Sen, N. (2001). An examination of the relationship of governance mechanisms to performance. *Journal of Management*, *27*(1), 23–50.
- Cooke, R. A., & Lafferty, J. C. (1988). *Group Styles Inventory*. Plymouth: MI:Human Synergistics.
- Cooke, R. A., & Szumal, J. L. (1994). The Impact of Group Interaction Styles on Problem-Solving Effectiveness. *The Journal of Applied Behavioral Science*, 30(4), 415–437.
- Cornforth, C. (2001). What Makes Boards Effective? An examination of the relationships between board inputs, structures, processes and effectiveness in non-profit organisations. *Corporate Governance: An International Review*, *9*(3), 217–227.

- Cornforth, C. (2003). *The governance of public and non-profit organisations: what do boards do?* (Chris Cornforth, Ed.). London: Routledge, 2003.
- Cornforth, C., & Edwards, C. (1999). Board Roles in the Strategic Management of Non-profit Organisations: theory and practic. *Corporate Governance*, 7(4), 346–362.
- Creswell, J. W. (2014). Research design Qualitative quantitative and mixed methods approaches (4th ed.). Thousand Oaks, California: Sage Publications, Inc.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297–334.
- D'Aunno, T., Sutton, R. I., & Price, R. H. (1991). Isomorphism and external support in conflicting institutional environments: A study of drug abuse treatment units. *Academy of Management Journal*, *34*, 636–661.
- D'Aveni, R. A. (1990). Top Managerial Prestige and Organizational Bankruptcy.

 Organization Science, 1(2), 121–142.
- Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998). Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, *19*(3), 269–290.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a Stewardship Theory of Management. *Academy of Management Review*, *22*(1), 20–47.
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5 point, 7 point and 10 point scales. International Journal of Market Research, 50(1), 1–19.
- DiMaggio, P. J., & Powell, W. W. (1983a). The Iron Cage Revisited: Institutional Isomorphism. *American Sociological Review*, *48*(2), 147–160.
- DiMaggio, P. J., & Powell, W. W. (1983b). The iron cage revisited: Institutional

- isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Donaldson, L. (1990). The Ethereal Hand: Organizational Economics and Management Theory. *The Academy of Management Review, 15*(3), 369–381.
- Donaldson, L., & Davis, J. H. (1994). Boards and Company Performance Research Challenges the Conventional Wisdom. *Corporate Governance: An International Review*, *2*(3), 151–160.
- Donmoyer, R. (2008). The SAGE Encyclopedia of Qualitative Research Methods.

 In *The Sage Encyclopedia of Qualitative Research Methods*. Sage Publications, Inc.
- Drucker, P. F. (1998). *Managing in a time of great change*. New York: Truman Talley Books/Plume.
- Drucker, P. F. (1999). *The Drucker Foundation self-assessment tool: participant workbook* (2nd ed.). New York, USA: Drucker Foundation.
- Earley, P. C. (2006). Leading cultural research in the future: A matter of paradigms and taste. *Journal of International Business Studies*, *37*(6), 922–931.
- Economou, C. (2010). *Greece: Health system review. Health Systems in Transition*.

 (A. Maresso & E. Mossialos, Eds.) *Health San Francisco* (Vol. 12).

 Copenhagen, Denmark: WHO Regional Office for Europe.
- Edwards, J. R. (2003). Construct validation in organizational behavior research. In *Organizational behavior: The state of the science (2nd ed.).* (pp. 327–371).
- Edwards, J. R., & Bagozzi, R. P. (2000). On the Nature and Direction of Relationships Between Constructs and Measures. *Psychological Methods*, *5*(2).
- Eisenhardt, K. M. (1989a). Agency Theory: An Assessment and Review. The

- Academy of Management, 14(1), 57-74.
- Eisenhardt, K. M. (1989b). Building theories from case study research. *The Academy of Managment Review*, 14(4), 532–550.
- Elkelish, W. W. (2006). Corporate Governance and Cultural Values across Countries: Empirical Evidence. In *The 3rd International Business Research Conference, Victoria University*. Melbourne.
- Eurobarometer. (2014). Patient safety and quality of care.
- Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *Journal of Law and Economics*, 26(2), 301–325.
- Fanto, J. a., Solan, L. M., & Darley, J. M. (2011). Justifying board diversity. *North Carolina Law Review*, *89*, 900–936.
- Farrell, A. M. (2010). Insufficient discriminant validity: A comment on Bove, Pervan, Beatty, and Shiu (2009). *Journal of Business Research*, *63*(3), 324–327.
- Fields, D. (2007). Governance in permanent whitewater: The board's role in planning and implementing organisational change. *Corporate Governance:*An International Review, 15(2), 334–344.
- Financial Crisis Inquiry Commission. (2011). The Financial Crisis Inquiry Report:

 Final Report of the National Commission on the Causes of the Financial and

 Economic Crisis in the United States. OFFICIAL GOVERNMENT EDITION.
- Finkelstein, S., & Hambrick, D. C. (1996). *Strategic Leadership: Top Executives and Their Effects on Organizations*. St. Paul, MN: West Publishing Company.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 51(4), 327–358.
- Fleetwood, S. (2005). Ontology in Organization and Management Studies: A Critical Realist Perspective. *Organization*, *12*(2), 197–222.

- Forbes, D. P., & Milliken, F. J. (1999). Cognition and Corporate Governance:

 Understanding Boards of Directors as Strategic Decision-Making Groups.

 Academy of Management Review, 24(3), 489–505.
- Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, 18(3), 382–388.
- Freeman, R. E. (1984). Strategic management: a stakeholder approach. *Business Ethics Quarterly*, 276.
- Fuller, W. A. (1987). *Measurement Error Models*. New York: John Wiley & Sons, Inc.
- Gabrielsson, J., & Winlund, H. (2000). Boards of directors in small and medium-sized industrial firms: Examining the effects of the board's working style on board task performance. *Entrepreneurship and Regional Development*, 12(4), 311–330.
- Gadermann, A. M., Guhn, M., & Zumbo, B. D. (2012). Estimating Ordinal Reliability for Likert-Type and Ordinal Item Response Data: A Conceptual, Empirical, and Practical Guide. *Practical Assessment, Research & Evaluation*, 17(3), 1–13.
- Garrido, L. E., Abad, F. J., & Ponsoda, V. (2013). A new look at Horn's parallel analysis with ordinal variables. *Psychological Methods*, *18*(4), 454–74.
- Gatley, S., Leesen, R., & Altman, Y. (1996). *Comparative Management: A Trans-cultural Odyssey*. London: McGraw-Hills Book Company.
- Geertz, C. (1973). *The interpretation of cultures: Selected essays*. NEW YORK: Basic Books, Inc.
- Gill, M. (2001). Governance DO'S & DON'TS Lessons from Case Studies On Twenty Canadian Non-profits. The Institute On Governance.

- Gill, M., Flynn, R. J., & Reissing, E. (2005). The Governance Self- Assessment Checklist. *Nonprofit Management and Leadership*, *15*(3), 271–294.
- Goranitis, I., Siskou, O., & Liaropoulos, L. (2014). Health policy making under information constraints: An evaluation of the policy responses to the economic crisis in Greece. *Health Policy*, *117*(3), 279–284.
- Green, J. C., & Griesinger, D. W. (1996). Board performance and organizational effectiveness in nonprofit social services organizations. *Nonprofit Management and Leadership*, *6*(4), 381–402.
- Greene, J. (2002). Understanding social programs through evaluation. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 981–1000). Thousand Oaks, CA: Sage.
- Greer, A., & Hoggett, P. (2000). Contemporary Governance and Local Public Spending Bodies. *Public Administration*, *78*(3), 513–529.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing Paradigms in Qualitative Research.

 In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). CA: Thousand Oaks.
- Gulati, R., & Westphal, J. D. (1999). Cooperative or Controlling? The Effects of CEO-Board Relations and the Content of Interlocks on the Formation of Joint Ventures. *Administrative Science Quarterly*, 44(3), 473.
- Hacker, S. (2003). Does Your Board Measure Up? *Association Management*, (January), 82–83.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2010). *Multivariate Data Analysis* (7th ed.). Upper Saddle River, NJ, USA: Pearson Prentice Hall.
- Haleblian, J., & Finikelstein, S. (1993). Top Management Team Size, Ceo Dominance, and Firm Performance: the Moderating Roles of Environmental Turbulence and Discretion. *Academy of Management Journal*, *36*(4), 844–863.

- Hampden-Turner, C., & Trompenaars, A. (1993). *The seven cultures of capitalism*. New York: Currency/Doubleday.
- Hare, L. R., & O'Neill, K. (2000). Effectiveness and Efficiency in Small Academic Peer Groups: A Case Study. *Small Group Research*, *31*(1), 24–53.
- Harris, M. (1989). The Governing Body Role: Problems and Perceptions in Implementation. *Nonprofit and Voluntary Sector Quarterly*, *18*(4), 317–333.
- Hart, O. (1995). Corporate Governance: Some Theory and Implications. *The Economic Journal*, *105*(430), 678–689.
- Hawawini, G., Subramanian, V., & Verdin, P. (2003). Is performance driven by industry or firm-specific factors? A new look at the evidence. *Strategic Management Journal*, *24*(1), 1–16.
- Haxhi, I., & Ees, H. (2010). Explaining diversity in the worldwide diffusion of codes of good governance. *Journal of International Business Studies*, *41*(4), 710–726.
- Hendry, K., & Kiel, G. C. (2004). The Role of the Board in Firm Strategy: Integrating Agency and Organizational Control Perspectives. *Corporate Governance: An International Review*, *12*(4), 500–520.
- Herman, E. S. (1982). *Corporate Control. Corporate Power*. Cambridge: University Press.
- Herman, R., & Renz, D. (2000). Board practices of especially effective and less effective local nonprofit organizations. *American Review of Public Administration*, 32(2), 146–160.
- Herman, R., & Renz, D. (2008). Advancing Nonprofit Organizational Effectiveness Research and Theory. Nine Theses. *Nonprofit Management & Leadership*, 18(4), 399–415.
- Hickson, D. J. (1996). The ASQ Years Then and Now Through the Eyes of a Euro-

- Brit. Administrative Science Quarterly, 41(2), 217–228.
- Hill, G. W. (1982). Group Versus Individual Performance: Are TV + 1 Heads Better Than One? *Psychological Bulletin*, *91*(3), 517–539.
- Hillman, A. I., & Dalziel, T. (2003). Boards of directors and firm-performance: integrating agency and resource dependence perspectives. *Academy of Management Review*, *28*(3), 383–396.
- Hinna, A., De Nito, E., Mangia, G., Scarozza, D., & Tomo, A. (2014). Advancing public governance research: Individual and collective dynamics in and around the boardroom. In *Studies in Public and Non-Profit Governance* (Vol. 2, pp. 3–39). Emerald Group Publishing Limited.
- Hodgetts, R. M., & Luthans, F. (1993). U.S. Multinationals' Compensation Strategies for Local Management: Cross-Cultural Implications.

 Compensation & Benefits Review, 25(2), 42–48.
- Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. Newbury Park, CA: Sage.
- Hofstede, G. (1983). The Cultural Relativity of Organisational Practices and Theories. *Journal of International Business Studies*, (Fall), 75–90.
- Hofstede, G. (1994a). Manual VSM94.
- Hofstede, G. (1994b). *Uncommon sense about organizations: cases, studies, and field observations. International Business Review.* London: Sage.
- Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations* (2nd ed). CA: Thousand Oaks: Sage.
- Hofstede, G. (2006). What did GLOBE really measure? Researchers' minds versus respondents' minds. *Journal of International Business Studies*, *37*(6), 882–896.

- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations:*Software of the Mind (Rev. 3rd e). New York: McGraw Hill Professional.
- Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring Organizational Cultures; A Qualitative and Quantitative Study across Twenty Cases. *Administrative Science Quaterly*, *35*(2), 286–316.
- Holland, T. P. (1991). Self-Assessment by Nonprofit Boards. *Nonprofit Management and Leadership*, *2*(1), 25–36.
- Holland, T. P. (2002). Board Accountability Lessons from the Field. *Non-Profit Managmenet and Leadership*, 12(4), 409–428.
- Holland, T. P., Chait, R. P., & Taylor, B. E. (1989). Board effectiveness: Identifying and measuring trustee competencies. *Research in Higher Education*, *30*(4), 435–453.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, *30*(2), 179–185.
- Hoskisson, R. E., & Turk, T. A. (1990). Corporate Restructuring: Governance and Control Limits of the Internal Capital Market. *The Academy of Management Review*, *15*(3), 459–477.
- Houle, C. O. (1989). Governing boards: their nature and nurture. Jossey-Bass,.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Vipin, G. (2004). *Culture, leadership, and organizations: the GLOBE study of 62 societies*. Thousand Oaks: Sage.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.
- Huse, M. (2008). Accountability and creating accountability: A framework for exploring behavioural perspectives of corporate governance. *The Value*

- Creating Board: Corporate Governance and Organizational Behaviour, 16, 33–54.
- Huse, M., & Eide, D. (1996). Stakeholder Management and the Avoidance of Corporate Control. *Business & Society*, *35*(2), 211–243.
- Inglis, S., Alexander, T., & Weaver, L. (1999). Roles and Responsibilities of Community Nonprofit Boards. *Nonprofit Management and Leadership*, 10(2), 153–167.
- Ingram, R. T. (2008). *Ten Basic Responsibilities of Nonprofit Boards* (Third Edit). Washington, DC 20001: BoardSource.
- Jackson, D. K., & Holland, T. P. (1998). Measuring the Effectiveness of Nonprofit Boards. *Nonprofit and Voluntary Sector Quartely*, *27*(2), 159–182.
- Jaeger, A. M. (1986). Organization Development and National Culture: Where's the Fit? *Academy of Management Review*, 11(1), 178–190.
- Jensen, M. C. (2002). Value Maximization, Stakeholder Theory, and the Corporate Objective Function. *Business Ethics Quarterly*, *12*(2), 235–256.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behaviour, Agency Costs, and Capital Structure. *Journal of Financial Economics*, 3, 305–360.
- Jiang, H. J., Lockee, C., Bass, K., & Fraser, I. (2008). Board oversight of quality: any differences in process of care and mortality? *Journal of Healthcare Management / American College of Healthcare Executives*, *54*(1), 15–29.
- Johnson, J., Daily, C. M., & Ellstrand, A. E. (1996). Boards of Directors: A Review and Research Agenda. *Journal of Management*, 22(3), 409–438.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, *33*(7), 14–26.
- Judge, W. Q., Douglas, T. J., & Kutan, A. M. (2008). Institutional antecedents of

- corporate governance legitimacy. Journal of Management, 34(4), 765–785.
- Kaiser, H. (1960). The Application of Electronic Computers to Factor Analysis. Educational and Psychological Measurement, 20(1), 141–151.
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36.
- Kenny, D. A. (2015). Measuring Model Fit. Retrieved from http://davidakenny.net/cm/fit.htm
- Kim, K. H., & Buchanan, R. (2008). CEO duality leadership and firm risk-taking propensity. *Journal of Applied Business Research*, *24*(1), 27–41.
- Kim, Y., & Cannella, A. A. (2008). Toward a Social Capital Theory of Director Selection. *Corporate Governance: An International Review*, *16*(4), 282–293.
- Leblanc, R., & Gilles, J. (2005). *Inside the Boardroom: How Boards Really Work and the Coming Revolution in Corporate Governance*. New Jersey: Wiley & Sons.
- Li, J., & Harrison, J. R. (2008). National culture and the composition and leadership structure of boards of directors. *Corporate Governance*, *16*(5), 375–385.
- Liaropoulos, L., Siskou, O., Kontodimopoulos, N., Kaitelidou, D., Lazarou, P., Spinthouri, M., & Tsavalias, K. (2012). Restructuring the hospital sector in Greece in order to improve effectiveness and efficiency. *Social Cohesion and Development*, 7(1), 53–68.
- Licht, A. N., Goldschmidt, C., & Schwartz, S. H. (2007). Culture rules: The foundations of the rule of law and other norms of governance. *Journal of Comparative Economics*, *35*(4), 659–688.
- Lichtsteiner, H., & Lutz, V. (2012). Use of Self-Assessment by Nonprofit Organization Boards The Swiss Case. *Nonprofit Management & Leadership*, 22(4), 483–506.
- Lockhart, J. (2010). Revisiting the Black Box: Reflections on Governance Activities,

- Governance Research and the Prescription for Best Practice. Massey University Graduate School of Business: Palmerston North, New Zealand. Electronic copy available at: http://ssrn.com/abstract=1686035.
- Lorenzo-Seva, U., & Ferrando, P. J. (2013). FACTOR 9.2 A Comprehensive Program for Fitting Exploratory and Semiconfirmatory Factor Analysis and IRT Models. *Applied Psychological Measurement*, *37*(6), 497–498.
- Luoma, P., & Goodstein, J. (1999). Stakeholders and Corporate Boards: Institutional Influences on Board Composition and Structure. *The Academy of Management Journal*, 42(5), 553–563.
- Mace, M. L. (1971). *Directors: myth and reality*. Boston: Division of Research, Graduate School of Business Administration, Harvard University.
- Malhotra, N. K., & Dash, S. (2011). Marketing Research An Applied Orientation.
- Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *Lancet*, 358(9280), 483–8.
- Mannion, R., Freeman, T., Millar, R., & Davies, H. (2016). Effective board governance of safe care: a (theoretically underpinned) cross-sectioned examination of the breadth and depth of relationships through national quantitative surveys and in-depth qualitative case studies. *Health Services and Delivery Research*.
- Mardia, K. V. (1970). Measures of multivariate skewnees and kurtosis with applications. *Biometrika*, *57*, 519–53.
- Markham, J. W. (2006). *A Financial History of Modern U.S. Corporate Scandals:*From Enron to Reform (6th ed.). Armonk, N.Y: M.E. Sharpe.
- Matell, S., & Jocoby, J. (1971). Is there an optimal number of alternatives for Likert scales items? Reliability and validity. *Educational & Psychological Measurement*, *31*(3), 657–674.

- McDonagh, K. J. (2005). Hospital Governing Boards: Study of the Factors that

 Measure Governing Board Performance and the Relationship to

 Organizational Performance in Hospitals. Touro University International.
- McDonagh, K. J. (2006). Hospital governing boards: a study of their effectiveness in relation to organizational performance. *Journal of Healthcare Management / American College of Healthcare Executives*, *51*(6), 377–389.
- McEvoy, P., & Richards, D. (2006). A critical realist rationale for using a combination of quantitative and qualitative methods. *Journal of Research in Nursing*, 11(1), 66–78.
- McFadden, K. L., Henagan, S. C., & Gowen, C. R. (2009). The patient safety chain: Transformational leadership's effect on patient safety culture, initiatives, and outcomes. *Journal of Operations Management*, *27*(5), 390–404.
- McGrath, J. E. (1984). *Groups: Interaction and performance*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- McSweeney, B. (2016). *Collective cultural mind programming: escaping from the cage. Journal of Organizational Change Management* (Vol. 29).
- Meredith, W. (1993). Measurement Invariance, Factor Analysis and Factorial Invariance. *Psychometrika*, *58*(4), 525–543.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Miller-Millesen, J. L. (2003). Understanding the Behavior of Nonprofit Boards of Directors: A Theory-Based Approach. *Nonprofit and Voluntary Sector Quarterly*, 32(4), 521–547.
- Miller, G. A. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. *Psychological Review*, *63*(2), 81–97.

- Mislevy, R. J., & Bock, R. D. (1990). *BILOG 3 Item analysis and test scoring with binary logistic models*. Mooresville, IN: Scientific Software.
- Mizruchi, M. S. (1983). Who Controls Whom? An Examination of the Relation between Management and Boards of Directors in Large American Corporations. *The Academy of Management Review*, 8(3), 426–435.
- Mizruchi, M. S. (1996). What Do Interlocks Do? An Analysis, Critique, and Assessment of Research on Interlocking Directorates. *Annual Review of Sociology*, *22*(1), 271–298.
- Mollenhauer, L. (2000). Benchmarks of Excellence for the Voluntary Sector.

 Toronto: ALS Society of Canada.
- Moore, M. H. (1995). *Creating public value: strategic management in government*. Cambridge, MA: Harvard University Press.
- Mossialos, E., & Allin, S. (2005). Interest Groups and Health System Reform in Greece. *West European Politics*, *28*(2), 420–444.
- Muthin, B., & Kaplan, D. (1985). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology*, (38), 171–189.
- Myrdal, G. (1939). Monetary Equilibrium. London: W. Hodge.
- Nicholson, G. J., & Kiel, G. C. (2004). A framework for diagnosing board effectiveness. *Corporate Governance: An International Review*, *12*(4), 442–460.
- Nicholson, G. J., & Kiel, G. C. (2007). Can Directors Impact Performance? A case-based test of three theories of corporate governance. *Corporate Governance: An International Review*, *15*(4), 585–608.
- Niskanen, W. A. (1971). *Bureaucracy and representative government*. Chicago: Aldine, Atherton.

- Nooteboom, B., Berger, H., & Noorderhaven, N. G. (1997). Effects of Trust and Governance on Relational Risk. *Academy of Management Journal*, 40(2), 308–338.
- North, D. C. (1990). A Transaction Cost Theory of Politics. *Journal of Theoretical Politics*, *2*(4), 355–367.
- North, D. C. (1991). Institutions. *The Journal of Economic Perspectives*, *5*(1), 97–112.
- OECD. (2010). OECD Public Management Reviews: "Strengthening Public Administration Reform in Greece". Health Care System in Greece.
- OECD. (2011). OECD Public Governance Reviews : Greece: Review of the Central Administration.
- OECD. (2015). Focus-Health-Spending-2015. OECD Health Statistics.
- Olsson, U. (1979). Maximum likelihood estimation of the polychoric correlation coefficient. *Psychometrika*, *44*, 443–460.
- Olsson, U. H., Foss, T., Troye, S. V., & Howell, R. D. (2000). The Performance of ML, GLS, and WLS Estimation in Structural Equation Modeling Under Conditions of Misspecification and Nonnormality. *Structural Equation Modeling: A Multidisciplinary Journal*, 7(4), 557–595.
- Parboteeah, K. P., Hoegl, M., & Cullen, J. B. (2008). Managers' gender role attitudes: A country institutional profile approach. *Journal of International Business Studies*, *39*(5), 795–813.
- Parsons, T. (1951). *The Social System.* (B. Turner, Ed.). London: Routledge & Kegan Paul Ltd.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Saint Paul, MN: SAGE Publications, Inc.
- Payne, G. T., Benson, G. S., & Finegold, D. L. (2009). Corporate board attributes,

- team effectiveness and financial performance. *Journal of Management Studies*, *46*(4), 704–731.
- Pearson, K. (1901). On Lines and Planes of Closest Fit to Systems of Points in Space. *Philosophical Magazine*, *2*(11), 559–572.
- Pettersen, I. J., Nyland, K., & Kaarboe, K. (2012). Governance and the functions of boards. An empirical study of hospital boards in Norway. *Health Policy*, 107(2–3), 269–275.
- Pettigrew, A. M. (1992). On studying managerial elites. *Strategic Management Journal*, 13(2 S), 163–182.
- Pfeffer, J. (1972). Size and Composition of Corporate Boards of Directors: The Organization and its Environment. *Administrative Science Quarterly*, *17*, 218–228.
- Pfeffer, J. (1973). Size, composition and function of hospital boards of directors:

 A study of organization environment linkage. *Administrative Science Quarterly*, *18*(3), 349–364.
- Pfeffer, J., & Salancik, G. R. (1987). The External Control of Organizations. New York: Harper & Row.
- Pichet, E. (2011). Enlightened shareholder theory: Whose interests should be served by the supporters of corporate governance? *Corporate Ownership and Control*, 8(2 F), 354–362.
- Preston, C., & Coleman, A. (2000). Optimal number of response categories in rating scale: reliability, validity, discriminating power, and responding preferences. *Acta Psychologica*, *104*, 1–15.
- Putnick, D. L., & Bornstein, M. H. (2016). Measurement Invariance Conventions and Reporting: The State of the Art and Future Directions for Psychological Research. *Developmental Review*, *DR*(41), 71–90.

- Rapp, J. K., Bernardi, R. A., & Bosco, S. M. (2011). Examining the Use of Hofstede'S Uncertainty Avoidance Construct in International Research: a 25-Year Review. *International Business Research*, *4*(1).
- Raykov, T. (1997). Estimation of Composite Reliability for Congeneric Measures. *Applied Psychological Measurement*, *21*(2), 173–184.
- Raykov, T., & Marcoulides, G. (2006). *A First Course in Structural Equation Modeling* (Second ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Ritchie, W. J., & Sherlock, J. J. (2009). Adapting surveys for nonprofit research.

 Nonprofit Management and Leadership, 19(3), 387–403.
- Roberts, J., McNulty, T., & Stiles, P. (2005). Beyond agency conceptions of the work of the non-executive director: Creating accountability in the boardroom. *British Journal of Management*, *16*(SPEC. ISS.).
- Ruscio, J., & Roche, B. (2012). Determining the number of factors to retain in an exploratory factor analysis using comparison data of known factorial structure. *Psychological Assessment*, *24*(2), 282–92.
- Saltman, R. B., & Bergman, S.-E. (2005). Renovating the Commons: Swedish health care reforms in perspective. *Journal of Health Politics, Policy and Law,* 30(1–2), 253–75.
- Schuler, R. S., & Rogovsky, N. (1998). Understanding compensation practice variations across firms. The impact of national culture. *Journal of International Business Studies*, 29(1), 159–177.
- Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.). New York, NY: Taylor and Francis Group, LLC.
- Schwartz, S. H. (2014). Rethinking the Concept and Measurement of Societal Culture in Light of Empirical Findings. *Journal of Cross-Cultural Psychology*, 45(1), 5–13.

- Seashore, S. E. (1983). A Framework for an Integrated Model of Organizational Effectiveness. In K. S. Cameron & D. A. Whetten (Eds.), *Organizational Effectiveness: A Comparison of Multiple Models.* (pp. 55–70). New York: Academic Press, Inc.
- Shank, G. (2008). The SAGE Encyclopedia of Qualitative Research Methods. In *The Sage Encyclopedia of Qualitative Research Methods*. Sage Publications, Inc.
- Shapiro, A., & Ten Berge, J. M. F. (2002). Statistical inference of minimum rank factor analysis. *Psychometrika*, *67*(1), 79–94.
- Shong, N. (2010). *Pearson's versus Spearman's and Kendall's correlation coefficients for continuous data*. Master Thesis. Graduate School of Public Health, University of Pittsburgh.
- Siciliano, R. C. (2002). The Nixon Pay Board-A Public Administration Disaster. *Public Administration Review*, *62*(3).
- Simon, H. A. (1955). A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics*, *69*(1), 99–118.
- Simon, H. A. (1957). Models of man: Social and rational. New York, USA: Wiley.
- Soares, A. M., Farhangmehr, M., & Shoham, A. (2007). Hofstede's dimensions of culture in international marketing studies. *Journal of Business Research*, 60(3), 277–284.
- Sondergaard, M. (1994). Research Note: Hofstede's Consequences: A Study of Reviews, Citations and Replications. *Organization Studies*, *15*(3), 447–456.
- Sternberg, E. (1997). The Defects of Stakeholder Theory. *Corporate Governance:*An International Review, 5(1), 3–10.
- Stevens, S. S. (1946). On the Theory of Scales of Measurement. *Science*, *103*(2684), 677–680.
- Stigler, G. J. (1961). The Economics of Information. The Journal of Political

- Economy, 69(3), 213-225.
- Stigler, G. J. (1967). Imperfections in the Capital Market. *The Journal of Political Economy*, 75(3), 287–292.
- Stiglitz, J. E. (2000). The Contributions of the Economics of Information to Twentieth Century Economics. *The Quarterly Journal of Economics*, 115(4), 1441–1478.
- Stone, M. M. (1996). Competing Contexts: The Evolution of a Nonprofit Organization's Governance System in Multiple Environments.

 **Administration & Society, 28(1), 61–89.
- Sundaramurthy, C., & Lewis, M. (2003). Control and Collaboration: Paradoxes of Governance. *The Academy of Management Review*, *28*(3), 397–415.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (Fifth edit).

 Boston: Pearson.
- Taras, V., Rowney, J., & Steel, P. (2009). Half a Century of Measuring Culture: Approaches, Challenges, Limitations, and Suggestions Based on the Analysis of 121 Instruments for Quantifying Culture. *Journal of International Management*, 15(4), 357–373.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: combining qualitative and quantitative approaches*. Newbury Park CA: Sage.
- Tayeb, M. (2001). Conducting Research Across Cultures: Overcoming Drawbacks and Obstacles. *International Journal of Cross Cultural Management*, 1(1), 91–108.
- The American Association for Public Opinion Research. (2011). Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. (7th ed). AAPOR.
- Thomas, D. C. (2008). Cross-Cultural Management: Essential Concepts (2nd ed.).

- London: Thousand Oaks: Sage Publications.
- Thompson, B., & Daniel, L. G. (1996). Factor Analytic Evidence for the Construct Validity of Scores: A Historical Overview and Some Guidelines. *Educational and Psychological Measurement*, *56*(2), 197–208.
- Thompson, J. D. (1967). *Organizations in Action: Social Science Bases of Administrative Theory*. New York: McGraw-Hill.
- Timmerman, M. E., & Lorenzo-Seva, U. (2011). Dimensionality assessment of ordered polytomous items with parallel analysis. *Psychological Methods*, *16*(2), 209–220.
- Tomo, A., Hinna, A., Scarozza, D., De Nito, E., & Mangia, G. (2014). Challenging governance between internal and external actors: A resource dependence approach for studying boards dynamics and interactions. *Corporate Ownership and Control*, 12(1), 75–91.
- Triandis, H. C. (1984). Toward a Psychological Theory of Economic Growth.

 International Journal of Psychology, 19(1–4), 79–95.
- Trompenaars, F., & Hampden-Turner, C. (1998). *Riding the Waves of Culture: Understanding Cultural Diversity in Business* (2nd Editio). London: Nicholas Brealey.
- Vaara, E. (2000). Constructions of cultural differences in post-merger change processes: A sensemaking perspective on Finnish-Swedish cases. M@n@gement, 3(3), 81–110.
- Veblen, T. B. (1898). Why Is Economics Not an Evolutionary Science? *Quarterly Journal of Economics*, *12*, 373–97.
- Walt, N., & Ingley, C. (2003). Board Dynamics and the Influence of Professional Background, Gender and Ethnic Diversity of Directors. *Corporate Governance*, *11*(3), 218–234.

- Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing*, *27*(3), 236–247.
- West, B. K. (2002). NACD Blue Ribbon Commission Report on Board Evaluation:
 Improving Director Effectiveness, The Corporate Governance Advisor.
- West, W. F., & Durant, R. F. (2000). Merit, Management, and Neutral Competence: Lessons from the U.S. Merit Systems Protection Board, FY 1988-FY 1997. *Public Administration Review*, *60*(2), 111–122.
- Widmer, C. (1993). Role Conflict, Role Ambiguity, and Role Overload on Boards of Directors of Nonprofit Human Service Organizations. *Nonprofit and Voluntary Sector Quarterly*, 22(4), 339–356.
- Wiersma, W. (2000). *Research Methods in Education: An Introducation* (7th ed.). Boston: Allyn and Bacon.
- Williams, B., Brown, T., & Onsman, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Journal of Emergency Primary Health Care (JEPHC)*, 8(3), 1–13.
- Williamson, O. E. (1985). *The economic institutions of capitalism: Firms markets,* relational contracting. New York: The Free Press.
- Williamson, O. E. (1988). Corporate Finance and Corporate Governance. *Journal of Finance*, 43(3), 567–589.
- Williamson, O. E. (1999). Public and private bureaucracies: a transaction cost economics perspectives. *Journal of Law Economics and Organization*, *15*(1), 306–342.
- Williamson, O. E. (2007). Transaction Cost Economics: An Introduction. *Economics Discussion Paper*, 1–33.

- Wong, K. K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM)

 Techniques Using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.
- Zahra, S. A., & Pearce, J. A. (1989). Boards of Directors and Corporate Financial Performance: A Review and Integrative Model. *Journal of Management*, 15(2), 291–334.
- Zajac, E. J., & Westphal, J. D. (1996). Who shall succeed? How CEO/board preferences and power affect the choice of new CEOs. *Academy of Management Journal*, *39*(1), 64–90.
- Zumbo, B. D., Gadermann, A. M., & Zeisser, C. (2007). Ordinal Versions of Coefficients Alpha and Theta for Likert Rating Scales. *Journal of Modern Applied Statistical Methods*, *6*(1), 21–29.

Appendix I: Forms of Approval by Greek Health Authorities (in Greek)



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

AOHNA 30/6/2014

ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ ΓΕΝΙΚΉ Δ/ΝΣΗ ΥΠΗΡΕΣΙΩΝ ΥΓΕΙΑΣ ΔΙΕΥΘΎΝΣΗ ΑΝΑΠΤΎΞΗΣ ΜΟΝΑΔΩΝ ΥΓΕΙΑΣ ΤΜΗΜΑ ΟΡΓΑΝΩΣΗΣ ΝΟΣΟΚΟΜΕΙΩΝ Y40/014 56803

Πληρ :κ.Αποστολίδου Τηλ.: 2132161464 Προς όλες τις ΔΥΠΕ της Χώρας

ΘΕΜΑ: Έγκριση διεξαγωγής έρευνας

Συνημμένα σας διαβιβάζουμε την από 30/4/2014 επιστολή/αίτηση του κ. Λ. Παρασκευόπουλου με την οποία ζητεί να του παρασχεθεί έγκριση / άδεια στη διεξαγωγή επιστημονικής έρευνας που θα πραγματοποιηθεί στο πλαίσιο της διδακτορικής του διατριβής, με θέμα «Μέτρηση της επίδοσης των Διοικητικών Συμβουλίων κρατικών νοσοκομείων, λαμβάνοντας υπόψη διαστάσεις εθνικής κουλτούρας: Η περίπτωση της Ελλάδας».

Η Διεύθυνση Εκπαίδευσης και Έρευνας του Υπουργείου, με το υπ΄ αρ. ΔΥ2β/ΓΠ 37953/15.5.2014 έγγραφό της, μας γνωρίζει ότι δεν έχει αντίρρηση για την υλοποίηση της συγκεκριμένης έρευνας επισημαίνοντας την υποχρέωση αφενός μεν όλων των εμπλεκομένων στην τήρηση των κανόνων δεοντολογίας της έρευνας αφετέρου του ερευνητή, της κοινοποίησης των αποτελεσμάτων της έρευνας στις αρμόδιες Διευθύνσεις του Υπουργείου Υγείας και τους εμπλεκομένους φορείς.

Κατόπιν των ανωτέρω παρακαλούμε όπως ενημερώσετε τα Νοσοκομεία αρμοδιότητάς σας, εγκρίνοντας και διευκολύνοντας την έρευνα που θα πραγματοποιηθεί με τη συμπλήρωση ερωτηματολογίου που θα απευθύνεται στα μέλη των ΔΣ αυτών. Θεωρείται δεδομένη η υποχρέωση του ερευνητή της τήρησης της απόλυτης εμπιστευτικότητας των απαντήσεων.

Η ΠΡΟΙΣΤΑΜΕΝΗ ΤΗΣ ΓΕΝΙΚΗΣ Δ/ΝΣΗΣ

ΒΑΣΙΛΙΚΗ ΦΑΚΟΥΚΑΚΗ

Συνημμένα

Η αναφερόμενη αίτηση

Εσωτ.διανομη

-Y4a/3

Δ/γση Εκπαίδευσης και Έρεύνας

Κοίνοποίηση

Κ.Λεωνίδα Παρασκευόπουλο Επικ.Καθ.ΤΕΙ ΠΕΛΟΠΟΝΝΗΣΟΥ

ΣΑΛΑΜΊΝΟς 27, 24100 ΚΑΛΑΜΑΤΑ BAMAZOROYADY AHTOHIA

Ο ΠΡΟΙΣΤΑΜΕΝΟΣ ΤΗΣ ΓΡΑΜΜΑΤΕΙΑΣ -

ΘΕΩΡΗΘΗΚΕ-ΓΙΑ ΤΗΝ ΑΚΡΙΒΕΙΑ



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ ΚΑΙ ΚΟΙΝΩΝΙΚΗΣ ΑΛΛΗΛΕΓΓΥΗΣ

ΔΙΟΙΚΉΣΗ 6⁹⁶ ΥΓΕΙΟΝΟΜΙΚΉΣ ΠΕΡΙΦΕΡΕΊΑΣ ΠΕΛΟΠΟΝΝΉΣΟΥ – ΙΟΝΙΏΝ ΝΗΣΏΝ -ΗΠΕΊΡΟΥ ΚΑΙ ΔΥΤΙΚΉΣ ΕΛΛΆΔΑΣ

Πληροφορίες : 2613 - 600578 Τηλέφωνο : 2610 - 430790 ПАТРА 24 /06/2011

Αριθμ. Πρωτ.

14663

ΠΡΟΣ:

κ. Λ. Παρασκευόπουλο – Διοικητή ΚΑΦΚΑ Μεσσηνίας

Θέμα: Σχετικά με αίτημα για τη διεξαγωγή επιστημονικής έρευνας

Σχετ: - Το υπ'αριθμ. πρωτ. 797/14.06.11 Αἰτημά σος.

Σε απάντηση του παραπάνω αιτήματός σας, σας κάνουμε γνωστό ότι επιτρέπουμε να διεξάγετε την επιστημονική έρευνα με τίτλο: «Μέτρηση της Αποδοτικότητας των Διοικητικών Συμβουλίων Κρατικών Φορέων Παροχής υπηρεσιών Υγείας και Κοινωνικής Αλληλεγγύης, λαμβάνοντας υπόψη διαστάσεις εθνικής κουλτούρας» με την υποχρέωση της τήρησης των διατάξεων περί προστασίας ευαίσθητων προσωπικών δεδομένων και την παράκληση κοινοποίησης των αποτελεσμάτων της έρευνάς σας στην υπηρεσία μας.

DECEMBER PLA THE AKPIBELA

Karaaknpou Mapia

Ο ΔΙΟΙΚΗΤΗΣ

ΚΑΘΗΓΗΤΗΣ ΠΑΝΟΣ Δ. ΓΚΟΥΜΑΣ

Appendix II: Questionnaire of the Pilot Study (in Greek)

Letter to Board Members (in Greek)

Ιούλιος 2011

Αξιότιμο Μέλος του Διοικητικού Συμβουλίου του Νοσοκομείου

Προσκαλείστε να συμμετάσχετε σε επιστημονική έρευνα για τα διοικητικά συμβούλια των κρατικών νοσοκομείων της χώρας μας. Το ερωτηματολόγιο επιζητά απόψεις από όλα τα μέλη των Δ.Σ. νοσοκομείων Ε.Σ.Υ., για να ανακαλύψει την οπτική σας γωνία, όσον αφορά τη διοικητική επάρκεια και κατ' επέκταση την επίδοση των συμβουλίων. Η συμπλήρωση του ερωτηματολογίου θα απαιτήσει 15-20 λεπτά της ώρας, ενώ η συμμετοχή σας θα είναι κορυφαίας αξίας, για να προσφερθεί σημαντική γνώση στο επιστημονικό πεδίο της διακυβέρνησης νοσοκομείων.

Η πληροφόρηση που θα συγκεντρωθεί είναι εμπιστευτική. Δεν συλλέγονται πληροφορίες από τις οποίες να προκύπτει η ταυτότητα νοσοκομείου ή ερωτώμενου. Αν επιθυμείτε να πληροφορηθείτε εμπιστευτικά τη θέση του νοσοκομείου σας, σε σχέση με το μέσο όρο όλων των νοσοκομείων, δίνεται η δυνατότητα να συμπεριλάβετε την επωνυμία του νοσοκομείου, αλλά δεν θα συμπεριληφθεί στο τελικό κείμενο.

Το αποτέλεσμα της έρευνας θα είναι ένα επιστημονικά ελεγμένο εργαλείο αυτοαξιολόγησης του διοικητικού συμβουλίου, το οποίο θα σας παραχωρηθεί δωρεάν, για εθελοντική ανάπτυξη της διοικητικής του επάρκειας και επίδοσης. Το Υπουργείο Υγείας υποστηρίζει το ερευνητικό αυτό πρόγραμμα, στοχεύοντας στην ενθάρρυνση και καθοδήγηση των Δ.Σ. των νοσοκομείων προς βελτίωση της επίδοσής τους, που είναι προς το συμφέρον των ασθενών και της κοινωνίας συνολικά.

Αν έχετε κάποια παρατήρηση ή απορία, σχετικά με την έρευνα, παρακαλώ επικοινωνήστε μαζί μου.

Ευχαριστώ πολύ για τη συμμετοχή σας στην έρευνα.

Με Τιμή

Λεωνίδας Παρασκευόπουλος

Επίκουρος Καθηγητής ΤΕΙ Πελοποννήσου,

Τμήματος Διοίκησης Επιχειρήσεων και Οργανισμών,

Κατεύθυνσης Διοίκησης Μονάδων Υγείας και Πρόνοιας.

Τηλέφωνα: 694 595 1794, 272 104 5137

Ηλεκτρονική διεύθυνση: lparaskevo@teikal.gr

Ταχυδρομική διεύθυνση: ΤΕΙ ΠΕΛΟΠΟΝΝΗΣΟΥ, 241 00 Αντικάλαμος Καλαμάτας

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Μέτρηση της επίδοσης των διοικητικών συμβουλίων κρατικών νοσοκομείων, λαμβάνοντας υπόψη διαστάσεις εθνικής κουλτούρας: Η περίπτωση της Ελλάδος.

Θα αναπτυχθεί εργαλείο αυτο-αξιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου σας, βάσει της ακόλουθης κλίμακας, καταχωρώντας τον αντίστοιχο αριθμό στη δεξιά στήλη:

Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Διαφωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
1	2	3	4	5	6	7

1	Το Δ.Σ. παρακολουθεί συστηματικά τις σημαντικές εξελίξεις και τάσεις στην περίθαλψη, που δύνανται να επηρεάσουν το νοσοκομείο.			
2	Έχω συμμετάσχει σε συνεδριάσεις, όπου διερευνήσαμε τι διαφορετικό θα μπορούσαμε να έχουμε πράξει, ύστερα από μια εσφαλμένη απόφαση του Δ.Σ.			
3	Είχα συζητήσεις με άλλα μέλη του Δ.Σ., για κοινά μας ενδιαφέροντα εκτός νοσοκομείου.			
4	Έχω συμμετάσχει σε συνεδριάσεις, όπου ήταν φανερό πως κάποια μέλη του Δ.Σ. δεν είχαν ενημέρωση επί ιδιαιτέρων πτυχών των θεμάτων, επί των οποίων αποφασίζαμε.			
5	Το Δ.Σ. εξετάζει ενδελεχώς τα αρνητικά ή τους πιθανούς μη προφανείς κινδύνους, ενόψει κάθε σημαντικής απόφασης.			
6	Τα νεοεισερχόμενα μέλη στο Δ.Σ. ακολουθούν ειδική διαδικασία προσαρμογής, όπου εμβαθύνουν σε γνώσεις περί του Ε.Σ.Υ., καθώς και στην ιστορία και στις παραδόσεις του νοσοκομείου.			
7	Το Δ.Σ. συνήθως παρεμβαίνει πυροσβεστικά, παρά προετοιμάζει το μέλλον του νοσοκομείου.			
8	Το Δ.Σ. θέτει σαφείς οργανωτικές προτεραιότητες για την ερχόμενη χρονιά.			
9	Το Δ.Σ. ανακοινώνει τις αποφάσεις του σε όλους όσους επηρεάζονται απ' αυτές.			
10	Τουλάχιστον μία φορά στα δύο χρόνια, το Δ.Σ. συνέρχεται σε ειδική συνεδρίαση, αποκλειστικά για να εξετάσει την απόδοσή μας, δηλαδή το πόσο καλά τα πηγαίνουμε, ως Συμβούλιο.			
11	Πολλά από τα θέματα με τα οποία ασχολείται το Δ.Σ. φαίνονται να είναι ασύνδετα, άσχετα μεταξύ τους.			
12	Κατά τη συζήτηση καίριων θεμάτων, δεν είναι σπάνιο κάποιο μέλος να επικαλείται το τι αντιπροσωπεύει αυτό το νοσοκομείο και να το συνδέει με το υπό εξέταση ζήτημα.			
13	Ηθικές αξίες σπάνια συζητούνται ρητώς στις συνεδριάσεις του Δ.Σ.			

14	Αν το Δ.Σ. θεωρεί ότι σημαίνοντες άμεσα ενδιαφερόμενοι, εντός ή εκτός του νοσοκομείου, ενδέχεται να διαφωνήσουν με κάποια ενέργειά μας, θα	
1-7	διασφαλίσουμε να ακουστεί η θέση τους, πριν τη λήψη της απόφασης.	
	Διαφορές απόψεων στο Δ.Σ. διευθετούνται συνήθως με ψηφοφορία, παρά με	
15	εξαντλητική συζήτηση.	
	Το Δ.Σ. αναβάλει την ανάληψη δράσης, μέχρις ότου ένα ζήτημα καταστεί επείγον ή	
16	κρίσιμο.	
	Το Δ.Σ. περιοδικά βρίσκει χρόνο, για να εμβαθύνει σε σημαντικά ζητήματα, που	
17	αντιμετωπίζουν παρόμοια νοσοκομεία με το δικό μας.	
10	Μπορώ να θυμηθώ μια περίπτωση, όπου το Δ.Σ. αναγνώρισε ευθύνη, για μια	
18	απόφαση που στηρίχθηκε σε λανθασμένη πληροφόρηση.	
10	Το Δ.Σ. έχει ορίσει επιτροπές ή ομάδες εργασίας ειδικού σκοπού, από κοινού με	
19	υπαλλήλους και μέλη του Δ.Σ.	
20	Το Δ.Σ. είναι τόσο προσεκτικό στον τρόπο που καταλήγει σε συμπεράσματα, όσο	
20	και στο τι αποφασίζει.	
	Τα περισσότερα μέλη του Δ.Σ. βασίζονται σε προσωπικές εμπειρίες από τις	
21	συνεδριάσεις και σε ανεπίσημες συζητήσεις, προκειμένου να μάθουν σχετικά με	
	τον ρόλο τους και τις ευθύνες τους.	
22	Μου είναι εύκολο να αναγνωρίσω ποια είναι τα σημαντικά ζητήματα, που το Δ.Σ.	
	αντιμετωπίζει.	
	Όταν το Δ.Σ. αντιμετωπίζει ένα σημαντικό θέμα, γίνεται συχνά ανταλλαγή ιδεών	
23	και παραγωγή ολόκληρης λίστας με δημιουργικές προσεγγίσεις ή με εναλλακτικές	
	λύσεις του προβλήματος.	
	Όταν ένα νέο μέλος εισέρχεται στο Δ.Σ., διασφαλίζουμε ότι κάποιος εξ ημών	
24	λειτουργεί ως μέντωρ, στο να τον βοηθήσει να μάθει τις ειδικές διαδικασίες του	
	Συμβουλίου.	
25	Έχω συμμετάσχει σε συνεδριάσεις, όπου δόθηκε ιδιαίτερη προσοχή στις	
	ευαισθησίες της τοπικής κοινωνίας.	
26	Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., αναφορικά με την αποτελεσματικότητα	
	των προσπαθειών μας.	
27	Στις συνεδριάσεις μας διεξάγεται τουλάχιστον τόσος διάλογος ανάμεσα στα μέλη,	
	όσος και μεταξύ μελών και διευθυντικών στελεχών του νοσοκομείου.	
	Όταν τα θέματα τίθενται στα μέλη του Δ.Σ., σπανίως παρουσιάζονται με τρόπο	
28	ώστε να είναι ευκρινές πως αυτά σχετίζονται με τη συνολική στρατηγική του	
	νοσοκομείου.	
29	Έχω συμμετάσχει σε συζητήσεις με νεοεισερχόμενα μέλη, αναφορικά με το ρόλο	
	και τις ευθύνες του μέλους Δ.Σ.	
30	Το Δ.Σ. έχει λάβει σημαντική απόφαση, που πιστεύω ότι είναι ασυμβίβαστη με την	
	αποστολή του νοσοκομείου.	
31	Ο πρόεδρος του Δ.Σ. δεν λογαριάζει κόπο, προκειμένου να διασφαλίσει ότι όλα τα	
	μέλη έχουν την ίδια ενημέρωση επί των σημαντικών θεμάτων.	
32	Το Δ.Σ. έχει υιοθετήσει κάποιους ειδικούς σκοπούς για το ίδιο, διαφορετικούς από	
	τους σκοπούς που έχει για το νοσοκομείο.	
33	Το Δ.Σ., περιοδικά, ζητά να μαθαίνει για το ηθικό φρόνημα του προσωπικού του	
	νοσοκομείου.	

34	Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., σχετικά με το τι μπορούμε να διδαχθούμε από ένα λάθος που κάναμε.				
35	Οι συνεδριάσεις μας τείνουν να εστιάζουν περισσότερο σε τρέχουσες υποθέσεις, παρά στην προετοιμασία του μέλλοντος του νοσοκομείου.				
36	Τουλάχιστον μία φορά το χρόνο, το Δ.Σ. ζητά από το Διοικητή να διατυπώσει ρητά το όραμά του για το μέλλον του νοσοκομείου και τις στρατηγικές για την υλοποίηση αυτού του οράματος.				
37	Έχω παραστεί σε συνεδριάσεις του Δ.Σ., όπου οι συζητήσεις για την ιστορία και την αποστολή του νοσοκομείου λειτούργησαν καθοριστικά στη διαμόρφωση της απόφασης, σχετικά με ένα πρόβλημα.				
38	Δεν έχω λάβει ποτέ σχόλιο για την απόδοσή μου, ως μέλους του Διοικητικού Συμβουλίου.				
39	Από τις αναφορές μερικών εκ των μελών του Δ.Σ. σε συνεδριάσεις, είναι φανερό ότι δεν αντιλαμβάνονται πολύ καλά την αποστολή του νοσοκομείου.				
40	Το Δ.Σ. περιστασιακά έχει αποφύγει να αναλάβει ευθύνη, για σημαντικό θέμα του νοσοκομείου.				
41	Πριν από τη λήψη απόφασης επί σημαντικού θέματος, το Δ.Σ. συνήθως ζητά να πληροφορηθεί σχετικά, από όσους πιθανόν να θίγονται από την απόφαση.				
42	Έχουν υπάρξει περιπτώσεις, όπου το Δ.Σ. ενήργησε ασύμβατα με τις βαθύτερες αξίες του νοσοκομείου.				
43	Το Δ.Σ. συχνά συζητά προς τα που θα πρέπει να προσανατολίζεται το νοσοκομείο σε πέντε ή και περισσότερα χρόνια, στο μέλλον.				
44	Στα νέα μέλη δίνεται μια αναλυτική επεξήγηση της αποστολής του νοσοκομείου, όταν εισέρχονται στο Δ.Σ.				
45	Το Δ.Σ. δεν διαθέτει πιστώσεις του νοσοκομείου για εκπαίδευση των μελών του και ανάπτυξη του Συμβουλίου.				
46	Οι εισηγήσεις του Διοικητή στις συνεδριάσεις γίνονται συνήθως αποδεκτές χωρίς πολλές ερωτήσεις.				
47	Κατά καιρούς, το Δ.Σ. έχει φανεί απληροφόρητο για τις συνέπειες των αποφάσεών του στην τοπική κοινωνία.				
48	Εντός του περασμένου έτους, το Δ.Σ. επανεξέτασε τις στρατηγικές του νοσοκομείου, για την επίτευξη των μακροπρόθεσμων στόχων του.				
49	Το Δ.Σ. ανασκοπεί κριτικά την αποστολή του νοσοκομείου, τουλάχιστον μια φορά στα πέντε χρόνια.				
50	Το Δ.Σ. έχει προβεί σε αναλυτική εξέταση των ρόλων και των ευθυνών του.				
51	Μπορώ να εκφράσω τη γνώμη μου επί καίριων ζητημάτων, χωρίς το φόβο ότι θα περιθωριοποιηθώ από κάποια μέλη του Δ.Σ.				
52	Το Δ.Σ. προσπαθεί να αποφεύγει ζητήματα που είναι αμφιλεγόμενα και περίπλοκα.				
53	Ο Διοικητής σπάνια εκθέτει στο Δ.Σ. τις ευαισθησίες αυτών, τους οποίους το νοσοκομείο εξυπηρετεί.				
54	Έχω παρευρεθεί σε συνεδριάσεις του Δ.Σ., όπου η συζήτηση επικεντρώθηκε στον εντοπισμό ή στην αντιμετώπιση των αδυναμιών του νοσοκομείου.				
55	Ένας από τους λόγους που είμαι μέλος του Δ.Σ., ήταν ότι πιστεύω ακράδαντα στις αξίες αυτού του νοσοκομείου.				

Δ.Σ. δεν δίνει ιδιαίτερη σημασία σε εξαιρετικά γεγονότα στις ζωές των μελών
).
Δ.Σ. συζητά γεγονότα και τάσεις του ευρύτερου περιβάλλοντος, που μπορεί να
νιστούν ιδιαίτερες ευκαιρίες για το νοσοκομείο.
ώην μέλη του Δ.Σ. έχουν συμμετάσχει σε εκδηλώσεις, ειδικά για να
ικοινωνήσουν στα νέα μέλη την ιστορία και τις αξίες του νοσοκομείου.
Δ.Σ. παρέχει βιογραφική πληροφόρηση, που βοηθά τα μέλη του να γνωριστούν
λύτερα μεταξύ τους.
Δ.Σ. αναζητά πληροφόρηση και συμβουλές από διοικήσεις ομοειδών
σοκομείων.
Δ.Σ. λαμβάνει ρητά υπόψη τις μακροπρόθεσμες προτεραιότητες του
σοκομείου, καθόσον χειρίζεται τις τρέχουσες υποθέσεις.
Δ.Σ. κατανοεί το κανονιστικό πλαίσιο, για κάθε ειδικότητα και κατηγορία
γαζομένου στο νοσοκομείο.
λη του Δ.Σ. σπανίως παρευρίσκονται σε κοινωνικές εκδηλώσεις, που
ργανώνει το νοσοκομείο.
ρισσότερο από το μισό χρόνο κάθε συνεδρίασης του Δ.Σ., αφιερώνεται στην
ταση ζητημάτων σημαντικών για το μακροπρόθεσμο μέλλον του νοσοκομείου.

Appendix III: Data analyses methods

AMOS CFA model fit indices used in the research

Acronym	Explanation	Value range	Polarity	Critical values / Threshold
DF	Degrees of freedom	[0; ∞]	The larger, the better	
CMIN (Chi-square)	Minimum of discrepancy function		The smaller, the better	
P	Probability of CMIN (or larger) assuming the default model; probability of an exact fit.			p>0.05
CMIN/DF			Large value = poor fit	Good fit: ~ 1 Acceptable fit :[1-2], Sometimes: [1-3] or [1-5]
RMSEA	= SQRT(F ₀ /df) with LO90 and HI90			RMSEA=0: exact/good fit RMSEA<0.05: close fit RMSEA>0.08:mediocre fit RMSEA>.10: poor fit
PCLOSE	p-value for H ₀ : RMSEA<=0.05			PCLOSE<=0.05 No fit PCLOSE> 0.05: Good fit
TLI	Tucker-Lewis Index	[0;1]	0=poor fit close to 1=very good fit	
CFI	Comparative Fit Index	[0;1]	0=poor fit close to 1=very good fit	CFI>0.95 great GFI>0.80 traditional GFI>0.80 sometimes permissible
GFI	Goodness of fit index	[0;1]	0=poor fit 1=exact fit	GFI>0.90
AGFI	Adjusted Goodness of Fit Index	[-∞;1]	-∞ = poor fit 1=exact fit	AGFI>0.80
RMR	Root Mean Square Residual		small RMR~ good fit	RMR=0: exact fit

Sources: Arbuckle, 2012; Hair et al., 2010.

Hofstede's cultural Indices used in the research

Formulas for index calculation (Hofstede, 1994a)

'All content questions were scored on five-point scales (1-2-3-4-5). Index scores are derived from the mean scores on the questions for national samples of respondents. As an example, a group of 57 respondents produces the following scores on question 04 (security of employment):

```
10 x answer 1
24 x answer 2
14 x answer 3
5 x answer 4
1 x answer 5
3 x invalid answer*
```

The calculation goes as follows:

```
10 x 1 = 10

24 x 2 = 48

14 x 3 = 42

5 x 4 = 20

1 x 5 = 5

Total 54 cases = 125
```

Mean score: 125 / 54 = 2.31 **

** Mean scores on five-point scales were calculated to two decimals. Modecimals are unrealistic because survey data are imprecise measures.'

In this research, invalid answers were excluded from the calculation (treated as missing).

Uncertainty Avoidance Index (UA)

'Uncertainty Avoidance is defined as the extent to which the members of institutions and organisations within a society feel threatened by uncertain, unknown, ambiguous, or unstructured situations.

The index formula is

$$UAI = +25m(13) +20m(16) -50m(18) -15m(19) +120$$

in which m(13) is the mean score for question 13, etc.

The index normally has a value between 0 (weak Uncertainty Avoidance) and 100 (strong Uncertainty Avoidance), but values below 0 and above 100 are technically possible.'

^{*}Invalid answers are blanks (no answer) or multiples (more than one answer).

** Mean scores on five-point scales were calculated to two decimals. More

In this research, the above index formula was applied on the respondent level, and then the sample was divided in High UA group with respondents of scores over 50 and in Low UA group with respondents of scores under 50.

<u>Individualism Index (I/C)</u>

'Individualism is the opposite of Collectivism. Individualism stands for a society in which the ties between individuals are loose: a person is expected to look after himself or herself and his or her immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in-groups, which continue to protect them throughout their lifetime in exchange for unquestioning loyalty.

The index formula is

IDV = -50m(01) + 30m(02) + 20m(04) - 25m(08) + 130 in which m(01) is the mean score for question 01, etc.

The index normally has a value between 0 (strongly collectivist) and 100 (strongly individualist), but values below 0 and above 100 are technically possible.'

In this research, the above index formula was applied on the respondent level, and then the sample was divided in High I/C group (Individualists) with respondents of scores over 50 and in Low I/C group (Collectivists) with respondents of scores under 50.

Power Distance Index (PD)

'Power Distance is defined as the extent to which the less powerful members of institutions and organisations within a society expect and accept that power is distributed unequally.

The index formula is

PDI = -35m(03) + 35m(06) + 25m(14) - 20m(17) - 20 in which m(03) is the mean score for question 03, etc.

The index normally has a value between 0 (small Power Distance) and 100 (large Power Distance), but values below 0 and above 100 are technically possible.'

In this research, the above index formula was applied on the respondent level, and then the sample was divided in High PD group with respondents of scores over 50 and in Low PD group with respondents of scores under 50.

Masculinity Index (M/F)

'Masculinity is the opposite of Femininity. Masculinity stands for a society in which emotional gender roles are clearly distinct: men are supposed to be assertive,

tough, and focused on material success; women are supposed to be more modest, tender, and concerned with the quality of life. Femininity stands for a society in which emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.

The index formula is

MAS = +60m(05) - 20m(07) + 20m(15) - 70m(20) + 100 in which m(05) is the mean score for question 05, etc.

The index normally has a value between 0 (strongly feminine) and 100 (strongly masculine), but values below 0 and above 100 are technically possible.'

In this research, the above index formula was applied on the respondent level, and then the sample was divided in High M/F group (Feminine type) with respondents of scores over 50 and in Low M/F group (Masculine type) with respondents of scores under 50.

Appendix IV: The datasets

Table IV.1: Polychoric correlation matrix of the 12 Contextual Competency statements

rowtype_	varname_	C6	C12	C13N	C30N	C37	C39N	C42N	C44	C49	C55	C58	C62
n		224	224	224	224	224	224	224	224	224	224	224	224
corr	C6	1											
corr	C12	0.071	1										
corr	C13N	0.063	0.304	1									
corr	C30N	-0.016	0.163	0.359	1								
corr	C37	0.079	0.237	0.273	0.255	1							
corr	C39N	0.145	0.199	0.299	0.346	0.229	1						
corr	C42N	-0.037	0.070	0.368	0.566	0.147	0.291	1					
corr	C44	0.183	0.124	0.203	0.238	0.248	0.202	0.189	1				
corr	C49	0.179	0.135	0.111	0.219	0.249	0.171	0.205	0.210	1			
corr	C55	0.210	0.280	0.313	0.267	0.237	0.296	0.384	0.253	0.320	1		
corr	C58	0.175	0.105	0.159	0.015	0.171	0.116	0.064	0.266	0.195	0.230	1	
corr	C62	0.187	0.239	0.322	0.425	0.282	0.287	0.449	0.326	0.277	0.478	0.256	1
stddev		2.038	2.278	2.360	2.389	2.304	2.345	2.390	2.265	2.196	2.504	2.140	2.362
mean		4.152	5.188	5.571	5.705	5.308	5.5	5.714	5.129	4.821	6.268	4.58	5.58

Table IV.2: Polychoric correlation matrix of the 12 Contextual Competency variables in EFA

rowtype	varname	C6	C12	C13N	C30N	C37	C39N	C42N	C44	C49	C55	C58	C62
n		112	112	112	112	112	112	112	112	112	112	112	112
corr	C6	1											
corr	C12	0.142	1										
corr	C13N	0.157	0.32	1									
corr	C30N	0.042	0.106	0.398	1								
corr	C37	0.038	0.207	0.301	0.204	1							
corr	C39N	0.062	0.204	0.258	0.387	0.214	1						
corr	C42N	0	-0.009	0.356	0.62	0.034	0.297	1					
corr	C44	0.187	0.003	0.197	0.142	0.141	0.218	0.21	1				
corr	C49	0.179	0.159	0.148	0.238	0.161	0.159	0.256	0.24	1			
corr	C55	0.172	0.254	0.334	0.305	0.164	0.32	0.359	0.191	0.317	1		
corr	C58	0.114	0.075	0.072	-0.034	0.077	0.071	0.065	0.09	0.061	0.132	1	
corr	C62	0.099	0.134	0.399	0.484	0.184	0.293	0.526	0.276	0.231	0.409	0.132	1
stddev		1.438	1.279	1.452	1.417	1.384	1.043	1.587	1.126	1.402	1.142	1.257	1.298
mean		4.134	5.08	5.643	5.625	5.232	5.454	5.634	5.027	4.723	6.223	4.348	5.554

Table IV.3: Polychoric correlation matrix of the 6 Contextual Competency variables in CFA

rowtype	varname	C13N	C30N	C39N	C42N	C55	C62
n		112	112	112	112	112	112
corr	C13N	1					
corr	C30N	0.321	1				
corr	C39N	0.335	0.288	1			
corr	C42N	0.38	0.451	0.292	1		
corr	C55	0.341	0.311	0.308	0.442	1	
corr	C62	0.246	0.331	0.275	0.333	0.515	1
stddev		1.452	1.417	1.043	1.587	1.142	1.298
mean		5.5	5.786	5.455	5.795	6.313	5.607

Table IV.4: Polychoric correlation matrix of the 5 CC variables

rowtype_	varname_	C13N	C30N	C42N	C55	C62
n		224	224	224	224	224
corr	C13N	1				
corr	C30N	0.359	1			
corr	C42N	0.368	0.566	1		
corr	C55	0.313	0.267	0.384	1	
corr	C62	0.322	0.425	0.449	0.478	1
stddev		2.360	2.389	2.390	2.504	2.362
mean		5.571	5.705	5.714	6.268	5.58

Table IV.5: Polychoric correlation matrix of the 5 Contextual Competency variables of the High Uncertainty Avoidance Group

rowtype	varname	C13N	C30N	C39N	C42N	C55	C62
n		138	138	138	138	138	138
corr	C13N	1					
corr	C30N	0.246	1				
corr	C39N	0.136	0.212	1			
corr	C42N	0.136	0.465	0.135	1		
corr	C55	0.18	0.081	0.184	0.255	1	
corr	C62	0.123	0.269	0.158	0.364	0.318	1
stddev		1.438	1.770	1.032	1.730	1.380	1.477
mean		5.072	5.203	5.188	5.188	5.964	5.145

Table IV.6: Polychoric correlation matrix of the 5 Contextual Competency variables of the Low Uncertainty Avoidance Group

rowtype	varname	C13N	C30N	C39N	C42N	C55	C62
n		86	86	86	86	86	86
corr	C13N	1					
corr	C30N	0.325	1				
corr	C39N	0.318	0.395	1			
corr	C42N	0.476	0.566	0.347	1		
corr	C55	0.413	0.554	0.391	0.503	1	
corr	C62	0.347	0.485	0.283	0.355	0.579	1
stddev		0.877	0.624	0.807	1.074	0.569	0.640
mean		6.372	6.512	6.00	6.558	6.756	6.279

Table IV.7: Polychoric correlation matrix of the 8 Political Competency statements

rowtype_	varname_	P9	P14	P19	P25	P33	P41	P47N	P53N
n		224	224	224	224	224	224	224	224
corr	P9	1							
corr	P14	0.166	1						
corr	P19	0.277	0.23	1					
corr	P25	0.269	0.295	0.347	1				
corr	P33	0.033	0.172	0.132	0.266	1			
corr	P41	0.198	0.209	0.334	0.326	0.226	1		
corr	P47N	0.119	0.142	0.15	0.158	0.154	0.133	1	
corr	P53N	0.065	0.103	0.092	0.211	0.134	0.121	0.383	1
stddev		2.316	2.279	2.275	2.388	2.132	2.301	2.322	2.320
mean		5.366	5.192	5.174	5.701	4.545	5.295	5.393	5.384

Table IV.8: Polychoric correlation matrix of the 8 Political Competency variables in EFA

rowtype	varname	P9	P14	P19	P25	P33	P41	P47N	P53N
n		112	112	112	112	112	112	112	112
corr	P9	1							
corr	P14	0.183	1						
corr	P19	0.266	0.325	1					
corr	P25	0.277	0.266	0.297	1				
corr	P33	0	0.164	0.041	0.136	1			
corr	P41	0.169	0.114	0.303	0.239	0.135	1		
corr	P47N	0.153	0.138	0.102	0.228	0.159	0.14	1	
corr	P53N	0	0.102	0.074	0.2	0.145	0.158	0.394	1
stddev		1.348	1.554	1.701	1.161	1.856	1.488	1.672	1.780
mean		5.429	5.152	5	5.75	4.482	5.268	5.339	5.33

Table IV.9: Polychoric correlation matrix of the 7 Political Competency variables in CFA

rowtype	varname	P9	P14	P19	P25	P41	P47N	P53N
n		112	112	112	112	112	112	112
corr	P9	1						
corr	P14	0.165	1					
corr	P19	0.282	0.119	1				
corr	P25	0.268	0.307	0.374	1			
corr	P41	0.236	0.293	0.327	0.387	1		
corr	P47N	0.125	0.163	0.223	0.144	0.158	1	
corr	P53N	0.215	0.131	0.147	0.249	0.124	0.339	1
stddev		1.133	1.575	1.468	1.374	1.483	1.663	1.720
mean		5.304	5.232	5.348	5.652	5.321	5.446	5.438

Table IV.10: Polychoric correlation matrix of the 7 Political Competency variables of the Individualistic Group

rowtype_	varname_	Р9	P14	P19	P25	P41	P47N	P53N
n		156	156	156	156	156	156	156
corr	P9	1						
corr	P14	0.104	1					
corr	P19	0.227	0.136	1				
corr	P25	0.244	0.166	0.263	1			
corr	P41	0.136	0.089	0.301	0.235	1		
corr	P47N	0.079	-0.02	0.091	-0.013	-0.022	1	
corr	P53N	-0.23	-0.197	-0.165	-0.354	-0.236	-0.107	1
stddev		1.341	1.656	1.726	1.345	1.585	1.737	1.819
mean		5.218	4.833	4.878	5.429	4.987	4.942	2.865

Table IV.11: Polychoric correlation matrix of the 7 Political Competency variables of the Collectivistic Group

rowtype_	varname_	Р9	P14	P19	P25	P41	P47N	P53N
n		68	68	68	68	68	68	68
corr	P9	1						
corr	P14	0.254	1					
corr	P19	0.331	0.309	1				
corr	P25	0.288	0.393	0.397	1			
corr	P41	0.282	0.307	0.266	0.357	1		
corr	P47N	0.2	0.279	0.167	0.349	0.304	1	
corr	P53N	-0.084	-0.149	-0.022	-0.257	-0.26	-0.455	1
stddev		0.908	0.899	0.959	0.794	0.891	0.846	1.429
mean		5.706	6.015	5.853	6.324	6	6.426	2.044

Table IV.12: Polychoric correlation matrix of the 12 Strategic Competency statements

rowtype_	varname_	S7N	S8	S16N	S35N	S36	S40N	S43	S48	S54	S57	S61	S64
n		224	224	224	224	224	224	224	224	224	224	224	224
corr	S7N	1											
corr	S8	0.039	1										
corr	S16N	0.344	-0.018	1									
corr	S35N	0.212	0.146	0.2	1								
corr	S36	0.076	0.382	0.161	0.216	1							
corr	S40N	0.296	0.076	0.289	0.217	0.107	1						
corr	S43	-0.013	0.277	0.034	0.054	0.331	0.136	1					
corr	S48	0.093	0.458	0.032	0.22	0.411	0.162	0.382	1				
corr	S54	0.112	0.415	0.106	0.169	0.302	0.067	0.231	0.378	1			
corr	S57	0.073	0.414	0.011	0.102	0.378	0.068	0.176	0.393	0.436	1		
corr	S61	0.134	0.506	0.05	0.213	0.437	0.196	0.311	0.524	0.46	0.576	1	
corr	S64	-0.006	0.366	0.027	0.091	0.334	0.133	0.27	0.398	0.289	0.356	0.458	1
stddev		1.649	1.580	1.780	1.556	1.539	1.709	1.510	1.617	1.297	1.366	1.471	1.494
mean		4.875	5.045	5.152	4.857	4.705	5.67	4.795	4.67	5.545	5.554	5.759	4.366

Table IV.13: Polychoric correlation matrix of the 12 Strategic Competency variables in EFA

rowtype	varname	S7N	S8	S16N	S35N	S36	S40N	S43	S48	S54	S57	S61	S64
n		112	112	112	112	112	112	112	112	112	112	112	112
corr	S7N	1											
corr	S8	0.087	1										
corr	S16N	0.204	-0.03	1									
corr	S35N	0.19	0.251	0.172	1								
corr	S36	0.065	0.316	0.062	0.127	1							
corr	S40N	-0.089	-0.34	-0.11	-0.15	-0.3	1						
corr	S43	-0.025	0.259	0.011	0.005	0.264	-0.21	1					
corr	S48	0.116	0.41	-0.003	0.232	0.341	-0.37	0.332	1				
corr	S54	0.178	0.396	0.065	0.194	0.299	-0.27	0.18	0.373	1			
corr	S57	0.218	0.367	0.074	0.198	0.36	-0.43	0.216	0.461	0.473	1		
corr	S61	0.226	0.486	0.046	0.246	0.346	-0.53	0.311	0.457	0.497	0.598	1	
corr	S64	0.06	0.299	-0.02	0.112	0.3	-0.28	0.251	0.392	0.313	0.318	0.384	1
stddev		1.734	1.538	1.654	1.442	1.590	1.721	1.571	1.718	1.286	1.433	1.523	1.509
mean		4.67	5.214	5.277	5.027	4.661	2.536	4.616	4.321	5.589	5.482	5.554	4.25

Table IV.14: Polychoric correlation matrix of the 8 Strategic Competency variables in CFA

rowtype	varname	S8	S36	S40N	S48	S54	S57	S61	S64
n		112	112	112	112	112	112	112	112
corr	S8	1							
corr	S36	0.375	1						
corr	S40N	0.161	0.19	1					
corr	S48	0.416	0.391	0.219	1				
corr	S54	0.372	0.26	0.058	0.298	1			
corr	S57	0.396	0.31	0.03	0.225	0.347	1		
corr	S61	0.453	0.439	0.21	0.467	0.38	0.467	1	
corr	S64	0.347	0.268	0.103	0.292	0.189	0.29	0.405	1
stddev		1.617	1.486	1.611	1.490	1.308	1.295	1.410	1.476
mean		5.045	4.705	5.67	4.67	5.545	5.554	5.759	4.366

Table IV.15: Polychoric correlation matrix of the 10 Analytical Competency statements

rowtype_	varname_	A1	A4N	A5	A11N	A22	A23	A28N	A46N	A52N	A60
n		224	224	224	224	224	224	224	224	224	224
corr	A1	1									
corr	A4N	0.157	1								
corr	A5	0.517	0.151	1							
corr	A11N	0.239	0.212	0.132	1						
corr	A22	0.377	0.103	0.389	0.102	1					
corr	A23	0.515	0.15	0.484	0.093	0.402	1				
corr	A28N	0.242	0.221	0.211	0.27	0.112	0.204	1			
corr	A46N	0.196	0.182	0.168	0.129	0.064	0.112	0.213	1		
corr	A52N	0.145	0.178	0.253	0.095	0.121	0.177	0.189	0.171	1	
corr	A60	0.497	0.124	0.398	0.219	0.233	0.454	0.287	0.152	0.244	1
stddev		1.481	0.988	1.283	1.559	1.187	1.274	1.812	1.596	1.343	1.468
mean		5.567	5.42	5.808	5.049	6.027	5.638	4.964	4.955	5.933	5.277

Table IV.16: Polychoric correlation matrix of the 9 Analytical Competency variables in EFA

rowtype_	varname_	A1	A5	A11N	A22	A23	A28N	A46N	A52N	A60
		112	112	112	112	112	112	112	112	112
corr	A1	1								
corr	A5	0.508	1							
corr	A11N	0.321	0.27	1						
corr	A22	0.348	0.462	0.146	1					
corr	A23	0.501	0.516	0.187	0.49	1				
corr	A28N	0.365	0.307	0.26	0.201	0.331	1			
corr	A46N	0.137	0.1	0.062	0.075	0.121	0.105	1		
corr	A52N	0.208	0.306	0.134	0.211	0.229	0.163	0.072	1	
corr	A60	0.487	0.389	0.262	0.334	0.366	0.328	0.031	0.24	1
stddev		2.360	2.415	2.234	2.459	2.364	2.216	2.163	2.457	2.270
mean		5.571	5.83	4.991	6.045	5.589	4.911	4.679	6.036	5.152

Table IV.17: Polychoric correlation matrix of the 5 Analytical Competency variables in CFA

rowtype_	varname_	A1	A5	A22	A23	A60
n		112	112	112	112	112
corr	A1	1				
corr	A5	0.463	1			
corr	A22	0.408	0.341	1		
corr	A23	0.457	0.404	0.307	1	
corr	A60	0.429	0.367	0.163	0.479	1
stddev		1.387	1.228	1.114	1.180	1.372
mean		5.563	5.786	6.009	5.688	5.402

Table IV.18: Polychoric correlation matrix of the 5 Analytical Competency variables of the High PD Group

rowtype_	varname_	A1	A5	A22	A23	A60
n		53	53	53	53	53
corr	A1	1				
corr	A5	0.133	1			
corr	A22	0.135	0.153	1		
corr	A23	0.329	0.14	0.123	1	
corr	A60	0.35	0.174	0.038	0.28	1
stddev		1.729	1.484	1.742	1.741	1.738
mean		3.906	4.717	5.415	4.396	4

Table IV.19: Polychoric correlation matrix of the 5 Analytical Competency variables of the Low PD Group

rowtype_	varname_	A1	A5	A22	A23	A60
n		171	171	171	171	171
corr	A1	1				
corr	A5	0.462	1			
corr	A22	0.394	0.428	1		
corr	A23	0.362	0.473	0.464	1	
corr	A60	0.315	0.309	0.241	0.337	1
stddev		0.908	0.995	0.868	0.749	1.107
mean		6.082	6.146	6.216	6.023	5.673

Table IV.20: Polychoric correlation matrix of the 10 Interpersonal Competency statements

rowtype	varname	13	I15N	120	127	I31	132	I51	156N	159	163N
n		112	112	112	112	112	112	112	112	112	112
corr	13	1									
corr	I15N	0.049	1								
corr	120	0.258	0.114	1							
corr	127	0.327	0.098	0.485	1						
corr	I31	0.178	0.141	0.633	0.408	1					
corr	132	-0.202	-0.138	-0.271	-0.304	-0.323	1				
corr	I51	0.269	0.203	0.444	0.366	0.408	-0.355	1			
corr	156N	0.02	0.352	0.074	0.006	0.139	-0.072	0.173	1		
corr	159	0.276	0.077	0.261	0.362	0.321	-0.079	0.184	0.05	1	
corr	163N	0.047	0.201	0.063	0.142	0.079	-0.025	0.107	0.436	0.088	1
stddev		1.852	1.454	1.365	1.420	1.408	1.418	1.325	1.854	1.809	1.620
mean		5.125	5.246	5.759	5.536	5.75	2.058	6.143	5.33	4.263	5.089

Table IV.21: Polychoric correlation matrix of the 10 Interpersonal Competency variables in EFA

rowtype	varname	13	115N	120	127	131	132	151	156N	159	163N
n		112	112	112	112	112	112	112	112	112	112
corr	13	1									
corr	115N	0.226	1								
corr	120	0.171	0.374	1							
corr	127	0.191	0.628	0.384	1						
corr	I31	-0.245	-0.34	-0.261	-0.338	1					
corr	132	0.302	0.4	0.38	0.425	-0.448	1				
corr	I51	-0.163	-0.318	-0.232	-0.366	0.27	-0.316	1			
corr	156N	0.291	0.039	0.047	0.098	-0.204	0.152	-0.048	1		
corr	159	0.073	0.234	0.32	0.292	-0.067	0.079	-0.275	0.037	1	
corr	163N	0.116	0.048	0.154	0.013	-0.108	0.102	-0.99	0.305	0.045	1
stddev		1.391	1.510	1.336	1.489	1.292	1.396	1.838	1.820	1.884	1.582
mean		5.33	5.652	5.491	5.723	2.027	6.152	2.679	5.411	4.223	5.125

Table IV.22: Polychoric correlation matrix of the 10 Interpersonal Competency variables in CFA

rowtype	varname	13	I15N	120	127	131	132	151	156N	159	163N
n		112	112	112	112	112	112	112	112	112	112
corr	13	1									
corr	I15N	0.147	1								
corr	120	0.292	0.058	1							
corr	127	0.371	0.083	0.553	1						
corr	I31	0.223	0.134	0.559	0.424	1					
corr	132	-0.276	-0.095	-0.262	-0.359	-0.346	1				
corr	I51	0.34	0.153	0.494	0.371	0.409	-0.328	1			
corr	156N	0.09	0.374	0.187	0.052	0.237	-0.036	0.261	1		
corr	159	0.325	0.077	0.226	0.319	0.272	-0.085	0.251	0.069	1	
corr	163N	0.08	0.274	0.137	0.158	0.192	-0.029	0.17	0.489	0.116	1
stddev		1.789	1.509	1.192	1.498	1.321	1.533	1.250	1.883	1.731	1.657
mean		5.321	5.161	5.866	5.58	5.777	2.089	6.134	5.25	4.304	5.054

Table IV.23: Polychoric correlation matrix of the 10 Interpersonal Competency variables of the Masculine type Group

rowtype	varname	13	I15N	120	127	I31	132	151	156N	159	163N
n		112	112	112	112	112	112	112	112	112	112
corr	13	1									
corr	115N	-0.114	1								
corr	120	0.143	-0.114	1							
corr	127	0.261	-0.138	0.325	1						
corr	I31	0.045	-0.097	0.44	0.194	1					
corr	132	-0.255	-0.018	-0.356	-0.307	-0.365	1				
corr	151	0.281	0.056	0.382	0.309	0.333	-0.471	1			
corr	156N	-0.16	0.167	-0.24	-0.307	-0.085	0.049	-0.015	1		
corr	159	0.197	-0.206	0.071	0.227	0.135	-0.008	0.077	-0.273	1	
corr	163N	-0.096	0.097	-0.142	-0.06	-0.164	-0.023	-0.119	0.216	-0.183	1
stddev		2.009	1.494	1.599	1.652	1.689	1.246	1.529	1.941	1.835	1.725
mean		4.527	4.688	5.241	5.054	5.196	1.982	5.768	4.482	3.411	4.339

Table IV.24: Polychoric correlation matrix of the 10 Interpersonal Competency variables of the Feminine type Group

rowtype	varname	13	I15N	120	127	131	132	151	156N	159	163N
n		112	112	112	112	112	112	112	112	112	112
corr	13	1									
corr	115N	0.068	1								
corr	120	0.274	0.2	1							
corr	127	0.275	0.221	0.529	1						
corr	131	0.233	0.238	0.685	0.534	1					
corr	132	-0.195	-0.299	-2.274	-0.349	-0.357	1				
corr	I51	0.142	0.244	0.437	0.349	0.434	-0.327	1			
corr	156N	0.064	0.319	0.263	0.246	0.227	-0.305	0.286	1		
corr	159	0.155	0.101	0.206	0.288	0.264	-0.164	0.098	0.082	1	
corr	163N	0.036	0.076	0.123	0.231	0.181	-0.102	0.258	0.425	0.096	1
stddev		1.453	1.171	0.793	0.916	0.705	1.567	0.945	1.290	1.315	1.074
mean		5.723	5.804	6.277	6.018	6.304	2.134	6.518	6.179	5.116	5.839

Table IV.25: Polychoric correlation matrix of the 12 Educational Competency variables in EFA

rowtype	varname	D2	D10	D17	D18	D21N	D24	D26	D29	D34	D38N	D45N	D50
n		112	112	112	112	112	112	112	112	112	112	112	112
corr	D2	1											
corr	D10	0.033	1										
corr	D17	0.184	0.134	1									
corr	D18	0.167	0.136	0.081	1								
corr	D21N	-0.05	0.164	-0.071	0.025	1							
corr	D24	0.225	0.14	0.363	0.067	-0.02	1						
corr	D26	0.243	0.023	0.268	0.057	0.055	0.285	1					
corr	D29	0.159	0.095	0.385	0.127	0.121	0.355	0.407	1				
corr	D34	0.269	0.078	0.232	0.034	0.073	0.165	0.294	0.319	1			
corr	D38N	0.104	0.137	0.208	0.033	0.13	0.151	0.098	0.081	0.146	1		
corr	D45N	-0.08	0.042	-0.117	-0.01	0.224	-0.03	0.103	0.032	-0.05	-0.04	1	
corr	D50	0.222	0.116	0.29	0.02	0.166	0.384	0.464	0.482	0.272	0.104	0.078	1
stddev		1.752	1.234	1.595	1.594	1.697	1.682	1.440	1.706	1.469	1.690	1.725	1.725
mean		4.857	3.723	5.598	4.384	4.393	4.402	5.08	4.491	4.554	4.473	3.571	4.813

Table IV.26: Polychoric correlation matrix of the 12 Educational Competency variables in CFA

rowtype	varname	D2	D10	D17	D18	D21N	D24	D26	D29	D34	D38N	D45N	D50
n		112	112	112	112	112	112	112	112	112	112	112	112
corr	D2	1											
corr	D10	0.074	1										
corr	D17	0.338	0.147	1									
corr	D18	0.235	0.07	0.18	1								
corr	D21N	0.097	0.032	0.015	0.089	1							
corr	D24	0.126	0.121	0.251	0.162	0.173	1						
corr	D26	0.343	0.102	0.409	0.191	0.09	0.326	1					
corr	D29	0.357	0.018	0.317	0.138	0.072	0.3	0.441	1				
corr	D34	0.412	0.104	0.301	0.244	0.114	0.204	0.324	0.334	1			
corr	D38N	0.055	0.13	-0.021	0.094	0.24	0.148	0.128	0.013	0.098	1		
corr	D45N	0.145	-0.023	-0.039	0.061	0.21	0.009	-0.029	0.034	-0.03	0.076	1	
corr	D50	0.319	0.017	0.41	0.152	0.076	0.335	0.49	0.332	0.447	0.085	-0.08	1
stddev		1.719	1.273	1.518	1.838	1.607	1.545	1.447	1.593	1.473	1.582	1.675	1.650
mean		4.813	3.777	4.602	4.321	4.589	4.652	5.152	4.795	4.813	4.375	3.688	5.027

Table IV.27: Runs Test, 84 variables (SPSS)

	Test	Cases < Test	Cases >=	Total Cases	Number of	Z	Asymp. Sig.
	Value ^a	Value	Test Value		Runs		(2-tailed)
A1	6	82	142	224	104	139	.889
A4	3	101	123	224	108	530	.596
A5	6	69	155	224	91	863	.388
A11	2	32	192	224	55	235	.814
A22	6	40	184	224	63	851	.395
A23	6	75	149	224	94	-1.019	.308
A28	2	44	180	224	69	577	.564
A46	2	27	197	224	49	.162	.872
A52	2	93	131	224	104	797	.426
A60	6	92	132	224	100	-1.305	.192
PDI3	2	100	124	224	109	368	.713
PDI6	2	73	151	224	103	.546	.585

PDI14	3	37	187	224	45	-4.332	.000
PDI17	2	61	163	224	85	808	.419
C6	4	75	149	224	89	-1.771	.076
C12	5	53	171	224	76	-1.099	.272
C13	2	64	160	224	88	727	.467
C30	2	87	137	224	107	059	.953
C37	6	103	121	224	118	.772	.440
C39	2	37	187	224	59	920	.357
C42	2	99	125	224	102	-1.289	.198
C44	5	63	161	224	81	-1.751	.080
C49	5	88	136	224	97	-1.524	.127
C55	7	88	136	224	115	1.003	.316
C58	5	97	127	224	101	-1.363	.173
C62	6	66	158	224	88	985	.325
UAI13	3	31	193	224	55	.164	.870
UAI16	3	99	125	224	108	474	.636
UAI18	3	79	145	224	80	-3.415	.001
UAI19	2	44	180	224	67	-1.003	.316
D2	5	73	151	224	92	-1.132	.258
D10	4	103	121	224	99	-1.790	.073
D17	5	71	153	224	86	-1.856	.063
D18	5	92	132	224	100	-1.305	.192
D21	3	74	150	224	89	-1.682	.093
D24	5	90	134	224	100	-1.209	.227
D26	5	49	175	224	72	-1.092	.275
D29	5	80	144	224	98	855	.393
D34	5	88	136	224	96	-1.665	.096
D38	3	64	160	224	87	892	.373
D45	4	58	166	224	76	-1.916	.055
D50	6	110	114	224	109	531	.595
13	6	100	124	224	115	.445	.656
l15	2	37	187	224	65	.542	.588
120	6	58	166	224	80	-1.217	.224
127	6	77	147	224	101	158	.875
I31	6	60	164	224	82	-1.172	.241
132	2	99	125	224	98	-1.832	.067
l51	7	107	117	224	102	-1.446	.148
156	2	84	140	224	108	.286	.775
159	5	104	120	224	103	-1.269	.204
163	2	35	189	224	59	271	.786
MAS5	2	97	127	224	109	272	.786
MAS7	2	83	141	224	95	-1.507	.132
MAS15	4	111	113	224	111	267	.790
MAS20	3	110	114	224	104	-1.201	.230
P9	5	28	196	224	45	-1.540	.124
P14	6	100	124	224	108	503	.615

P19	5	52	172	224	73	-1.479	.139
P25	6	66	158	224	86	-1.307	.191
P33	5	84	140	224	94	-1.715	.086
P41	6	90	134	224	104	652	.514
P47	2	74	150	224	92	-1.228	.220
P53	2	76	148	224	98	512	.608
IDV1	2	76	148	224	106	.683	.495
IDV2	2	77	147	224	107	.733	.463
IDV4	2	105	119	224	115	.328	.743
IDV8	2	32	192	224	59	.863	.388
S7	3	90	134	224	111	.323	.746
S8	5	49	175	224	68	-1.877	.060
S16	2	55	169	224	83	179	.858
S35	3	111	113	224	107	802	.422
S36	5	99	125	224	100	-1.560	.119
S40	2	76	148	224	98	512	.608
S43	5	83	141	224	93	-1.794	.073
S48	5	99	125	224	98	-1.832	.067
S54	6	80	144	224	98	855	.393
S57	6	73	151	224	88	-1.742	.082
S61	6	70	154	224	86	-1.755	.079
S64	5	109	115	224	99	-1.866	.062
LTO10	2	37	187	224	57	-1.408	.159
LTO12	2	59	165	224	96	1.396	.163
LTOr9	2	66	158	224	91	501	.616
LTOr11	2	84	140	224	116	1.429	.153
AGE	5	61	154	215	82	-1.075	.282
EDU	7	81	133	214	103	.192	.848
PROF	5	104	112	216	110	.157	.875
a. Media	an						
		·			·	· · · · · · · · · · · · · · · · · · ·	·

Appendix V: Descriptive statistics, Pilot Study

Table V.1: Contextual Competency statements, pilot study

Item	N	<mark>Mean</mark>	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
C6	<mark>55</mark>	<mark>3.96</mark>	<mark>6</mark>	<mark>1.815</mark>	<mark>137</mark>	<mark>.322</mark>	<mark>-1.157</mark>	<mark>.634</mark>
<mark>C12</mark>	<mark>55</mark>	<mark>5.20</mark>	<mark>6</mark>	<mark>1.380</mark>	<mark>-1.032</mark>	<mark>.322</mark>	<mark>.464</mark>	<mark>.634</mark>
<mark>C13</mark>	<mark>55</mark>	<mark>2.35</mark>	<mark>2</mark>	<mark>1.280</mark>	<mark>1.404</mark>	<mark>.322</mark>	<mark>2.284</mark>	<mark>.634</mark>
<mark>C30</mark>	<mark>55</mark>	<mark>2.29</mark>	<mark>1</mark>	<mark>1.629</mark>	<mark>1.535</mark>	<mark>.322</mark>	<mark>1.574</mark>	<mark>.634</mark>
<mark>C37</mark>	<mark>55</mark>	<mark>4.96</mark>	<mark>6</mark>	<mark>1.924</mark>	<mark>918</mark>	<mark>.322</mark>	<mark>522</mark>	<mark>.634</mark>
<mark>C39</mark>	<mark>55</mark>	<mark>2.84</mark>	<mark>2</mark>	<mark>1.686</mark>	<mark>.892</mark>	<mark>.322</mark>	<mark>132</mark>	<mark>.634</mark>
<mark>C42</mark>	<mark>55</mark>	<mark>2.44</mark>	<mark>1</mark>	<mark>1.813</mark>	<mark>1.267</mark>	<mark>.322</mark>	<mark>.512</mark>	<mark>.634</mark>
<mark>C44</mark>	<mark>55</mark>	<mark>4.58</mark>	<mark>5</mark>	<mark>1.812</mark>	<mark>602</mark>	<mark>.322</mark>	<mark>529</mark>	<mark>.634</mark>
<mark>C49</mark>	<mark>55</mark>	<mark>4.87</mark>	<mark>6</mark>	<mark>1.622</mark>	<mark>732</mark>	<mark>.322</mark>	<mark>203</mark>	<mark>.634</mark>
<mark>C55</mark>	<mark>55</mark>	<mark>6.40</mark>	7	<mark>.852</mark>	<mark>-1.820</mark>	<mark>.322</mark>	<mark>4.156</mark>	<mark>.634</mark>
<mark>C58</mark>	<mark>55</mark>	<mark>3.82</mark>	<mark>5</mark>	<mark>1.679</mark>	<mark>336</mark>	<mark>.322</mark>	<mark>-1.132</mark>	<mark>.634</mark>
<mark>C62</mark>	<mark>55</mark>	<mark>5.62</mark>	<mark>6</mark>	<mark>1.408</mark>	<mark>-1.553</mark>	<mark>.322</mark>	<mark>2.141</mark>	<mark>.634</mark>

Table V.2: Political Competency statements, pilot study

<mark>Item</mark>	N	<mark>Mean</mark>	<mark>Mode</mark>	Std. Deviation	<mark>Skewness</mark>	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
P9	<mark>55</mark>	<mark>5.25</mark>	<mark>5</mark>	<mark>1.430</mark>	<mark>-1.138</mark>	<mark>.322</mark>	<mark>1.315</mark>	<mark>.634</mark>
<mark>P14</mark>	<mark>55</mark>	<mark>5.36</mark>	<mark>6</mark>	<mark>1.419</mark>	<mark>-1.165</mark>	<mark>.322</mark>	<mark>1.077</mark>	<mark>.634</mark>
<mark>P19</mark>	<mark>55</mark>	<mark>5.15</mark>	<mark>5</mark>	<mark>1.747</mark>	<mark>858</mark>	<mark>.322</mark>	<mark>066</mark>	<mark>.634</mark>
<mark>P25</mark>	<mark>55</mark>	<mark>5.87</mark>	<mark>6</mark>	<mark>.924</mark>	<mark>-1.493</mark>	<mark>.322</mark>	<mark>4.640</mark>	<mark>.634</mark>
<mark>P33</mark>	<mark>55</mark>	<mark>4.69</mark>	<mark>6</mark>	<mark>1.804</mark>	<mark>892</mark>	<mark>.322</mark>	<mark>347</mark>	<mark>.634</mark>
<mark>P41</mark>	<mark>55</mark>	<mark>5.56</mark>	<mark>6</mark>	<mark>1.259</mark>	<mark>-1.480</mark>	<mark>.322</mark>	<mark>2.010</mark>	<mark>.634</mark>
<mark>P47</mark>	<mark>55</mark>	<mark>2.24</mark>	<mark>2</mark>	<mark>1.478</mark>	<mark>1.612</mark>	<mark>.322</mark>	<mark>2.473</mark>	<mark>.634</mark>
<mark>P53</mark>	<mark>55</mark>	<mark>2.76</mark>	<mark>2</mark>	<mark>1.856</mark>	<mark>1.009</mark>	<mark>.322</mark>	<mark>137</mark>	<mark>.634</mark>

Table V.3: Strategic Competency statements, pilot study

<mark>ltem</mark>	N	<mark>Mean</mark>	<mark>Mode</mark>	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
<u> </u>	<mark>55</mark>	<mark>3.16</mark>	<mark>2</mark>	<mark>1.525</mark>	<mark>.559</mark>	<mark>.322</mark>	<mark>634</mark>	<mark>.634</mark>
<mark>58</mark>	<mark>55</mark>	<mark>5.42</mark>	<mark>6</mark>	<mark>1.572</mark>	<mark>-1.328</mark>	<mark>.322</mark>	<mark>1.365</mark>	<mark>.634</mark>
<mark>S16</mark>	<mark>55</mark>	<mark>2.64</mark>	<mark>2</mark>	<mark>1.747</mark>	<mark>1.278</mark>	<mark>.322</mark>	<mark>.624</mark>	<mark>.634</mark>
<mark>S35</mark>	<mark>55</mark>	<mark>2.98</mark>	<mark>2</mark>	<mark>1.533</mark>	<mark>.639</mark>	<mark>.322</mark>	<mark>916</mark>	<mark>.634</mark>
<mark>S36</mark>	<mark>55</mark>	<mark>4.75</mark>	<mark>5</mark>	<mark>1.927</mark>	<mark>656</mark>	<mark>.322</mark>	<mark>727</mark>	<mark>.634</mark>
<mark>S40</mark>	<mark>55</mark>	<mark>2.40</mark>	<mark>2</mark>	<mark>1.617</mark>	<mark>1.332</mark>	<mark>.322</mark>	<mark>1.040</mark>	<mark>.634</mark>
<mark>S43</mark>	<mark>55</mark>	<mark>4.33</mark>	<mark>5</mark>	<mark>1.906</mark>	<mark>223</mark>	<mark>.322</mark>	<mark>-1.045</mark>	<mark>.634</mark>
<mark>S48</mark>	<mark>55</mark>	<mark>4.47</mark>	<mark>5</mark>	<mark>1.730</mark>	<mark>486</mark>	<mark>.322</mark>	<mark>796</mark>	<mark>.634</mark>
<mark>S54</mark>	<mark>55</mark>	<mark>5.98</mark>	<mark>6</mark>	<mark>.782</mark>	<mark>451</mark>	<mark>.322</mark>	<mark>061</mark>	<mark>.634</mark>
<mark>S57</mark>	<mark>55</mark>	<mark>5.62</mark>	<mark>6</mark>	<mark>1.269</mark>	<mark>-2.165</mark>	<mark>.322</mark>	<mark>4.882</mark>	<mark>.634</mark>
<mark>S61</mark>	<mark>55</mark>	<mark>5.85</mark>	<mark>6</mark>	<mark>1.208</mark>	<mark>-1.802</mark>	<mark>.322</mark>	<mark>4.960</mark>	<mark>.634</mark>
<mark>S64</mark>	<mark>55</mark>	<mark>4.45</mark>	5	1.676	<mark>445</mark>	.322	<mark>805</mark>	<mark>.634</mark>

Table V.4: Analytical Competency statements, pilot study

<mark>Item</mark>	N	Mean	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
A1	<mark>55</mark>	<mark>5.78</mark>	<mark>6</mark>	<mark>1.474</mark>	<mark>-1.695</mark>	<mark>.322</mark>	<mark>2.536</mark>	<mark>.634</mark>
A4	<mark>55</mark>	<mark>2.85</mark>	<mark>3</mark>	<mark>1.283</mark>	<mark>.719</mark>	<mark>.322</mark>	<mark>.532</mark>	<mark>.634</mark>
_ <mark>A5</mark>	<mark>55</mark>	<mark>5.84</mark>	<mark>6</mark>	<mark>1.244</mark>	<mark>-1.236</mark>	<mark>.322</mark>	<mark>1.104</mark>	<mark>.634</mark>
<mark>A11</mark>	<mark>55</mark>	<mark>3.02</mark>	<mark>2</mark>	<mark>1.593</mark>	<mark>.825</mark>	<mark>.322</mark>	<mark>228</mark>	<mark>.634</mark>
<mark>A22</mark>	<mark>55</mark>	<mark>6.25</mark>	<mark>7</mark>	<mark>1.126</mark>	<mark>-2.306</mark>	<mark>.322</mark>	<mark>6.148</mark>	<mark>.634</mark>
<mark>A23</mark>	<mark>55</mark>	<mark>5.78</mark>	<mark>6</mark>	<mark>1.243</mark>	<mark>-1.791</mark>	<mark>.322</mark>	<mark>4.238</mark>	<mark>.634</mark>
<mark>A28</mark>	<mark>55</mark>	<mark>3.09</mark>	<mark>2</mark>	<mark>1.756</mark>	<mark>.814</mark>	<mark>.322</mark>	<mark>478</mark>	<mark>.634</mark>
<mark>A46</mark>	<mark>55</mark>	<mark>3.15</mark>	<mark>2</mark>	<mark>1.557</mark>	<mark>.727</mark>	<mark>.322</mark>	<mark>437</mark>	<mark>.634</mark>
<mark>A52</mark>	<mark>55</mark>	<mark>2.33</mark>	<mark>2</mark>	<mark>1.504</mark>	<mark>1.516</mark>	<mark>.322</mark>	<mark>1.722</mark>	<mark>.634</mark>
<mark>A60</mark>	<mark>55</mark>	<mark>5.33</mark>	<mark>6</mark>	<mark>1.375</mark>	<mark>-1.376</mark>	<mark>.322</mark>	<mark>1.743</mark>	<mark>.634</mark>

Table V.5: Interpersonal Competency statements, pilot study

<mark>Item</mark>	N	<mark>Mean</mark>	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
I3	<mark>55</mark>	<mark>5.49</mark>	<mark>6</mark>	<mark>1.762</mark>	<mark>-1.574</mark>	<mark>.322</mark>	<mark>1.742</mark>	<mark>.634</mark>
<mark>I15</mark>	<mark>55</mark>	<mark>2.64</mark>	<mark>2</mark>	<mark>1.419</mark>	<mark>.964</mark>	<mark>.322</mark>	<mark>187</mark>	<mark>.634</mark>
<mark>120</mark>	<mark>55</mark>	<mark>5.76</mark>	<mark>6</mark>	<mark>1.427</mark>	<mark>-1.630</mark>	<mark>.322</mark>	<mark>2.395</mark>	<mark>.634</mark>
<mark>127</mark>	<mark>55</mark>	<mark>5.60</mark>	<mark>6</mark>	<mark>1.241</mark>	<mark>-1.232</mark>	<mark>.322</mark>	<mark>1.486</mark>	<mark>.634</mark>
<mark> 31</mark>	<mark>55</mark>	<mark>5.80</mark>	<mark>7</mark>	<mark>1.520</mark>	<mark>-1.814</mark>	<mark>.322</mark>	<mark>3.055</mark>	<mark>.634</mark>
<mark>132</mark>	<mark>55</mark>	<mark>1.91</mark>	1	<mark>1.236</mark>	<mark>2.253</mark>	<mark>.322</mark>	<mark>6.103</mark>	<mark>.634</mark>
<mark>151</mark>	<mark>55</mark>	<mark>6.16</mark>	7	<mark>1.525</mark>	<mark>-2.564</mark>	<mark>.322</mark>	<mark>6.233</mark>	<mark>.634</mark>
<mark>156</mark>	<mark>55</mark>	<mark>2.27</mark>	1	<mark>1.509</mark>	<mark>1.597</mark>	<mark>.322</mark>	<mark>2.389</mark>	<mark>.634</mark>
<mark>159</mark>	<mark>55</mark>	<mark>4.36</mark>	<mark>5</mark>	<mark>1.860</mark>	<mark>467</mark>	<mark>.322</mark>	<mark>-1.021</mark>	<mark>.634</mark>
<mark>163</mark>	<mark>55</mark>	<mark>2.96</mark>	<mark>2</mark>	<mark>1.539</mark>	<mark>1.328</mark>	<mark>.322</mark>	<mark>1.146</mark>	<mark>.634</mark>

Table V.6: Educational Competency, pilot study

<mark>ltem</mark>	N	<mark>Mean</mark>	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
D2	<mark>55</mark>	<mark>5.07</mark>	<mark>6</mark>	<mark>1.687</mark>	<mark>-1.127</mark>	<mark>.322</mark>	<mark>.420</mark>	<mark>.634</mark>
<mark>D10</mark>	<mark>55</mark>	<mark>4.15</mark>	<mark>4</mark>	<mark>1.919</mark>	<mark>182</mark>	<mark>.322</mark>	<mark>943</mark>	<mark>.634</mark>
<mark>D17</mark>	<mark>55</mark>	<mark>4.91</mark>	<mark>5</mark>	<mark>1.543</mark>	<mark>-1.035</mark>	<mark>.322</mark>	<mark>.429</mark>	<mark>.634</mark>
<mark>D18</mark>	<mark>55</mark>	<mark>4.40</mark>	<mark>5</mark>	<mark>1.606</mark>	<mark>662</mark>	<mark>.322</mark>	<mark>667</mark>	<mark>.634</mark>
<mark>D21</mark>	<mark>55</mark>	<mark>3.84</mark>	<mark>3</mark>	<mark>1.686</mark>	<mark>022</mark>	<mark>.322</mark>	<mark>-1.129</mark>	<mark>.634</mark>
<mark>D24</mark>	<mark>55</mark>	<mark>4.71</mark>	<mark>5</mark>	<mark>1.511</mark>	<mark>885</mark>	<mark>.322</mark>	<mark>.634</mark>	<mark>.634</mark>
<mark>D26</mark>	<mark>55</mark>	<mark>5.24</mark>	<mark>5</mark>	<mark>1.360</mark>	<mark>-1.455</mark>	<mark>.322</mark>	<mark>2.685</mark>	<mark>.634</mark>
<mark>D29</mark>	<mark>55</mark>	<mark>4.62</mark>	<mark>5</mark>	<mark>1.627</mark>	<mark>795</mark>	<mark>.322</mark>	<mark>.063</mark>	<mark>.634</mark>
D34	<mark>55</mark>	<mark>4.47</mark>	<mark>6</mark>	<mark>1.762</mark>	<mark>785</mark>	<mark>.322</mark>	<mark>644</mark>	<mark>.634</mark>
<mark>D38</mark>	<mark>55</mark>	<mark>3.64</mark>	<mark>3</mark>	<mark>1.603</mark>	<mark>.457</mark>	<mark>.322</mark>	<mark>510</mark>	<mark>.634</mark>
<mark>D45</mark>	<mark>55</mark>	<mark>4.42</mark>	<mark>4</mark>	<mark>1.618</mark>	<mark>174</mark>	<mark>.322</mark>	<mark>514</mark>	<mark>.634</mark>
<mark>D50</mark>	<mark>55</mark>	<mark>5.04</mark>	<mark>6</mark>	<mark>1.633</mark>	<mark>-1.173</mark>	<mark>.322</mark>	. <mark>571</mark>	<mark>.634</mark>

Table V.7: Reliability statistics, pilot study

COMPETENCY	Cronbach's Alpha	N of Items	N
<mark>ANALYTICAL</mark>	<mark>.774</mark>	<mark>10</mark>	<mark>55</mark>
CONTEXTUAL	<mark>.790</mark>	<mark>12</mark>	<mark>55</mark>
EDUCATIONAL	<mark>.764</mark>	<mark>12</mark>	<mark>55</mark>
INTERPERSONAL	<mark>.621</mark>	<mark>10</mark>	<mark>55</mark>
POLITICAL	<mark>.549</mark>	8	<mark>55</mark>
STRATEGIC	<mark>.858</mark>	<mark>12</mark>	<mark>55</mark>
BSAQ	<mark>.941</mark>	<mark>64</mark>	<mark>55</mark>

Table V.8: Runs Test, pilot study

	<mark>Test</mark>	Cases < Test	Cases >=	<mark>Total</mark>	Number of	<mark>Z</mark>	Asymp. Sig.
	<mark>Value^a</mark>	<mark>Value</mark>	Test Value	<u>Cases</u>	<mark>Runs</mark>	<u> </u>	<mark>(2-tailed)</mark>
A1	<mark>6</mark>	<mark>15</mark>	<mark>40</mark>	<mark>55</mark>	<mark>27</mark>	<mark>1.442</mark>	<mark>.149</mark>
A4	<mark>3</mark>	<mark>20</mark>	<mark>35</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.312</mark>	<mark>.190</mark>
A5	<mark>6</mark>	<mark>15</mark>	<mark>40</mark>	<mark>55</mark>	<mark>18</mark>	<mark>-1.661</mark>	<mark>.097</mark>
<mark>A11</mark>	<mark>3</mark>	<mark>27</mark>	<mark>28</mark>	<mark>55</mark>	<mark>29</mark>	<mark>.139</mark>	<mark>.890</mark>
<mark>A22</mark>	<mark>7</mark>	<mark>26</mark>	<mark>29</mark>	<mark>55</mark>	<mark>26</mark>	<mark>660</mark>	<mark>.509</mark>
<mark>A23</mark>	<mark>6</mark>	<mark>15</mark>	<mark>40</mark>	<mark>55</mark>	<mark>25</mark>	<mark>.752</mark>	<mark>.452</mark>
<mark>A28</mark>	<mark>2</mark>	<mark>7</mark>	<mark>48</mark>	<mark>55</mark>	<mark>11</mark>	<mark>-1.392</mark>	<mark>.164</mark>
<mark>A46</mark>	<mark>3</mark>	<mark>24</mark>	<mark>31</mark>	<mark>55</mark>	<mark>25</mark>	<mark>845</mark>	<mark>.398</mark>
<mark>A52</mark>	<mark>2</mark>	<mark>17</mark>	<mark>38</mark>	<mark>55</mark>	<mark>23</mark>	<mark>477</mark>	<mark>.634</mark>
<mark>A60</mark>	<mark>6</mark>	<mark>23</mark>	<mark>32</mark>	<mark>55</mark>	<mark>31</mark>	<mark>.906</mark>	<mark>.365</mark>
C6	<mark>4</mark>	<mark>22</mark>	<mark>33</mark>	<mark>55</mark>	<mark>24</mark>	<mark>965</mark>	<mark>.335</mark>
<mark>C12</mark>	<mark>6</mark>	<mark>25</mark>	<mark>30</mark>	<mark>55</mark>	<mark>33</mark>	<mark>1.298</mark>	<mark>.194</mark>
<mark>C13</mark>	<mark>2</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>24</mark>	<mark>1.195</mark>	<mark>.232</mark>
<mark>C30</mark>	<mark>2</mark>	<mark>21</mark>	<mark>34</mark>	<mark>55</mark>	<mark>24</mark>	<mark>855</mark>	<mark>.392</mark>
<mark>C37</mark>	<mark>6</mark>	<mark>23</mark>	<mark>32</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.613</mark>	<mark>.107</mark>
<mark>C39</mark>	<mark>2</mark>	<mark>12</mark>	<mark>43</mark>	<mark>55</mark>	<mark>18</mark>	<mark>710</mark>	<mark>.478</mark>

C42 2 23 32 55 26 -,494 622 C44 5 21 34 55 23 -1,144 253 C55 7 24 31 55 26 -,569 .570 C58 4 19 36 55 22 -1,168 .23 C62 6 15 40 55 22 -1,722 .085 D10 4 15 40 55 16 -2,351 .019 D17 5 13 42 55 16 -2,351 .019 D17 5 13 42 55 16 -1,844 .065 D18 5 21 34 55 23 -1,144 .253 D18 5 13 43 55 23 -1,144 .253 D21 4 26 29 55 22 -1,752 .086								
C49 5 21 34 55 23 :1.144 .253 C55 7 24 31 55 26 569 .570 C58 4 19 36 55 22 -1.168 .243 C62 6 15 40 55 22 -1.722 .085 D10 4 15 40 55 16 -2.351 .019 D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D18 5 21 34 55 23 -1.144 .253 D24 5 18 37 55 22 997 .319 D26 5 8 47 55 13 .934 .350 D29 5 19 36 55 23 .366 .386	C42	<mark>2</mark>	<mark>23</mark>	<mark>32</mark>	<mark>55</mark>	<mark>26</mark>	<mark>494</mark>	<mark>.622</mark>
C55 7 24 31 55 26 ,569 ,570 C58 4 19 36 55 22 ,1,168 243 C62 6 15 40 55 22 ,1,722 ,085 D10 4 15 40 55 16 ,2,351 ,019 D17 5 13 42 55 16 ,1,844 ,065 D18 5 21 34 55 23 ,1,144 ,253 D24 26 29 55 22 ,1,752 ,080 D24 5 18 37 55 22 ,1,752 ,080 D24 5 18 37 55 22 ,1,752 ,080 D24 5 18 37 55 13 ,934 ,350 D29 5 19 36 55 13 ,366 ,386 D34							<mark>.010</mark>	<mark>.992</mark>
C58 4 19 36 55 22 -1.168 .243 C62 6 15 40 55 22 282 .778 D2 6 25 30 55 22 -1.722 .085 D10 4 15 40 55 16 -2.351 .019 D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 -997 .319 D26 5 8 47 55 13 -934 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 2490 .013	C49		<mark>21</mark>	<mark>34</mark>	<mark>55</mark>	<mark>23</mark>	<mark>-1.144</mark>	<mark>.253</mark>
C62 6 15 40 55 22 -282 .778 D2 6 25 30 55 22 -1.722 .085 D10 4 15 40 55 16 -2.351 .019 D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 -1.997 .319 D26 5 8 47 55 13 -934 .350 D29 5 19 36 55 18 2.490 .013 D38 3 12 43 55 19 .307 .759 D45 4 12 43 55 17 -1.112 .266		<mark>7</mark>	<mark>24</mark>	<mark>31</mark>	<mark>55</mark>	<mark>26</mark>	<mark>569</mark>	<mark>.570</mark>
D2 6 25 30 55 22 -1.722 085 D10 4 15 40 55 16 -2.351 .019 D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 -9.97 .319 D26 5 8 47 55 13 -9.34 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 .387 .699	C58	<mark>4</mark>	<mark>19</mark>	<mark>36</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.168</mark>	<mark>.243</mark>
D10 4 15 40 55 16 -2.351 .019 D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 997 .319 D26 5 8 47 55 13 .934 .350 D29 5 19 36 55 23 .866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 -307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 -387 .699 <t< td=""><td><mark>C62</mark></td><td></td><td><mark>15</mark></td><td><mark>40</mark></td><td><mark>55</mark></td><td><mark>22</mark></td><td><mark>282</mark></td><td><mark>.778</mark></td></t<>	<mark>C62</mark>		<mark>15</mark>	<mark>40</mark>	<mark>55</mark>	<mark>22</mark>	<mark>282</mark>	<mark>.778</mark>
D17 5 13 42 55 16 -1.844 .065 D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 997 .319 D26 5 8 47 55 13 934 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 .387 .699 I3 6 18 37 55 25 .068 .946 <t< td=""><td>D2</td><td><mark>6</mark></td><td><mark>25</mark></td><td><mark>30</mark></td><td><mark>55</mark></td><td><mark>22</mark></td><td><mark>-1.722</mark></td><td><mark>.085</mark></td></t<>	D2	<mark>6</mark>	<mark>25</mark>	<mark>30</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.722</mark>	<mark>.085</mark>
D18 5 21 34 55 23 -1.144 .253 D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 997 .319 D26 5 8 47 55 13 934 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 15 2 9 46 55 13 -1.543 .123 <t< td=""><td><mark>D10</mark></td><td></td><td><mark>15</mark></td><td><mark>40</mark></td><td><mark>55</mark></td><td><mark>16</mark></td><td><mark>-2.351</mark></td><td><mark>.019</mark></td></t<>	<mark>D10</mark>		<mark>15</mark>	<mark>40</mark>	<mark>55</mark>	<mark>16</mark>	<mark>-2.351</mark>	<mark>.019</mark>
D21 4 26 29 55 22 -1.752 .080 D24 5 18 37 55 22 997 .319 D26 5 8 47 55 13 934 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 16 -1.844 .065 <	<mark>D17</mark>	<mark>5</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>16</mark>	<mark>-1.844</mark>	<mark>.065</mark>
D24 5 18 37 55 22 -997 319 D26 5 8 47 55 13 -934 .350 D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 120 6 13 42 55 16 -1.844 .065 127 6 20 35 55 26 -1.344 .065	<mark>D18</mark>	<mark>5</mark>	<mark>21</mark>	<mark>34</mark>	<mark>55</mark>	<mark>23</mark>	<mark>-1.144</mark>	<mark>.253</mark>
D26 5 8 47 55 13 934 350 D29 5 19 36 55 23 866 386 D34 5 20 35 55 18 2490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 .1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 16 -1.844 .065 I27 6 20	<mark>D21</mark>	<mark>4</mark>	<mark>26</mark>	<mark>29</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.752</mark>	<mark>.080</mark>
D29 5 19 36 55 23 866 .386 D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 26 134 .893 I31 6 14 41 55 20 676 .499 I32 2 24 31 55 25 .845 .398 I51 7 23 32 55 28 .1607 .108 <th< td=""><td><mark>D24</mark></td><td><mark>5</mark></td><td><mark>18</mark></td><td><mark>37</mark></td><td><mark>55</mark></td><td><mark>22</mark></td><td><mark>997</mark></td><td><mark>.319</mark></td></th<>	<mark>D24</mark>	<mark>5</mark>	<mark>18</mark>	<mark>37</mark>	<mark>55</mark>	<mark>22</mark>	<mark>997</mark>	<mark>.319</mark>
D34 5 20 35 55 18 -2.490 .013 D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 16 -1.844 .065 I27 6 20 35 55 26 134 .893 I31 6 14 41 55 20 676 .499 I32 2 24 31 55 25 845 .398 I51 7 23 32 55 28 .1607 .108 <	<mark>D26</mark>	<mark>5</mark>	<mark>8</mark>	<mark>47</mark>	<mark>55</mark>	<mark>13</mark>	<mark>934</mark>	<mark>.350</mark>
D38 3 12 43 55 19 307 .759 D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 16 -1.844 .065 I27 6 20 35 55 26 134 .893 I31 6 14 41 55 20 676 .499 I32 2 24 31 55 25 845 .398 I51 7 23 32 55 28 .066 .947 I56 2 20 35 55 21 -1.607 .108 <t< td=""><td>D29</td><td><u>5</u></td><td><mark>19</mark></td><td><mark>36</mark></td><td><mark>55</mark></td><td><mark>23</mark></td><td><mark>866</mark></td><td><mark>.386</mark></td></t<>	D29	<u>5</u>	<mark>19</mark>	<mark>36</mark>	<mark>55</mark>	<mark>23</mark>	<mark>866</mark>	<mark>.386</mark>
D45 4 12 43 55 17 -1.112 .266 D50 6 26 29 55 27 387 .699 I3 6 18 37 55 25 068 .946 I15 2 9 46 55 13 -1.543 .123 I20 6 13 42 55 16 -1.844 .065 I27 6 20 35 55 26 134 .893 I31 6 14 41 55 20 676 .499 I32 2 24 31 55 25 845 .398 I51 7 23 32 55 28 .066 .947 I56 2 20 35 55 21 -1.607 .108 I59 5 22 33 55 28 .170 .865 <td< td=""><td>D34</td><td><mark>5</mark></td><td><mark>20</mark></td><td><mark>35</mark></td><td><mark>55</mark></td><td><mark>18</mark></td><td><mark>-2.490</mark></td><td><mark>.013</mark></td></td<>	D34	<mark>5</mark>	<mark>20</mark>	<mark>35</mark>	<mark>55</mark>	<mark>18</mark>	<mark>-2.490</mark>	<mark>.013</mark>
13	D38	<mark>3</mark>	<mark>12</mark>	<mark>43</mark>	<mark>55</mark>	<mark>19</mark>	<mark>307</mark>	<mark>.759</mark>
13	D45	<mark>4</mark>	<mark>12</mark>	<mark>43</mark>	<mark>55</mark>	<mark>17</mark>	<mark>-1.112</mark>	<mark>.266</mark>
115 2 9 46 55 13 -1.543 .123 120 6 13 42 55 16 -1.844 .065 127 6 20 35 55 26 -1.34 .893 131 6 14 41 55 20 676 .499 132 2 24 31 55 25 845 .398 151 7 23 32 55 28 .066 .947 156 2 20 35 55 21 -1.607 .108 159 5 22 33 55 28 .170 .865 163 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P25<	D50	<mark>6</mark>	<mark>26</mark>	<mark>29</mark>	<mark>55</mark>	<mark>27</mark>	<mark>387</mark>	<mark>.699</mark>
120 6 13 42 55 16 -1.844 .065 127 6 20 35 55 26 134 .893 131 6 14 41 55 20 676 .499 132 2 24 31 55 25 845 .398 151 7 23 32 55 28 .066 .947 156 2 20 35 55 21 -1.607 .108 159 5 22 33 55 28 .170 .865 163 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25	I3	<mark>6</mark>	<mark>18</mark>	<mark>37</mark>	<mark>55</mark>	<mark>25</mark>	068	<mark>.946</mark>
127 6 20 35 55 26 134 .893 131 6 14 41 55 20 676 .499 132 2 24 31 55 25 845 .398 151 7 23 32 55 28 .066 .947 156 2 20 35 55 21 -1.607 .108 159 5 22 33 55 28 .170 .865 163 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 .773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 27 .802 .422 P47 </td <td><mark>I15</mark></td> <td><mark>2</mark></td> <td>9</td> <td><mark>46</mark></td> <td><mark>55</mark></td> <td><mark>13</mark></td> <td><mark>-1.543</mark></td> <td><mark>.123</mark></td>	<mark>I15</mark>	<mark>2</mark>	9	<mark>46</mark>	<mark>55</mark>	<mark>13</mark>	<mark>-1.543</mark>	<mark>.123</mark>
131	<mark>120</mark>	<mark>6</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>16</mark>	<mark>-1.844</mark>	<mark>.065</mark>
132	<mark>127</mark>	<mark>6</mark>	<mark>20</mark>	<mark>35</mark>	<mark>55</mark>	<mark>26</mark>	134	<mark>.893</mark>
	<mark> 31</mark>	<mark>6</mark>	<mark>14</mark>	<mark>41</mark>	<mark>55</mark>	<mark>20</mark>	- .676	<mark>.499</mark>
I56 2 20 35 55 21 -1.607 .108 I59 5 22 33 55 28 .170 .865 I63 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 </td <td><mark>132</mark></td> <td>2</td> <td><mark>24</mark></td> <td><mark>31</mark></td> <td><mark>55</mark></td> <td><mark>25</mark></td> <td>-.845</td> <td><mark>.398</mark></td>	<mark>132</mark>	2	<mark>24</mark>	<mark>31</mark>	<mark>55</mark>	<mark>25</mark>	- .845	<mark>.398</mark>
I59 5 22 33 55 28 .170 .865 I63 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16	<mark> 51</mark>	7	<mark>23</mark>	<mark>32</mark>	<mark>55</mark>	<mark>28</mark>	<mark>.066</mark>	<mark>.947</mark>
I63 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35	<mark>156</mark>	2	<mark>20</mark>	<mark>35</mark>	<mark>55</mark>	<mark>21</mark>	<mark>-1.607</mark>	<mark>.108</mark>
I63 2 4 51 55 9 .620 .536 P9 5 9 46 55 15 533 .594 P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35	159	<mark>5</mark>	<mark>22</mark>	<mark>33</mark>	<mark>55</mark>	<mark>28</mark>	<mark>.170</mark>	<mark>.865</mark>
P14 6 23 32 55 25 773 .439 P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319		2	4	<mark>51</mark>	<mark>55</mark>	9	<mark>.620</mark>	<mark>.536</mark>
P19 5 13 42 55 18 -1.084 .278 P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 \$7 3 22 33 55 28 .170 .865 \$8 6 23 32 55 28 .066 .947 \$16 2 14 41 55 22 .046 .963 \$35 2 6 49 55 11 499 .618 \$36 5 18 37 55 22 997 .319	P9	<mark>5</mark>	9	<mark>46</mark>	<mark>55</mark>	<mark>15</mark>	- .533	<mark>.594</mark>
P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P14		23	<mark>32</mark>	<mark>55</mark>	<mark>25</mark>	773	.439
P25 6 14 41 55 17 -1.758 .079 P33 5 17 38 55 22 796 .426 P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P19	<mark>5</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>18</mark>	<mark>-1.084</mark>	<mark>.278</mark>
P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P25	<mark>6</mark>	<mark>14</mark>	<mark>41</mark>	<mark>55</mark>	<mark>17</mark>	<mark>-1.758</mark>	<mark>.079</mark>
P41 6 17 38 55 27 .802 .422 P47 2 20 35 55 27 .161 .872 P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P33	<mark>5</mark>	<mark>17</mark>	<mark>38</mark>	<mark>55</mark>	<mark>22</mark>	796	<mark>.426</mark>
P53 2 16 39 55 27 1.096 .273 S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P41	<mark>6</mark>	<mark>17</mark>	<mark>38</mark>	<mark>55</mark>	<mark>27</mark>	<mark>.802</mark>	<mark>.422</mark>
S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P47	2	<mark>20</mark>	<mark>35</mark>	<mark>55</mark>	<mark>27</mark>	<mark>.161</mark>	<mark>.872</mark>
S7 3 22 33 55 28 .170 .865 S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	P53	2	<mark>16</mark>	<mark>39</mark>	<mark>55</mark>	<mark>27</mark>	<mark>1.096</mark>	<mark>.273</mark>
S8 6 23 32 55 28 .066 .947 S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	<u>S7</u>		22	<mark>33</mark>	<mark>55</mark>	<mark>28</mark>	.170	<mark>.865</mark>
S16 2 14 41 55 22 .046 .963 S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319			23	32	<mark>55</mark>	<mark>28</mark>	.066	<mark>.947</mark>
S35 2 6 49 55 11 499 .618 S36 5 18 37 55 22 997 .319	_		<mark>14</mark>	41	<mark>55</mark>	22	.046	.963
S36 5 18 37 55 22 997 .319				49			499	

<mark>S43</mark>	<mark>5</mark>	<mark>26</mark>	<mark>29</mark>	<mark>55</mark>	<mark>18</mark>	<mark>-2.845</mark>	<mark>.004</mark>
<mark>S48</mark>	<mark>5</mark>	<mark>23</mark>	<mark>32</mark>	<mark>55</mark>	<mark>22</mark>	<mark>-1.613</mark>	<mark>.107</mark>
<mark>S54</mark>	<mark>6</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>18</mark>	<mark>-1.084</mark>	<mark>.278</mark>
<mark>S57</mark>	<mark>6</mark>	<mark>13</mark>	<mark>42</mark>	<mark>55</mark>	<mark>22</mark>	<mark>.435</mark>	<mark>.664</mark>
<mark>S61</mark>	<mark>6</mark>	<mark>17</mark>	<mark>38</mark>	<mark>55</mark>	<mark>22</mark>	<mark>796</mark>	<mark>.426</mark>
<mark>564</mark>	<mark>5</mark>	<mark>21</mark>	<mark>34</mark>	<mark>55</mark>	<mark>20</mark>	<mark>-2.010</mark>	<mark>.044</mark>

<mark>a. Median</mark>

Appendix VI: Normality Check. Skewness and Kurtosis of the Variables of the Six Board Competencies

Table VI. 1: Skewness and Kurtosis for Analytical Competency Items

_	N		Skewness	Std. Error of	Kurtosis	Std. Error of
	Valid	Missing		Skewness		Kurtosis
A1	224	0	-1.303	.163	1.291	.324
A4	224	0	.619	.163	.079	.324
A5	224	0	-1.449	.163	2.358	.324
A11	224	0	.765	.163	376	.324
A22	224	0	-2.049	.163	4.869	.324
A23	224	0	-1.525	.163	2.758	.324
A28	224	0	.748	.163	613	.324
A46	224	0	.715	.163	644	.324
A52	224	0	1.257	.163	.596	.324
A60	224	0	-1.238	.163	1.057	.324

Table VI. 2: Skewness and Kurtosis for the Contextual Competency Items

					•	
		N	Skewness	Std. Error of	Kurtosis	Std. Error of
	Valid	Missing		Skewness		Kurtosis
C6	224	0	142	.163	888	.324
C12	224	0	-1.001	.163	.771	.324
C13	224	0	1.051	.163	.465	.324
C30	224	0	1.398	.163	1.140	.324
C37	224	0	926	.163	145	.324
C39	224	0	.652	.163	698	.324
C42	224	0	1.377	.163	.983	.324
C44	224	0	560	.163	761	.324
C49	224	0	818	.163	002	.324
C55	224	0	-2.048	.163	4.121	.324
C58	224	0	314	.163	944	.324
C62	224	0	-1.678	.163	2.856	.324

Table VI.3: Skewness and Kurtosis for the Educational Competency Items

	N		Skewness	Std. Error of	Kurtosis	Std. Error of
	Valid	Missing		Skewness		Kurtosis
D2	224	0	883	.163	289	.324
D10	224	0	067	.163	951	.324
D17	224	0	777	.163	107	.324
D18	224	0	658	.163	681	.324
D21	224	0	.180	.163	-1.081	.324
D24	224	0	760	.163	316	.324
D26	224	0	-1.056	.163	.947	.324
D29	224	0	697	.163	297	.324
D34	224	0	805	.163	496	.324
D38	224	0	.445	.163	723	.324
D45	224	0	327	.163	694	.324
D50	224	0	949	.163	072	.324

Table VI.4: Skewness and Kurtosis for the Interpersonal Competency Items

	Valid	N Missing	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
I3	224	0	961	.163	165	.324
115	224	0	.908	.163	.087	.324
120	224	0	-1.754	.163	3.109	.324
127	224	0	-1.429	.163	1.785	.324
I31	224	0	-1.713	.163	2.838	.324
132	224	0	1.733	.163	2.540	.324
I51	224	0	-2.235	.163	4.991	.324
156	224	0	.907	.163	425	.324
159	224	0	396	.163	-1.017	.324
163	224	0	.912	.163	121	.324

Table VI.5: Skewness and Kurtosis for the Political Competency Items

	N		Skewness	Std. Error of	Kurtosis	Std. Error of
	Valid	Missing		Skewness		Kurtosis
Р9	224	0	-1.147	.163	2.160	.324
P14	224	0	-1.201	.163	.856	.324
P19	224	0	-1.032	.163	.468	.324
P25	224	0	-1.620	.163	3.040	.324
P33	224	0	673	.163	792	.324
P41	224	0	-1.240	.163	.939	.324
P47	224	0	.935	.163	071	.324
P53	224	0	1.023	.163	027	.324

Table VI.6: Skewness and Kurtosis for the Strategic Competency Items

	N	J	Skewness	Std. Error of	Kurtosis	Std. Error of
	Valid	Missing	SKEWIIC33	Skewness	Kui tosis	Kurtosis
S7	224	0	.581	.163	584	.324
S8	224	0	967	.163	.307	.324
S16	224	0	1.001	.163	135	.324
S35	224	0	.741	.163	448	.324
S36	224	0	532	.163	645	.324
S40	224	0	1.133	.163	.254	.324
S43	224	0	336	.163	957	.324
S48	224	0	567	.163	633	.324
S54	224	0	-1.691	.163	2.830	.324
S57	224	0	-1.609	.163	2.530	.324
S61	224	0	-1.424	.163	1.575	.324
S64	224	0	449	.163	760	.324

Appendix VII: Culturally invariant questionnaires of public hospital board competencies (in Greek)

ΠΛΑΙΣΙΟΥ - CONTEXTUAL (Κατανοεί το πλαίσιο)

- 1 Ηθικές αξίες σπάνια συζητούνται ρητώς στις συνεδριάσεις του Δ.Σ.
- Από τις αναφορές μερικών εκ των μελών του Δ.Σ. σε συνεδριάσεις, είναι φανερό ότι δεν αντιλαμβάνονται πολύ καλά την αποστολή του νοσοκομείου.
- 3 Έχουν υπάρξει περιπτώσεις, όπου το Δ.Σ. ενήργησε ασύμβατα με τις βαθύτερες αξίες του νοσοκομείου.
- Ένας από τους λόγους που είμαι μέλος του Δ.Σ., ήταν ότι πιστεύω ακράδαντα στις αξίες αυτού του νοσοκομείου.
- 5 Το Δ.Σ. κατανοεί το κανονιστικό πλαίσιο, για κάθε ειδικότητα και κατηγορία εργαζομένου στο νοσοκομείο.

ΠΟΛΙΤΙΚΗ - POLITICAL (Σέβεται διαδικασίες)

- 1 Το Δ.Σ. ανακοινώνει τις αποφάσεις του σε όλους όσους επηρεάζονται απ' αυτές.
 - Αν το Δ.Σ. θεωρεί ότι σημαίνοντες άμεσα ενδιαφερόμενοι, εντός ή εκτός του
- 2 νοσοκομείου, ενδέχεται να διαφωνήσουν με κάποια ενέργειά μας, θα διασφαλίσουμε να ακουστεί η θέση τους, πριν τη λήψη της απόφασης.
- Το Δ.Σ. έχει ορίσει επιτροπές ή ομάδες εργασίας ειδικού σκοπού, από κοινού με υπαλλήλους και μέλη του Δ.Σ.
- Έχω συμμετάσχει σε συνεδριάσεις, όπου δόθηκε ιδιαίτερη προσοχή στις ευαισθησίες της τοπικής κοινωνίας.
- Πριν από τη λήψη απόφασης επί σημαντικού θέματος, το Δ.Σ. συνήθως ζητά να πληροφορηθεί σχετικά, από όσους πιθανόν να θίγονται από την απόφαση.

ΣΤΡΑΤΗΓΙΚΗ – STRATEGIC (Χαράσσει κατευθύνσεις)

- 1 Το Δ.Σ. θέτει σαφείς οργανωτικές προτεραιότητες για την ερχόμενη χρονιά.
 - Τουλάχιστον μία φορά το χρόνο, το Δ.Σ. ζητά από το Διοικητή να διατυπώσει ρητά το
- 2 όραμά του για το μέλλον του νοσοκομείου και τις στρατηγικές για την υλοποίηση αυτού του οράματος.
- 3 Εντός του περασμένου έτους, το Δ.Σ. επανεξέτασε τις στρατηγικές του νοσοκομείου, για την επίτευξη των μακροπρόθεσμων στόχων του.
- Έχω παρευρεθεί σε συνεδριάσεις του Δ.Σ., όπου η συζήτηση επικεντρώθηκε στον εντοπισμό ή στην αντιμετώπιση των αδυναμιών του νοσοκομείου.
- Το Δ.Σ. συζητά γεγονότα και τάσεις του ευρύτερου περιβάλλοντος, που μπορεί να συνιστούν ιδιαίτερες ευκαιρίες για το νοσοκομείο.
- Το Δ.Σ. λαμβάνει ρητά υπόψη τις μακροπρόθεσμες προτεραιότητες του νοσοκομείου, καθόσον χειρίζεται τις τρέχουσες υποθέσεις.
- 7 Περισσότερο από το μισό χρόνο κάθε συνεδρίασης του Δ.Σ., αφιερώνεται στην εξέταση ζητημάτων σημαντικών για το μακροπρόθεσμο μέλλον του νοσοκομείου.

ΑΝΑΛΥΤΙΚΗ – ΑΝΑLΥΤΙCAL (Αναγνωρίζει την πολυπλοκότητα)

- Το Δ.Σ. παρακολουθεί συστηματικά τις σημαντικές εξελίξεις και τάσεις στην περίθαλψη, που δύνανται να επηρεάσουν το νοσοκομείο.
- Το Δ.Σ. εξετάζει ενδελεχώς τα αρνητικά ή τους πιθανούς μη προφανείς κινδύνους, ενόψει κάθε σημαντικής απόφασης.
- 3 Μου είναι εύκολο να αναγνωρίσω ποια είναι τα σημαντικά ζητήματα, που το Δ.Σ. αντιμετωπίζει.
- Όταν το Δ.Σ. αντιμετωπίζει ένα σημαντικό θέμα, γίνεται συχνά ανταλλαγή ιδεών και 4 παραγωγή ολόκληρης λίστας με δημιουργικές προσεγγίσεις ή με εναλλακτικές λύσεις του προβλήματος.
- 5 Το Δ.Σ. αναζητά πληροφόρηση και συμβουλές από διοικήσεις ομοειδών νοσοκομείων.

ΔΙΑΠΡΟΣΩΠΙΚΗ – INTERPERSONAL (Γαλουχεί ομαδικότητα)

- Είχα συζητήσεις με άλλα μέλη του Δ.Σ., για κοινά μας ενδιαφέροντα εκτός νοσοκομείου.
- Το Δ.Σ. είναι τόσο προσεκτικό στον τρόπο που καταλήγει σε συμπεράσματα, όσο και στο τι αποφασίζει.
- 3 Στις συνεδριάσεις μας διεξάγεται τουλάχιστον τόσος διάλογος ανάμεσα στα μέλη, όσος και μεταξύ μελών και διευθυντικών στελεχών του νοσοκομείου.
- Το Δ.Σ. παρέχει βιογραφική πληροφόρηση, που βοηθά τα μέλη του να γνωριστούν καλύτερα μεταξύ τους.
- διοργανώνει το νοσοκομείο. Μέλη του $\Delta.\Sigma$. σπανίως παρευρίσκονται σε κοινωνικές εκδηλώσεις, που διοργανώνει το νοσοκομείο.

ΕΚΠΑΙΔΕΥΤΙΚΗ – EDUCATIONAL (Οικοδομεί γνώση)

- 1 Έχω συμμετάσχει σε συνεδριάσεις, όπου διερευνήσαμε τι διαφορετικό θα μπορούσαμε να έχουμε πράξει, ύστερα από μια εσφαλμένη απόφαση του Δ.Σ.
- 2 Το Δ.Σ. περιοδικά βρίσκει χρόνο, για να εμβαθύνει σε σημαντικά ζητήματα, που αντιμετωπίζουν παρόμοια νοσοκομεία με το δικό μας.
 - Όταν ένα νέο μέλος εισέρχεται στο Δ.Σ., διασφαλίζουμε ότι κάποιος εξ ημών
- 3 λειτουργεί ως μέντωρ, στο να τον βοηθήσει να μάθει τις ειδικές διαδικασίες του Συμβουλίου.
- Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., αναφορικά με την αποτελεσματικότητα των προσπαθειών μας.
- 5 Έχω συμμετάσχει σε συζητήσεις με νεοεισερχόμενα μέλη, αναφορικά με το ρόλο και τις ευθύνες του μέλους $\Delta.\Sigma.$
- 6 Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., σχετικά με το τι μπορούμε να διδαχθούμε από ένα λάθος που κάναμε.
- 7 Το Δ.Σ. έχει προβεί σε αναλυτική εξέταση των ρόλων και των ευθυνών του.

Appendix VIII: Questionnaire of the Survey Research

Cover Letter

Letter to Board Members

July 2014

You are invited to participate in a scientific research study that seeks to

understand more about the board of directors in Greek public hospitals. The

questionnaire solicits opinions from N.H.S. hospital board members to find out

what your perspectives are about your board competencies. Responding to the

survey should take 15-20 minutes of your time and your participation will assist

greatly in providing valuable knowledge to the scientific field of hospital

governance.

All information obtained will remain confidential. No data that could identify the

hospital or you as an individual are requested. It is in your discretion to include

the name of the hospital in the case you want to be informed confidentially about

the hospital's overall score for comparison, but this will not be included in the

final report.

This research's outcome will be a scientific empirically tested board self-

assessment instrument and documentation for implementation freely available

to the Greek public hospital boards, and their executive directors to self-evaluate

board competencies. The Ministry of Health by endorsing this research

programme intends to provide public hospital boards with educational

information on the factors that contribute to positive board effectiveness for

better quality patient care, improved efficiency, and stronger financial results.

If you have questions about this study, please feel free to contact the researcher.

Sincerely,

261

Letter to Board Members (in Greek)

Ιούλιος 2014

Αξιότιμο Μέλος του Διοικητικού Συμβουλίου του Νοσοκομείου

Προσκαλείστε να συμμετάσχετε σε επιστημονική έρευνα για τα διοικητικά συμβούλια των κρατικών νοσοκομείων της χώρας μας. Το ερωτηματολόγιο επιζητά απόψεις από όλα τα μέλη των Δ.Σ. νοσοκομείων Ε.Σ.Υ., για να ανακαλύψει την οπτική σας γωνία, όσον αφορά τη διοικητική επάρκεια και κατ' επέκταση την επίδοση των συμβουλίων. Η συμπλήρωση του ερωτηματολογίου θα απαιτήσει 15-20 λεπτά της ώρας, ενώ η συμμετοχή σας θα είναι κορυφαίας αξίας, για να προσφερθεί σημαντική γνώση στο επιστημονικό πεδίο της διακυβέρνησης νοσοκομείων.

Η πληροφόρηση που θα συγκεντρωθεί είναι εμπιστευτική. Δεν συλλέγονται πληροφορίες από τις οποίες να προκύπτει η ταυτότητα νοσοκομείου ή ερωτώμενου. Αν επιθυμείτε να πληροφορηθείτε εμπιστευτικά τη θέση του νοσοκομείου σας, σε σχέση με το μέσο όρο όλων των νοσοκομείων, δίνεται η δυνατότητα να συμπεριλάβετε την επωνυμία του νοσοκομείου, αλλά δεν θα συμπεριληφθεί στο τελικό κείμενο.

Το αποτέλεσμα της έρευνας θα είναι ένα επιστημονικά ελεγμένο εργαλείο αυτοαξιολόγησης του διοικητικού συμβουλίου, το οποίο θα σας παραχωρηθεί δωρεάν, για εθελοντική ανάπτυξη της διοικητικής του επάρκειας και επίδοσης. Το Υπουργείο Υγείας υποστηρίζει το ερευνητικό αυτό πρόγραμμα, στοχεύοντας στην ενθάρρυνση και καθοδήγηση των Δ.Σ. των νοσοκομείων προς βελτίωση της επίδοσής τους, που είναι προς το συμφέρον των ασθενών και της κοινωνίας συνολικά.

Αν έχετε κάποια παρατήρηση ή απορία, σχετικά με την έρευνα, παρακαλώ επικοινωνήστε μαζί μου.

Ευχαριστώ πολύ για τη συμμετοχή σας στην έρευνα.

Με Τιμή

Λεωνίδας Παρασκευόπουλος

Επίκουρος Καθηγητής ΤΕΙ Πελοποννήσου,

Τμήματος Διοίκησης Επιχειρήσεων και Οργανισμών,

Κατεύθυνσης Διοίκησης Μονάδων Υγείας και Πρόνοιας.

Τηλέφωνα: 694 595 1794, 272 104 5137

Ηλεκτρονική διεύθυνση: lparaskevo@teikal.gr

Ταχυδρομική διεύθυνση: ΤΕΙ ΠΕΛΟΠΟΝΝΗΣΟΥ, 241 00 Αντικάλαμος Καλαμάτας

Survey tool incorporating Board Self-Assessment Questionnaire

Adapted from form originally developed by the Center for Higher Education Governance and Leadership, University of Maryland, College Park under funding by the Lilly Endowment. Used by permission of Tom Holland.

To what extent do you agree or disagree with each of the following statements concerning the hospital board's operation?

Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	<mark>Agree</mark>	Strongly agree
1	2	3	<mark>4</mark>	5	<mark>6</mark>	<mark>7</mark>

	This board takes regular steps to keep informed about important trends in
<mark>1</mark>	the local health economy, and in the wider national healthcare environment,
	that might affect the organisation.
<mark>2</mark>	I have participated in board discussions about what we should do differently
_	as a result of a mistake the board made.
2	I have had conversations with other members of this board regarding
<mark>3</mark>	common interests we share outside this organisation.
	I have been in board meetings where it seemed that the subtleties of the
<mark>4</mark>	issues we dealt with escaped the awareness of a number of the members.
	Our board explicitly examines the 'downside' or possible pitfalls of any
<mark>5</mark>	important decisions it is about to make.
	Induction programmes for new board members specifically include a
<mark>6</mark>	segment about both the National Health System and the organisation's
0	
	history and traditions.
<mark>7</mark>	This board is more involved in trying to put out fires than in preparing for the
	<mark>future.</mark>
8	The board sets clear organisational priorities for the year ahead.
9	This board communicates its decisions to all those who are affected by them.
<mark>10</mark>	At least once every two years, our board has a retreat or special session to
	examine our performance, how well we are doing as a board.
<mark>11</mark>	Many of the issues that this board deals with seem to be separate tasks,
11	unrelated to one another.
	In discussing key issues, it is not unusual for someone on the board to talk
<mark>12</mark>	about what this organisation stands for and how that is related to the matter
	at hand.
13	Values are seldom discussed explicitly at our board meetings.
	If our board thinks that an important internal or external stakeholder or
<mark>14</mark>	stakeholder group is likely to disagree with an action we are considering, we
74	will make sure we learn how they feel before we actually make the decision.
<mark>15</mark>	Differences of opinion in board decisions are more often settled by vote than
1.0	by more discussion.
<mark>16</mark>	This board delays action until an issue becomes urgent or critical.
<mark>17</mark>	This board periodically sets aside time to learn more about important issues
_,	facing organisations like the one we govern.

<mark>18</mark>	I can recall an occasion when the board acknowledged its responsibility for an ill-advised decision.
<mark>19</mark>	This board has formed ad hoc committees or task forces that include staff as well as board members.
<mark>20</mark>	This board is as attentive to how it reaches conclusions as it is to what is decided.
<mark>22</mark>	I find it easy to identify the key issues that this board faces.
<mark>23</mark>	When faced with an important issue, the board often 'brainstorms' and tries to generate a whole list of creative approaches or solutions to the problem.
<mark>24</mark>	When a new member joins this board, we make sure that someone serves as a mentor to help this person learn the ropes.
<mark>25</mark>	I have been in board meetings where explicit attention was given to the concerns of the local community.
<mark>26</mark>	I have participated in board discussions about the effectiveness of our performance.
<mark>27</mark>	At our board meetings, there is at least as much dialogue among non- executive members as there is between non-executive members and executive members.
28	When issues come before our board, they are seldom framed in a way that enables members to see the connections between the matter at hand and the organisation's overall strategy.
<mark>29</mark>	I have participated in discussions with new board members about the roles and responsibilities of a board member
<mark>30</mark>	This board has made a key decision that I believe to be inconsistent with the mission of this organisation.
31	The leadership of this board typically goes out of its way to make sure that all members have the same information on important issues.
33	The board periodically requests information on the morale of the professional staff.
<mark>34</mark>	I have participated in board discussions about what we can learn from a mistake we have made
<mark>35</mark>	Our board meetings tend to focus more on current concerns than on preparing for the future
<mark>36</mark>	At least once a year, this board asks that the Managing Director articulate his/her vision for the organisation's future and strategies to realise that vision.
37	I have been present in board meetings where discussions of the history and mission of the organisation were key factors in reaching a conclusion on a problem.
<mark>38</mark>	I have never received feedback on my performance as a member of this board.
<mark>39</mark>	It is apparent from the comments of some of our board members that they do not understand the mission of the organisation very well.
<mark>40</mark>	This board has on occasion evaded responsibility for some important issue facing the organisation.

8efore reaching a decision on important issues, this board usually requests input from persons likely to be affected by the decision. There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values. This board often discusses where the organisation should be headed five or more years into the future. New members are provided with a detailed explanation of this organisation's mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation of its roles and responsibilities. I amable to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. A have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. This board does not recognize special events in the lives of its members. This board does not recognize special events in the larger environment that may present specific opportunities for this organisation. This board does not recognize special events in that left we member seget to know one another better. This board seeks information and advice from leaders of other similar organisation. This board understands the norms of the professions working in t			
There have been occasions where the board itself has acted in ways inconsistent with the organisation's deepest values. This board often discusses where the organisation should be headed five or more years into the future. New members are provided with a detailed explanation of this organisation's mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation's mission at periodic intervals. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I pind this board was that I believe strongly in the values of this organisation. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board makes explicit use of the long range priorities of this organisation organisation. Members of this board seldom attend social events sponsored by this organisation.	<mark>41</mark>		
142 inconsistent with the organisation's deepest values. 143 This board often discusses where the organisation should be headed five or more years into the future. 144 New members are provided with a detailed explanation of this organisation's mission when they join this board. 145 This board does not allocate organisational funds for the purpose of board education and development. 146 Recommendations from the Managing Director are usually accepted with little questioning in board meetings. 147 At times this board has appeared unaware of the impact its decisions will have within our local community. 148 Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. 149 This board reviews the organisation's mission at periodic intervals. 150 This board has conducted an explicit examination of its roles and responsibilities. 151 I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. 152 This board tries to avoid issues that are ambiguous and complicated. 153 The Managing Director rarely report to the board on the concerns of those the organisation serves. 154 I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. 155 One of the reasons I joined this board was that I believe strongly in the values of this organisation. 156 This board does not recognize special events in the lives of its members. 157 The board does not recognize special events in the lives of its members. 158 Former members of this board have participated in special events designed to convey to new members the organisation. 158 Former members of this board have participated in special events designed to convey to new members the organisation that helps members get to know one another better. 159 This board seeks information and advice from leaders of other similar organisations. 160 This board understands the norms of the professions working in this organisation. 161 Members of this bo			
This board often discusses where the organisation should be headed five or more years into the future. New members are provided with a detailed explanation of this organisation's mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation's mission at periodic intervals. This board reviews the organisation's mission at periodic intervals. This board treviews the organisation's mission at periodic intervals. This board treviews the organisation's wissues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. A have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board akes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions worki	<mark>42</mark>	· ·	
more years into the future. New members are provided with a detailed explanation of this organisation's mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board as conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. The board does not recognize special events in the lives of its members. The board does not recognize special events in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board seeks information and advice from leaders of other similar organisations. This board seeks information and advice from leaders of other similar organisation. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of			
Mew members are provided with a detailed explanation of this organisation's mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. Have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board seeks information and advice from leaders of other similar organisations. This board seeks information and advice from leaders of other similar organisation. This board seeks information and advice from leaders of other similar organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>43</mark>		
mission when they join this board. This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. The board does not recognize special events in the lives of its members. The board does not recognize special events in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board seeks information and advice from leaders of other similar organisations. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation.		•	
This board does not allocate organisational funds for the purpose of board education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board seeks information and advice from leaders of other similar organisations. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>44</mark>		
 education and development. Recommendations from the Managing Director are usually accepted with little questioning in board meetings. At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board seeks information and advice from leaders of other similar organisations. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. Members of this board seldom attend social events sponsored by this organisation. 			
46 Recommendations from the Managing Director are usually accepted with little questioning in board meetings. 47 At times this board has appeared unaware of the impact its decisions will have within our local community. 48 Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. 49 This board reviews the organisation's mission at periodic intervals. 50 This board has conducted an explicit examination of its roles and responsibilities. 51 Iam able to speak my mind on key issues without fear that I will be ostracized by some members of this board. 52 This board tries to avoid issues that are ambiguous and complicated. 53 The Managing Director rarely report to the board on the concerns of those the organisation serves. 54 Ihave been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. 55 One of the reasons I joined this board was that I believe strongly in the values of this organisation. 56 This board does not recognize special events in the lives of its members. 57 The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. 58 Former members of this board have participated in special events designed to convey to new members the organisation's history and values. 59 This board provides biographical information that helps members get to know one another better. 60 This board seeks information and advice from leaders of other similar organisations. 61 This board understands the norms of the professions working in this organisation. 62 This board understands the norms of the professions working in this organisation. 63 Members of this board seldom attend social events sponsored by this organisation. 64 More than half of this board's time is spent in discussions of issues of	<mark>45</mark>		
At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation.		·	
At times this board has appeared unaware of the impact its decisions will have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. Done of the reasons I joined this board was that I believe strongly in the values of this organisation. The board does not recognize special events in the lives of its members. The board does not recognize special events in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. Members of this board's time is spent in discussions of issues of	<mark>46</mark>		
have within our local community. Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation.			
Within the past year, this board has reviewed the organisation's strategies for attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation.	<mark>47</mark>		
attaining its long-term goals. This board reviews the organisation's mission at periodic intervals. This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation.		· ·	
This board treis to avoid issues that are ambiguous and complicated. This board treis to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. The board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. Members of this board seldom attend social events sponsored by this organisation.	<mark>48</mark>		
This board has conducted an explicit examination of its roles and responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. Members of this board seldom attend social events sponsored by this organisation.			
responsibilities. I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>49</mark>		
I am able to speak my mind on key issues without fear that I will be ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>50</mark>	· · · · · · · · · · · · · · · · · · ·	
ostracized by some members of this board. This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<u> </u>	'	
This board tries to avoid issues that are ambiguous and complicated. The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>51</mark>		
The Managing Director rarely report to the board on the concerns of those the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<u> </u>		
the organisation serves. I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<u>32</u>		
I have been in board meetings where the discussion focused on identifying or overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>53</mark>		
overcoming the organisation's weakness. One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of			
One of the reasons I joined this board was that I believe strongly in the values of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>54</mark>		
of this organisation. This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of			
This board does not recognize special events in the lives of its members. The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>55</mark>		
The board discusses events and trends in the larger environment that may present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<u>56</u>		
present specific opportunities for this organisation. Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	50		
Former members of this board have participated in special events designed to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>57</mark>		
to convey to new members the organisation's history and values. This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of			
This board provides biographical information that helps members get to know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>58</mark>		
know one another better. This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of			
This board seeks information and advice from leaders of other similar organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<mark>59</mark>		
organisations. This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	60		
This board makes explicit use of the long range priorities of this organisation in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	60		
in dealing with current issues. This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	Ca		
This board understands the norms of the professions working in this organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	61		
organisation. Members of this board seldom attend social events sponsored by this organisation. More than half of this board's time is spent in discussions of issues of	<u></u>		
organisation. More than half of this board's time is spent in discussions of issues of	62	·	
organisation. More than half of this board's time is spent in discussions of issues of	ca	Members of this board seldom attend social events sponsored by this	
1 6 /1 1	03		
importance to the organisation's long- range future.	C A	More than half of this board's time is spent in discussions of issues of	
	04	importance to the organisation's long- range future.	

The Values Survey Module 1994 (VSM 94) - Copyright © Geert Hofstede BV

FREELY USED FOR RESEARCH PURPOSES

Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please circle one answer in each line across):

1 = of utmost importance

2 = very important

3 = of moderate importance

4 = of little importance

5 = of very little or no importance

have sufficient time for your					
personal or family life	1	2	3	4	5
have good physical working					
conditions (good ventilation					
and lighting, adequate work					
space, etc.)	1	2	3	4	5
have a good working relation-					
ship with your direct superior	1	2	3	4	5
have security of employment	1	2	3	4	5
work with people who cooperate					
well with one another	1	2	3	4	5
be consulted by your direct					
superior in his/her decisions	1	2	3	4	5
have an opportunity for advance-					
ment to higher level jobs	1	2	3	4	5
have an element of variety and					
adventure in the job	1	2	3	4	5
	have good physical working conditions (good ventilation and lighting, adequate work space, etc.) have a good working relationship with your direct superior have security of employment work with people who cooperate well with one another be consulted by your direct superior in his/her decisions have an opportunity for advancement to higher level jobs have an element of variety and	personal or family life 1 have good physical working conditions (good ventilation and lighting, adequate work space, etc.) 1 have a good working relationship with your direct superior 1 have security of employment 1 work with people who cooperate well with one another 1 be consulted by your direct superior 1 have an opportunity for advancement to higher level jobs 1 have an element of variety and	have good physical working conditions (good ventilation and lighting, adequate work space, etc.) have a good working relationship with your direct superior have security of employment to work with people who cooperate well with one another be consulted by your direct superior to be consulted by your direct superior have an opportunity for advancement to higher level jobs have an element of variety and	personal or family life 1 2 3 have good physical working conditions (good ventilation and lighting, adequate work space, etc.) 1 2 3 have a good working relationship with your direct superior 1 2 3 have security of employment 1 2 3 work with people who cooperate well with one another 1 2 3 be consulted by your direct superior 1 2 3 have an opportunity for advancement to higher level jobs 1 2 3 have an element of variety and	personal or family life 1 2 3 4 have good physical working conditions (good ventilation and lighting, adequate work space, etc.) 1 2 3 4 have a good working relationship with your direct superior 1 2 3 4 have security of employment 1 2 3 4 work with people who cooperate well with one another 1 2 3 4 be consulted by your direct superior 1 2 3 4 be consulted by rour direct superior 1 2 3 4 have an opportunity for advancement to higher level jobs 1 2 3 4 have an element of variety and

In your private life, how important is each of the following to you? (please circle one answer in each line across):

9.	Personal steadiness and stability	1	2	3	4	5	
10.	Thrift		1	2	3	4	5
11.	Persistence (perseverance)		1	2	3	4	5
12.	Respect for tradition		1	2	3	4	5

13. How often do you feel nervous or tense at work?

3. sometimes 4. usually 5. always 14. How frequently, in your experience, are subordinates afraid to express disagreement with their superiors? 1. very seldom 2. seldom 3. sometimes 4. frequently 5. very frequently To what extent do you agree or disagree with each of the following statements? (please circle one answer in each line across): 1 = strongly agree 2 = agree 3 = undecided 4 = disagree 5 = strongly disagree 15. Most people can be trusted 1 2 3 4 5 16. One can be a good manager without having precise answers to most questions that subordinates may raise about their work 17. An organisation structure in which certain subordinates have two bosses should be avoided at all costs 1 2 3 4 5 18. Competition between employees usually does more harm than 19. A company's or organisation's rules should not be broken not even when the employee thinks it is in the company's best interest 20. When people have failed in life it is often their own fault 1 2 3 4 5

never
 seldom

Some information about yourself (for statistical purposes):

- 21. Are you:
 - 1. male
 - 2. female
- 22. How old are you?
 - 1. Under 20
 - 2. 20-24
 - 3. 25-29
 - 4. 30-34
 - 5. 35-39
 - 6. 40-49
 - 7. 50-59
 - 8. 60 or over
- 23. How many years of formal school education (or their equivalent) did you complete (starting with primary school)?
 - 1. 10 years or less
 - 2. 11 years
 - 3. 12 years
 - 4. 13 years
 - 5. 14 years
 - 6. 15 years
 - 7. 16 years
 - 8. 17 years
 - 9. 18 years or over
- 24. If you have or have had a paid job, what kind of job is it / was it?
 - 1. No paid job (includes full-time students)
 - 2. Unskilled or semi-skilled manual worker
 - 3. Generally trained office worker or secretary
 - 4. Vocationally trained craftsperson, technician, informatician, nurse, artist or equivalent
 - 5. Academically trained professional or equivalent (but not a manager of people)
 - 6. Manager of one or more subordinates (non-managers)
 - 7. Manager of one or more managers
- 25. What is your nationality?
- 26. What was your nationality at birth (if different)?

Questionnaire of the Survey Research (in Greek)

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ





Θα αναπτυχθεί εργαλείο **αυτο**-αζιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του E.Σ.Υ.

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου σας, βάσει της κλίμακας παραπλεύρως, κυκλώνοντας τον αντίστοιχο αριθμό:	Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Αισρανώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
Το Δ.Σ. παρακολουθεί συστηματικά τις σημαντικές εξελίξεις και τάσεις στην περίθαλψη, που δύνανται να επηρεάσουν το νοσοκομείο.	1	2	3	4	5	6	7
Έχω συμμετάσχει σε συνεδριάσεις, όπου διερευνήσαμε τι διαφορετικό θα μπορούσαμε να έχουμε πράξει, ύστερα από μια εσφαλμένη απόφαση του Δ.Σ.	1	2	3	4	5	6	7
Είχα συζητήσεις με άλλα μέλη του Δ.Σ., για κοινά μας ενδιαφέροντα εκτός νοσοκομείου.	1	2	3	4	5	6	7
Έχω συμμετάσχει σε συνεδριάσεις, όπου ήταν φανερό πως κάποια μέλη του Δ.Σ. δεν είχαν ενημέρωση επί ιδιαιτέρων πτυχών των θεμάτων, επί των οποίων αποφασίζαμε.	1	2	3	4	5	6	7
Το Δ.Σ. εξετάζει ενδελεχώς τα αρνητικά ή τους πιθανούς μη προφανείς κινδύνους, ενόψει κάθε σημαντικής απόφασης.	1	2	3	4	5	6	7
Τα νεοεισερχόμενα μέλη στο Δ.Σ. ακολουθούν ειδική διαδικασία προσαρμογής, όπου εμβαθύνουν σε γνώσεις περί του Ε.Σ.Υ., καθώς και στην ιστορία και στις παραδόσεις του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. συνήθως παρεμβαίνει πυροσβεστικά, παρά προετοιμάζει το μέλλον του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. θέτει σαφείς οργανωτικές προτεραιότητες για την ερχόμενη χρονιά.	1	2	3	4	5	6	7
Το Δ.Σ. ανακοινώνει τις αποφάσεις του σε όλους όσους επηρεάζονται απ' αυτές.	1	2	3	4	5	6	7
Τουλάχιστον μία φορά στα δύο χρόνια, το Δ.Σ. συνέρχεται σε ειδική συνεδρίαση, αποκλειστικά για να εξετάσει την απόδοσή μας, δηλαδή το πόσο καλά τα πηγαίνουμε, ως Συμβούλιο.	1	2	3	4	5	6	7
Πολλά από τα θέματα με τα οποία ασχολείται το Δ.Σ. φαίνονται να είναι ασύνδετα, άσχετα μεταξύ τους.	1	2	3	4	5	6	7
Κατά τη συζήτηση καίριων θεμάτων, δεν είναι σπάνιο κάποιο μέλος να επικαλείται το τι αντιπροσωπεύει αυτό το νοσοκομείο και να το συνδέει με το υπό εξέταση ζήτημα.	1	2	3	4	5	6	7
$H\theta$ ικές αξίες σπάνια συζητούνται ρητώς στις συνεδριάσεις του $\Delta.\Sigma.$	1	2	3	4	5	6	7
Αν το Δ.Σ. θεωρεί ότι σημαίνοντες άμεσα ενδιαφερόμενοι, εντός ή εκτός του νοσοκομείου, ενδέχεται να διαφωνήσουν με κάποια ενέργειά μας, θα διασφαλίσουμε να ακουστεί η θέση τους, πριν τη λήψη της απόφασης.	1	2	3	4	5	6	7
Διαφορές απόψεων στο Δ.Σ. διευθετούνται συνήθως με ψηφοφορία, παρά με εξαντλητική συζήτηση.	1	2	3	4	5	6	7
Το Δ.Σ. αναβάλει την ανάληψη δράσης, μέχρις ότου ένα ζήτημα καταστεί επείγον ή κρίσιμο.	1	2	3	4	5	6	7





Θα αναπτυχθεί εργαλείο **αυτο**-αζιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου σας, βάσει της κλίμακας παραπλεύρως, κυκλώνοντας τον αντίστοιχο αριθμό:	Διαφωνώ Απολύτως	Διαφωνώ	Λιαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Αισοωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
Το Δ.Σ. περιοδικά βρίσκει χρόνο, για να εμβαθύνει σε σημαντικά ζητήματα, που αντιμετωπίζουν παρόμοια νοσοκομεία με το δικό μας.	1	2	3	4	5	6	7
Μπορώ να θυμηθώ μια περίπτωση, όπου το Δ.Σ. αναγνώρισε ευθύνη, για μια απόφαση που στηρίχθηκε σε λανθασμένη πληροφόρηση.	1	2	3	4	5	6	7
Το Δ.Σ. έχει ορίσει επιτροπές ή ομάδες εργασίας ειδικού σκοπού, από κοινού με υπαλλήλους και μέλη του Δ.Σ.	1	2	3	4	5	6	7
Το Δ.Σ. είναι τόσο προσεκτικό στον τρόπο που καταλήγει σε συμπεράσματα, όσο και στο τι αποφασίζει.	1	2	3	4	5	6	7
Τα περισσότερα μέλη του Δ.Σ. βασίζονται σε προσωπικές εμπειρίες από τις συνεδριάσεις και σε ανεπίσημες συζητήσεις, προκειμένου να μάθουν σχετικά με τον ρόλο τους και τις ευθύνες τους.	1	2	3	4	5	6	7
Μου είναι εύκολο να αναγνωρίσω ποια είναι τα σημαντικά ζητήματα, που το Δ.Σ. αντιμετωπίζει.	1	2	3	4	5	6	7
Όταν το Δ.Σ. αντιμετωπίζει ένα σημαντικό θέμα, γίνεται συχνά ανταλλαγή ιδεών και παραγωγή ολόκληρης λίστας με δημιουργικές προσεγγίσεις ή με εναλλακτικές λύσεις του προβλήματος.	1	2	3	4	5	6	7
Όταν ένα νέο μέλος εισέρχεται στο Δ.Σ., διασφαλίζουμε ότι κάποιος εξ ημών λειτουργεί ως μέντωρ, στο να τον βοηθήσει να μάθει τις ειδικές διαδικασίες του Συμβουλίου.	1	2	3	4	5	6	7
Έχω συμμετάσχει σε συνεδριάσεις, όπου δόθηκε ιδιαίτερη προσοχή στις ευαισθησίες της τοπικής κοινωνίας.	1	2	3	4	5	6	7
Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., αναφορικά με την αποτελεσματικότητα των προσπαθειών μας.	1	2	3	4	5	6	7
Στις συνεδριάσεις μας διεξάγεται τουλάχιστον τόσος διάλογος ανάμεσα στα μέλη, όσος και μεταξύ μελών και διευθυντικών στελεχών του νοσοκομείου.	1	2	3	4	5	6	7
Όταν τα θέματα τίθενται στα μέλη του Δ.Σ., σπανίως παρουσιάζονται με τρόπο ώστε να είναι ευκρινές πως αυτά σχετίζονται με τη συνολική στρατηγική του νοσοκομείου.	1	2	3	4	5	6	7
Έχω συμμετάσχει σε συζητήσεις με νεοεισερχόμενα μέλη, αναφορικά με το ρόλο και τις ευθύνες του μέλους $\Delta.\Sigma$. 1	2	3	4	5	6	7
Το Δ.Σ. έχει λάβει σημαντική απόφαση, που πιστεύω ότι είναι ασυμβίβαστη με την αποστολή του νοσοκομείου.	1	2	3	4	5	6	7
Ο πρόεδρος του Δ.Σ. δεν λογαριάζει κόπο, προκειμένου να διασφαλίσει ότι όλα τα μέλη έχουν την ίδια ενημέρωση επί των σημαντικών θεμάτων.	1	2	3	4	5	6	7
Το Δ.Σ. έχει υιοθετήσει κάποιους ειδικούς σκοπούς για το ίδιο, διαφορετικούς από τους σκοπούς που έχει για το νοσοκομείο.	1	2	3	4	5	6	7
Το Δ.Σ., περιοδικά, ζητά να μαθαίνει για το ηθικό φρόνημα του προσωπικού του νοσοκομείου.	1	2	3	4	5	6	7





Θα αναπτυχθεί εργαλείο **αυτο**-αξιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου σας, βάσει της κλίμακας παραπλεύρως, κυκλώνοντας τον αντίστοιχο αριθμό:	Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Αισφωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., σχετικά με το τι μπορούμε να διδαχθούμε από ένα λάθος που κάναμε.	1	2	3	4	5	6	7
Οι συνεδριάσεις μας τείνουν να εστιάζουν περισσότερο σε τρέχουσες υποθέσεις, παρά στην προετοιμασία του μέλλοντος του νοσοκομείου.	1	2	3	4	5	6	7
Τουλάχιστον μία φορά το χρόνο, το Δ.Σ. ζητά από το Διοικητή να διατυπώσει ρητά το όραμά του για το μέλλον του νοσοκομείου και τις στρατηγικές για την υλοποίηση αυτού του οράματος.	1	2	3	4	5	6	7
Έχω παραστεί σε συνεδριάσεις του Δ.Σ., όπου οι συζητήσεις για την ιστορία και την αποστολή του νοσοκομείου λειτούργησαν καθοριστικά στη διαμόρφωση της απόφασης, σχετικά με ένα πρόβλημα.	1	2	3	4	5	6	7
Δεν έχω λάβει ποτέ σχόλιο για την απόδοσή μου, ως μέλους του Διοικητικού Συμβουλίου.	1	2	3	4	5	6	7
Από τις αναφορές μερικών εκ των μελών του Δ.Σ. σε συνεδριάσεις, είναι φανερό ότι δεν αντιλαμβάνονται πολύ καλά την αποστολή του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. περιστασιακά έχει αποφύγει να αναλάβει ευθύνη, για σημαντικό θέμα του νοσοκομείου.	1	2	3	4	5	6	7
Πριν από τη λήψη απόφασης επί σημαντικού θέματος, το Δ.Σ. συνήθως ζητά να πληροφορηθεί σχετικά, από όσους πιθανόν να θίγονται από την απόφαση.	1	2	3	4	5	6	7
Έχουν υπάρξει περιπτώσεις, όπου το Δ.Σ. ενήργησε ασύμβατα με τις βαθύτερες αξίες του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. συχνά συζητά προς τα που θα πρέπει να προσανατολίζεται το νοσοκομείο σε πέντε ή και περισσότερα χρόνια, στο μέλλον.	1	2	3	4	5	6	7
Στα νέα μέλη δίνεται μια αναλυτική επεξήγηση της αποστολής του νοσοκομείου, όταν εισέρχονται στο Δ.Σ.	1	2	3	4	5	6	7
Το Δ.Σ. δεν διαθέτει πιστώσεις του νοσοκομείου για εκπαίδευση των μελών του και ανάπτυξη του Συμβουλίου.	1	2	3	4	5	6	7
Οι εισηγήσεις του Διοικητή στις συνεδριάσεις γίνονται συνήθως αποδεκτές χωρίς πολλές ερωτήσεις.	1	2	3	4	5	6	7
Κατά καιρούς, το Δ.Σ. έχει φανεί απληροφόρητο για τις συνέπειες των αποφάσεών του στην τοπική κοινωνία.	1	2	3	4	5	6	7
Εντός του περασμένου έτους, το $\Delta.\Sigma$. επανεξέτασε τις στρατηγικές του νοσοκομείου, για την επίτευξη των μακροπρόθεσμων στόχων του.	1	2	3	4	5	6	7
Το Δ.Σ. ανασκοπεί κριτικά την αποστολή του νοσοκομείου, τουλάχιστον μια φορά στα πέντε χρόνια.	1	2	3	4	5	6	7
Το Δ.Σ. έχει προβεί σε αναλυτική εξέταση των ρόλων και των ευθυνών του.	1	2	3	4	5	6	7
Μπορώ να εκφράσω τη γνώμη μου επί καίριων ζητημάτων, χωρίς το φόβο ότι θα περιθωριοποιηθώ από κάποια μέλη του Δ.Σ.	1	2	3	4	5	6	7





Θα αναπτυχθεί εργαλείο **αυτο**-αζιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου σας, βάσει της κλίμακας παραπλεύρως, κυκλώνοντας τον αντίστοιχο αριθμό:	Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Αυσοσνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
Το Δ.Σ. προσπαθεί να αποφεύγει ζητήματα που είναι αμφιλεγόμενα και περίπλοκα.	1	2	3	4	5	6	7
Ο Διοικητής σπάνια εκθέτει στο Δ.Σ. τις ευαισθησίες αυτών, τους οποίους το νοσοκομείο εξυπηρετεί.	1	2	3	4	5	6	7
Έχω παρευρεθεί σε συνεδριάσεις του Δ.Σ., όπου η συζήτηση επικεντρώθηκε στον εντοπισμό ή στην αντιμετώπιση των αδυναμιών του νοσοκομείου.	1	2	3	4	5	6	7
Ένας από τους λόγους που είμαι μέλος του Δ.Σ., ήταν ότι πιστεύω ακράδαντα στις αξίες αυτού του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. δεν δίνει ιδιαίτερη σημασία σε εξαιρετικά γεγονότα στις ζωές των μελών του.	1	2	3	4	5	6	7
Το Δ.Σ. συζητά γεγονότα και τάσεις του ευρύτερου περιβάλλοντος, που μπορεί να συνιστούν ιδιαίτερες ευκαιρίες για το νοσοκομείο.	1	2	3	4	5	6	7
Πρώην μέλη του Δ.Σ. έχουν συμμετάσχει σε εκδηλώσεις, ειδικά για να επικοινωνήσουν στα νέα μέλη την ιστορία και τις αξίες του νοσοκομείου.	1	2	3	4	5	6	7
Το Δ.Σ. παρέχει βιογραφική πληροφόρηση, που βοηθά τα μέλη του να γνωριστούν καλύτερα μεταξύ τους.	1	2	3	4	5	6	7
Το Δ.Σ. αναζητά πληροφόρηση και συμβουλές από διοικήσεις ομοειδών νοσοκομείων.	1	2	3	4	5	6	7
Το Δ.Σ. λαμβάνει ρητά υπόψη τις μακροπρόθεσμες προτεραιότητες του νοσοκομείου, καθόσον χειρίζεται τις τρέχουσες υποθέσεις.	1	2	3	4	5	6	7
Το Δ.Σ. κατανοεί το κανονιστικό πλαίσιο, για κάθε ειδικότητα και κατηγορία εργαζομένου στο νοσοκομείο.	1	2	3	4	5	6	7
Μέλη του Δ.Σ. σπανίως παρευρίσκονται σε κοινωνικές εκδηλώσεις, που διοργανώνει το νοσοκομείο.	1	2	3	4	5	6	7
Περισσότερο από το μισό χρόνο κάθε συνεδρίασης του Δ.Σ., αφιερώνεται στην εξέταση ζητημάτων σημαντικών για το μακροπρόθεσμο μέλλον του νοσοκομείου.	1	2	3	4	5	6	7





Θα αναπτυχθεί εργαλείο **αυτο**-αζιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Σκεφτείτε την <u>ιδανική εργασία</u> , αγνοώντας την τωρινή σας απασχόληση εφόσον έχετε κάποια. Κατά την επιλογή της ιδανικής εργασίας, πόσο σημαντικό θα ήταν για εσάς το να	Ύψιστης σημασίας	Πολύ σημαντικό	Μέτριας σημασίας	Μικρής σημασίας	Ελάχιστης ή καθόλου σημασίας
έχετε επαρκή χρόνο για την προσωπική ή την οικογενειακή σας ζωή	1	2	3	4	5
έχετε καλό φυσικό εργασιακό περιβάλλον (καλό εξαερισμό και φωτισμό, επαρκή χώρο εργασίας, κ.λπ.)	1	2	3	4	5
έχετε καλές εργασιακές σχέσεις με τον προϊστάμενό σας	1	2	3	4	5
έχετε ασφαλή απασχόληση	1	2	3	4	5
εργάζεστε με άτομα που συνεργάζονται καλά μεταξύ τους	1	2	3	4	5
διαβουλεύεστε με τον προϊστάμενό σας για τις αποφάσεις του/της	1	2	3	4	5
έχετε προοπτική ανέλιξης σε ανωτέρου επιπέδου καθήκοντα	1	2	3	4	5
έχετε κάποιο στοιχείο ποικιλίας και περιπέτειας στην εργασία	1	2	3	4	5
Στην προσωπική σας ζωή, πόσο σημαντικό είναι για σας κάθε ένα από τα ακόλουθα;					
Προσωπική σταθερότητα και ισορροπία	1	2	3	4	5
Αποταμίευση	1	2	3	4	5
Επιμονή (εγκαρτέρηση)	1	2	3	4	5
Σεβασμός στην παράδοση	1	2	3	4	5
	Ποτέ	Σπάνια	Μερικές φορές	Συνήθως	Πάντα
Πόσο συχνά νιώθετε άγχος ή υπερένταση στην εργασία;	1	2	3	4	5
	Πολύ σπάνια	Σπάνια	Μερικές φορές	Συχνά	Πολύ συχνά
Πόσο συχνά, σύμφωνα με την εμπειρία σας, φοβούνται οι υφιστάμενοι να εκφράσουν τη διαφωνία τους με τους ανωτέρους τους;	1	2	3	4	5





Η παρούσα επιστημονική έρευνα έχει την υποστήριζη του Υπουργείου Υγείας

Θα αναπτυχθεί εργαλείο **αυτο**-αζιολόγησης των Διοικητικών Συμβουλίων, στη διάθεση των Νοσοκομείων του Ε.Σ.Υ.

Πόσο συμφωνείτε ή δι	αφωνείτε με κάθε μι	ια από τις ακ	<i>κόλουθ</i>	ες δηλώσ	εις;				Συμφων απολύτ		ωνώ		έχω ασίσει	Διαφων	νώ Διαφωνώ πλήρως
Οι περισσότεροι άνθρωπ	οι είναι άξιοι εμπιστ	οσύνης.							1	2		3		4	5
Κάποιος μπορεί να είναι περισσότερα ερωτήματα									1	2		3		4	5
Μια οργανωτική δομή, σ με κάθε τίμημα.	στην οποία ένας υφισ	τάμενος έχει	δύο υ	τευθύνους	ς, θα πρέ	πει να	αποφεύγετ	αι	1	2		3		4	5
Ο ανταγωνισμός μεταξύ	των υπαλλήλων συν	ήθως προκαλ	ιεί περ	ισσότερο	κακό απ	' ότι κ	αλό.		1	2		3		4	5
Οι κανόνες μιας εταιρεία υπάλληλος θεωρεί ότι αυ						όμη κα	αι όταν ο		1	2		3		4	5
Όταν οι άνθρωποι αποτυ	γχάνουν στη ζωή τοι	υς, αυτό συχι	νά οφεί	ίλεται σε	δικό του	ς λάθο	ις.		1	2		3		4	5
Ορισμένες πληροφορίες σχετικά με τον εαυτό σας (για στατιστικούς σκοπούς):															
	Κάτω από 29	30-34		35-3	39	4	0-44	45-4	49	50-54	55-	-59	60-6	5	66 και άνω
Πόσων ετών είστε;	1	2		3			4	5		6		7	8		9
Πόσα χρόνια επ	ίσημης σχολικής εκ	παίδευσης :	έχετε	12 ή λιγ	⁄ότερα	13	χρόνια	14 χρο		15 χρόνια	16 χρ	ρόνια	17 χρό	νια 18	ή περισσότερα
συμπληρ	οώσει (ξεκινώντας α	πό το δημοτ	ικό);	1			2	3		4		5	6		7
Αν έχετε ή είχατε αμει	Βόμενη απασγόλησι	η, τι είδους	ή ειδικ	δίκευτος ημι- ευμένος γάτης	Γενικ κατάρτ υπάλλι γραφεί γραμμο	τισης ηλος ου ή	Τεχνική τεχνίτη ειδικός π νοσ καλλιτέχν	ης, τεχι ληροφ ηλευτή	νικός, ορικής, ής,	Πανεπιστ κατάρ επαγγελμ παρόμοιο (διευθυ	 τισης ιατίας ή (αλλά ό	ή ή	ιιευθυντή περισσο υφισταμ όχι διευθ	τέρων ένων	Διευθυντής ενός ή περισσοτέρων διευθυντών
απασχόληση είναι/ήταν αυτή;				1	2			3		4			5		6
Ποια είναι η εθνικότητά	ι σας;			п	οια ήταν	νη εθν	νικότητά σ	ας κατ	τά τη γένν	νηση (αν σήμ	ιερα εί	ναι διο	ιφορετικ	ή);	

Σας ευχαριστούμε πάρα πολύ για τη συνεργασία σας!

Appendix IX: Glossary of Terms

Term	Meaning / Explanation						
Adverse selection	The misrepresentation by the agent of his private						
Adverse selection	information in order to achieve his own goals.						
	Costs for solving the problems of moral hazard and						
Agency costs	adverse selection by the principal. (See entries 'Moral						
	hazard', 'Adverse selection' & 'Agency relationship').						
	Defined as 'a contract under which one or more persons						
A	(the principal(s)) engage another person (the agent) to						
Agency	perform some service on their behalf which involves						
relationship	delegating some decision-making authority to the agent'						
	(Jensen & Meckling, 1976, p. 308)						
Agent	See entry 'Agency relationship'						
	The board recognizes complexities and subtleties of the						
Analytical	issues it faces, and it draws upon multiple perspectives						
competency	to dissect complex problems and to synthesize						
	appropriate responses.						
Arm's-length	Linkages, or contracts among the organisation and its						
market	counterparts in commercial trade (e.g. customers,						
transactions	suppliers, and subcontractors).						
A	Measures the amount of variance captured by a latent						
Average Variance	construct in relation to the variance due to random						
extracted (AVE)	measurement error.						
Dounded	A term coined by Simon (1955), observes that human						
Bounded	decision makers simply can't process all of the						
rationality	information available to them.						
Composite	A measure of the overall reliability of an assembly of						
reliability (CR)	diverse but similar items.						
	The extent to which a set of measured items actually						
Construct validity	reflect the theoretical latent construct they are designed						
	to measure.						
Content validity	Refers to how accurately an assessment tool taps into						
	the various aspects of the latent construct in question.						
Contextual	The board understands and takes into account the						
competency	culture, values, mission, and norms of the organisation it						
	governs.						
Convergent	The variables within a single factor are highly correlated.						
validity							
Corporate	The problem of identifying and of balancing competing						
governance	stakeholder claims. (See entries 'Agency theory',						
problem	'Stakeholders').						

Critical Incidents Technique	The critical incident technique consists of a set of procedures for collecting direct observations of human behaviour in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles (Flanagan, 1954).
Culture	From the three meanings of the word 'culture' (i.e. 'cultivation'; 'civilization'; 'collective ways of acting, thinking, and feeling'), the last one is of interest here. Culture as thus defined is a <i>construct</i> , that is, a product of our imagination. In the case of 'national culture', the category is the nation; in the case of 'organisational cultures', the category is the organisation as opposed to other organisations - other things, like nationality, being equal. Next to national and organisational cultures there are 'regional cultures', 'occupational cultures', 'gender cultures' and so on.
Diagnostic Related Groups	Since the innovative work of Robert Fetter at Yale University in the '70s, DRG, or DRG-like nomenclatures have been used all over the world. That unit measures <i>a posteriori</i> the reason why a patient stayed in a hospital. It is both a clinical and an economical unit of measurement.
Educational competency	The board takes the necessary steps to ensure that members are well informed about the organisation, the professions working there, and the board's own roles, responsibilities, and performance.
Ex ante vs. ex post	'Quantities defined in terms of measurements made at the end of the period in question are referred to as ex post; quantities defined in terms of action planned at the beginning of the period in question are referred to as ex ante.' (Myrdal, 1939, p. 34)
Exploratory factor analysis	Explores the data and provides information about how many factors are needed to best represent the data.
Factor analysis	A <i>method</i> for identifying a structure that underlies the relations among a set of observed variables. A <i>technique</i> that transforms the correlations among a set of observed variables into a smaller number of underlying factors, which contain all the essential information about the linear interrelationships among the original test scores. A <i>statistical procedure</i> that involves the relationship between observed variables and the underlying latent factors.
Factor loading	A data-driven parameter that estimates the relationships (correlation) between an observed item and a latent factor.
Individualism vs. Collectivism	The extent to which individuals are integrated within Groups
Interpersonal competency	The board nurtures the development of its members as a group, attends to the board's collective welfare, and fosters a sense of cohesiveness and teamwork.

Masculinity vs.	The extent to which roles of women versus men are different					
Femininity	in the society.					
Moral hazard	The lack of effort put forth by the agent or the misuse of					
	principal's recourses to cater the agent's interests.					
Nexus of	See entry 'Stakeholders'					
contracts	·					
	Investments that are specialized and unique to a task (e.g.					
Nonredeployable	specialized equipment for the production of a certain					
investments	component, unique physical facilities for the distribution of a					
	certain product).					
Political	The board accepts that one of its primary responsibilities is to					
competency	develop and maintain healthy two-way communications and					
Competency	positive relationships with key constituencies.					
	The extent to which the less powerful members of institutions					
Power Distance	and organisations within a country expect and accept that					
	power is distributed unequally					
Principal	See entry 'Agency relationship'					
Principal axis	A factor extraction method					
factoring	A factor extraction method					
	'Quantitative research' is an approach for testing objective					
	theories by examining the relationship among variables, which					
Ouantitativa	in turn can be measured, so that data can be analyzed using					
Quantitative	statistical procedures. At the other end of the continuum,					
research	'qualitative research' is an approach for exploring and					
0 10 10	understanding the meaning individuals or groups ascribe to a					
Qualitative	problem. 'Mixed methods research' resides in the middle of					
research	this continuum because it incorporates elements of both					
	qualitative and quantitative approaches with the core					
Mixed methods	assumption that the combination of qualitative and					
research	quantitative approaches provides a more complete					
	understanding of a research problem than either approach					
	alone (Creswell, 2014).					
	The modern economic organisation has been described as a					
	nexus of contracts (i.e. written and unwritten) among various					
	parties (stakeholders), each contributing one or more factors					
Stakeholders	of production (e.g. labour, land, capital in its various forms,					
	raw materials) in exchange for a claim of one sort or another					
	on the organisation's cash flow (Jensen & Meckling, 1976).					
	The board helps envision and shape the institutional direction					
Strategic	and helps ensure a strategic approach to the organisation's					
competency	future.					
Uncertainty	The extent to which the members of a culture feel threatened					
Avoidance	by uncertain or unknown situations					
Avoidance	by uncertain of unknown situations					

Appendix X: Board Self-Assessment Questionnaire (in Greek)

Εργαλείο αυτό-αξιολόγησης διοικητικών συμβουλίων νοσοκομείων Ε.Σ.Υ.

Αξιότιμο Μέλος του Διοικητικού Συμβουλίου του Νοσοκομείου μας

Προσκαλείστε να συμμετάσχετε σε διαδικασία αυτο-αξιολόγησης του έργου του διοικητικού μας συμβουλίου. Το ερωτηματολόγιο, που είναι ένα επιστημονικά ελεγμένο εργαλείο αυτο-αξιολόγησης, επιζητά απόψεις από όλα τα μέλη του Δ.Σ., για να ανακαλύψει την οπτική σας γωνία, όσον αφορά τη διοικητική επάρκεια και κατ' επέκταση την επίδοση του συμβουλίου μας.

Η συμπλήρωση του ερωτηματολογίου θα απαιτήσει περίπου 12 λεπτά της ώρας, ενώ η συμμετοχή σας θα είναι κορυφαίας αξίας, για να προσφερθεί σημαντική γνώση, στο πλαίσιο βελτίωσης της επίδοσής μας, ως κορυφαίου οργάνου διακυβέρνησης του Νοσοκομείου μας.

Η πληροφόρηση που θα συγκεντρωθεί είναι εμπιστευτική.

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Δηλώστε το βαθμό διαφωνίας ή συμφωνίας σας με τις ακόλουθες θέσεις, που αφορούν τη λειτουργία του Διοικητικού Συμβουλίου του Νοσοκομείου μας, βάσει της ακόλουθης κλίμακας, καταχωρώντας τον αντίστοιχο αριθμό στη δεξιά στήλη:

Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Διαφωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
1	2	3	4	5	6	7

1(A1)	Το Δ.Σ. παρακολουθεί συστηματικά τις σημαντικές εξελίξεις και τάσεις στην περίθαλψη, που δύνανται να επηρεάσουν το νοσοκομείο.	
2(E1)	Έχω συμμετάσχει σε συνεδριάσεις, όπου διερευνήσαμε τι διαφορετικό θα μπορούσαμε να έχουμε πράξει, ύστερα από μια εσφαλμένη απόφαση του Δ.Σ.	
3(Δ1)	Είχα συζητήσεις με άλλα μέλη του Δ.Σ., για κοινά μας ενδιαφέροντα εκτός νοσοκομείου.	
4(A2)	Το Δ.Σ. εξετάζει ενδελεχώς τα αρνητικά ή τους πιθανούς μη προφανείς κινδύνους, ενόψει κάθε σημαντικής απόφασης.	
5(Σ1)	Το Δ.Σ. θέτει σαφείς οργανωτικές προτεραιότητες για την ερχόμενη χρονιά.	
6(П1)	Το Δ.Σ. ανακοινώνει τις αποφάσεις του σε όλους όσους επηρεάζονται απ' αυτές.	
<u>7(Λ1)</u>	Ηθικές αξίες σπάνια συζητούνται ρητώς στις συνεδριάσεις του Δ.Σ.	
8(П2)	Αν το Δ.Σ. θεωρεί ότι σημαίνοντες άμεσα ενδιαφερόμενοι, εντός ή εκτός του νοσοκομείου, ενδέχεται να διαφωνήσουν με κάποια ενέργειά μας, θα διασφαλίσουμε να ακουστεί η θέση τους, πριν τη λήψη της απόφασης.	

	Το Δ.Σ. σους διαά θαίσται το ένα του συθού.	1
9(E2)	Το Δ.Σ. περιοδικά βρίσκει χρόνο, για να εμβαθύνει σε σημαντικά	
` ,	ζητήματα, που αντιμετωπίζουν παρόμοια νοσοκομεία με το δικό μας.	
10(П3)	Το Δ.Σ. έχει ορίσει επιτροπές ή ομάδες εργασίας ειδικού σκοπού, από	
	κοινού με υπαλλήλους και μέλη του Δ.Σ.	
11(Δ2)	Το Δ.Σ. είναι τόσο προσεκτικό στον τρόπο που καταλήγει σε	
, ,	συμπεράσματα, όσο και στο τι αποφασίζει.	
12(A3)	Μου είναι εύκολο να αναγνωρίσω ποια είναι τα σημαντικά ζητήματα,	
	που το Δ.Σ. αντιμετωπίζει.	
10/11	Όταν το Δ.Σ. αντιμετωπίζει ένα σημαντικό θέμα, γίνεται συχνά	
13(A4)	ανταλλαγή ιδεών και παραγωγή ολόκληρης λίστας με δημιουργικές	
	προσεγγίσεις ή με εναλλακτικές λύσεις του προβλήματος.	
4.4/20	Όταν ένα νέο μέλος εισέρχεται στο Δ.Σ., διασφαλίζουμε ότι κάποιος εξ	
14(E3)	ημών λειτουργεί ως μέντωρ, στο να τον βοηθήσει να μάθει τις ειδικές	
	διαδικασίες του Συμβουλίου.	
15(П4)	Έχω συμμετάσχει σε συνεδριάσεις, όπου δόθηκε ιδιαίτερη προσοχή στις	
10(111)	ευαισθησίες της τοπικής κοινωνίας.	
16(E4)	Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., αναφορικά με την	
10(21)	αποτελεσματικότητα των προσπαθειών μας.	
	Στις συνεδριάσεις μας διεξάγεται τουλάχιστον τόσος διάλογος ανάμεσα	
$17(\Delta 3)$	στα μέλη, όσος και μεταξύ μελών και διευθυντικών στελεχών του	
	νοσοκομείου.	
18(E5)	Έχω συμμετάσχει σε συζητήσεις με νεοεισερχόμενα μέλη, αναφορικά	
10(123)	με το ρόλο και τις ευθύνες του μέλους Δ.Σ.	
19(E6)	Έχω συμμετάσχει σε συζητήσεις του Δ.Σ., σχετικά με το τι μπορούμε	
19(E0)	να διδαχθούμε από ένα λάθος που κάναμε.	
	Τουλάχιστον μία φορά το χρόνο, το Δ.Σ. ζητά από το Διοικητή να	
$20(\Sigma 2)$	διατυπώσει ρητά το όραμά του για το μέλλον του νοσοκομείου και τις	
	στρατηγικές για την υλοποίηση αυτού του οράματος.	
	Από τις αναφορές μερικών εκ των μελών του Δ.Σ. σε συνεδριάσεις,	
$21(\Lambda 2)$	είναι φανερό ότι δεν αντιλαμβάνονται πολύ καλά την αποστολή του	
	νοσοκομείου.	
22(A5)	Το Δ.Σ. αναζητά πληροφόρηση και συμβουλές από διοικήσεις ομοειδών	
22(A3)	νοσοκομείων.	
	Πριν από τη λήψη απόφασης επί σημαντικού θέματος, το Δ.Σ. συνήθως	
23(Π5)	ζητά να πληροφορηθεί σχετικά, από όσους πιθανόν να θίγονται από την	
	απόφαση.	
24(\(2 \)	Έχουν υπάρξει περιπτώσεις, όπου το Δ.Σ. ενήργησε ασύμβατα με τις	
<u>24(Λ3)</u>	βαθύτερες αξίες του νοσοκομείου.	
25(52)	Εντός του περασμένου έτους, το Δ.Σ. επανεξέτασε τις στρατηγικές του	
$25(\Sigma 3)$	νοσοκομείου, για την επίτευξη των μακροπρόθεσμων στόχων του.	
26(E7)	Το Δ.Σ. έχει προβεί σε αναλυτική εξέταση των ρόλων και των ευθυνών	
26(E7)	του.	
	Έχω παρευρεθεί σε συνεδριάσεις του Δ.Σ., όπου η συζήτηση	
$27(\Sigma 4)$	επικεντρώθηκε στον εντοπισμό ή στην αντιμετώπιση των αδυναμιών	
	του νοσοκομείου.	
20(4.4)	Ένας από τους λόγους που είμαι μέλος του Δ.Σ., ήταν ότι πιστεύω	
28(Λ4)	ακράδαντα στις αξίες αυτού του νοσοκομείου.	
20(5.5)	Το Δ.Σ. συζητά γεγονότα και τάσεις του ευρύτερου περιβάλλοντος, που	
$29(\Sigma 5)$	μπορεί να συνιστούν ιδιαίτερες ευκαιρίες για το νοσοκομείο.	
	11 1	

30(Δ4)	Το Δ.Σ. παρέχει βιογραφική πληροφόρηση, που βοηθά τα μέλη του να	
30(Δ4)	γνωριστούν καλύτερα μεταξύ τους.	
21(56)	Το Δ.Σ. λαμβάνει ρητά υπόψη τις μακροπρόθεσμες προτεραιότητες του	
31(Σ6)	νοσοκομείου, καθόσον χειρίζεται τις τρέχουσες υποθέσεις.	
22(45)	Το Δ.Σ. κατανοεί το κανονιστικό πλαίσιο, για κάθε ειδικότητα και	
32(A5)	κατηγορία εργαζομένου στο νοσοκομείο.	
22(45)	Μέλη του Δ.Σ. σπανίως παρευρίσκονται σε κοινωνικές εκδηλώσεις, που	
<u>33(Δ5)</u>	διοργανώνει το νοσοκομείο.	
	Περισσότερο από το μισό χρόνο κάθε συνεδρίασης του Δ.Σ.,	
$34(\Sigma7)$	αφιερώνεται στην εξέταση ζητημάτων σημαντικών για το	
	μακροπρόθεσμο μέλλον του νοσοκομείου.	

Scoring the Board Self-Assessment Questionnaire (in Greek)

Βαθμολόγηση των απαντήσεων μέσω του εργαλείου αυτόαξιολόγησης του Δ.Σ.

Το εργαλείο αυτό-αξιολόγησης αποτελείται από 34 στοιχεία ερωτηματολογίου, που πρέπει να ομαδοποιηθούν με τον ακόλουθο τρόπο, προκειμένου να βαθμολογηθούν οι απαντήσεις και να εκτιμηθεί το σκορ σε κάθε μια από τις έξι διακριτές ικανότητες διακυβέρνησης του Δ.Σ.:

A/A	ΙΚΑΝΟΤΗΤΕΣ ΔΙΑΚΥΒΕΡΝΗΣΗΣ Δ.Σ.	ΣΤΟΙΧΕΙΑ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟΥ						
1	ΠΛΑΣΙΟΥ – Κατανοεί το πλαίσιο:	<u>7</u>	21	<u>24</u>	28	32		
2	ΠΟΛΙΤΙΚΗ – Σέβεται διαδικασίες:	6	8	11	15	23		
3	ΣΤΡΑΤΗΓΙΚΗ – Χαράσσει κατευθύνσεις:	5	20	25	27	29	31	34
4	ΑΝΑΛΥΤΙΚΗ – Αναγνωρίζει την πολυπλοκότητα:	1	4	12	13	22		
5	ΔΙΑΠΡΟΣΩΠΙΚΗ – Γαλουχεί ομαδικότητα:	3	11	17	30	<u>33</u>		
6	ΕΚΠΑΙΔΕΥΤΙΚΗ – Οικοδομεί γνώση:	2	9	14	16	18	19	26

Η βαθμολόγηση των απαντήσεων γίνεται σύμφωνα με την ακόλουθη κλίμακα:

Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Διαφωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
1	2	3	4	5	6	7

Ειδικά, όμως, για τα στοιχεία ερωτηματολογίου που είναι υπογραμμισμένα (7, 24 & 33), οι απαντήσεις πρέπει να βαθμολογηθούν αντίστροφα, ως ακολούθως:

Διαφωνώ Απολύτως	Διαφωνώ	Διαφωνώ Εν Μέρει	Ούτε Συμφωνώ ούτε Διαφωνώ	Συμφωνώ Εν Μέρει	Συμφωνώ	Συμφωνώ Πλήρως
7	6	5	4	3	2	1

Στη συνέχεια, αθροίζονται οι βαθμολογίες κάθε ομάδας στοιχείων (δηλαδή κάθε ικανότητας διακυβέρνησης), ανά μέλος του Δ.Σ. Επομένως, για κάθε μέλος υπολογίζεται ένα άθροισμα, που διαιρείται δια του αριθμού των στοιχείων (για παράδειγμα, η πρώτη ομάδα αποτελείται από 5 στοιχεία ερωτηματολογίου, επομένως το συνολικό άθροισμα διαιρείται με 5, ενώ η τρίτη με 7) και ακολούθως με τον αριθμό 7, όσες και οι πιθανές απαντήσεις, ώστε να προκύψει η μέση βαθμολογία για τη συγκεκριμένη ομάδα στοιχείων ερωτηματολογίου, ανά μέλος.

Για να υπολογιστεί η μέση βαθμολογία όλων των μελών, ανά ικανότητα διακυβέρνησης, αθροίζονται οι μέσες βαθμολογίες ανά μέλος Δ.Σ., που

απάντησε στο ερωτηματολόγιο και το συνολικό αυτό άθροισμα διαιρείται με τον αριθμό των μελών.

Οι ανωτέρω υπολογισμοί επαναλαμβάνονται για κάθε μία από τις έξι ικανότητες διακυβέρνησης.

Ακολουθεί παράδειγμα βαθμολόγησης και υπολογισμός του σκορ σε μια από τις έξι ικανότητες διακυβέρνησης του διοικητικού συμβουλίου.

Έστω ότι 9 μέλη απάντησαν ως ακολούθως, στα 5 στοιχεία που συνιστούν την ικανότητα ΠΛΑΙΣΙΟΥ:

		Στοιχεία ερωτηματολογίου (ΠΛΑΙΣΙΟΥ)							
		<u>7</u>	21	<u>24</u>	28	32			
	1	2	6	1	5	4			
ααΛ	2	2	7	2	4	5			
απάντησαν	3	3	4	2	5	6			
	4	3	5	3	5	4			
тоо	5	4	5	3	4	5			
wi	6	1	4	4	6	6			
Μέλη Δ.	7	2	7	3	7	7			
	8	3	6	2	5	5			
	9	2	5	1	6	5			

Ακολουθεί η βαθμολόγηση των απαντήσεων, προσέχοντας η βαθμολόγηση των στοιχείων με υπογράμμιση να ακολουθήσει την αντίστροφη κλίμακα βαθμολόγησης:

		Στοιχεία ερωτηματολογίου (ΠΛΑΙΣΙΟΥ)					
		<u>7</u>	21	<u>24</u>	28	32	
	1	6	6	7	5	4	
Μέλη Δ.Σ. που απάντησαν	2	6	7	6	4	5	
	3	5	4	6	5	6	
	4	5	5	5	5	4	
	5	4	5	5	4	5	
	6	7	4	4	6	6	
	7	6	7	5	7	7	
	8	5	6	6	5	5	
	9	6	5	7	6	5	

Στη συνέχεια, το άθροισμα των ατομικών απαντήσεων ανά στοιχείο (στήλη 6), πρέπει να διαιρεθεί αρχικά με τον αριθμό τους (στήλη 7), που εδώ τα στοιχεία

είναι 5 και ακολούθως με τον αριθμό των πιθανών απαντήσεων (στήλη 8), που είναι πάντα 7:

		Στοιχεία ερωτηματολογίου (ΠΛΑΙΣΙΟΥ)			Αθροίσματα				
		<u>7</u>	21	<u>24</u>	28	32	(6)	(7)	(8)
	1	6	6	7	5	4	28	5,6	0,80
ααν	2	6	7	6	4	5	28	5,6	0,80
נידען	3	5	4	6	5	6	26	5,2	0,74
απάν	4	5	5	5	5	4	24	4,8	0,69
топ	5	4	5	5	4	5	23	4,6	0,66
Σ. Τ	6	7	4	4	6	6	27	5,4	0,77
Δ'n	7	6	7	5	7	7	32	6,4	0,91
Μέλη	8	5	6	6	5	5	27	5,4	0,77
_	9	6	5	7	6	5	29	5,8	0,83

Τέλος, αθροίζονται οι μέσες βαθμολογίες (9) και το συνολικό αυτό άθροισμα διαιρείται με τον αριθμό των μελών (10), που εδώ είναι 9:

		Στοιχεία ερωτηματολογίου (ΠΛΑΙΣΙΟΥ)				Αθροίσματα			
		<u>7</u>	21	<u>24</u>	28	32	(6)	(7)	(8)
	1	6	6	7	5	4	28	5,6	0,80
ααν	2	6	7	6	4	5	28	5,6	0,80
χντη	3	5	4	6	5	6	26	5,2	0,74
απάν	4	5	5	5	5	4	24	4,8	0,69
топ	5	4	5	5	4	5	23	4,6	0,66
Σ. Τ	6	7	4	4	6	6	27	5,4	0,77
Δ'n	7	6	7	5	7	7	32	6,4	0,91
Μέλη	8	5	6	6	5	5	27	5,4	0,77
_	9	6	5	7	6	5	29	5,8	0,83

Άθροισμα μέσων βαθμολογιών (9): 6,97 Σκορ ικανότητας διακυβέρνησης ΠΛΑΙΣΙΟΥ (10): 0,77

Frame of comparison for a board to examine its own scores (in Greek)

Πλαίσιο σύγκρισης σκορ ικανοτήτων διακυβέρνησης για το Δ.Σ.

Σύγκριση με τη μέση βαθμολογία των έξι ικανοτήτων διακυβέρνησης από τα νοσοκομεία Ε.Σ.Υ. (2015):

IKANOTHTA:	ΠΛΑΙΣΙΟΥ	ΠΟΛΙΤΙΚΗ	ΣΤΡΑΤΗΓΙΚΗ	ΑΝΑΛΥΤΙΚΗ	ΔΙΑΠΡΟΣΩΠΙΚΗ	ΕΚΠΑΙΔΕΥΤΙΚΗ
ΜΕΣΗ	0.82	0,76	0.72	0,81	0.74	0,68
ваом:	0,62	0,76	0,72	0,61	0,74	0,08

Σύγκριση με τη μέση βαθμολογία των έξι ικανοτήτων διακυβέρνησης από περίπου 200 μη κερδοσκοπικούς φορείς, στις Η.Π.Α.:

IKANOTHTA:	ΠΛΑΙΣΙΟΥ	ΠΟΛΙΤΙΚΗ	ΣΤΡΑΤΗΓΙΚΗ	ΑΝΑΛΥΤΙΚΗ	ΔΙΑΠΡΟΣΩΠΙΚΗ	ΕΚΠΑΙΔΕΥΤΙΚΗ
ΜΕΣΗ	0,69	0,65	0,66	0,62	0,64	0,54
ваом:	0,69	0,65	0,00	0,62	0,04	0,34

Description of each competency (in Greek)

Συνοπτική περιγραφή κάθε ικανότητας διακυβέρνησης διοικητικού συμβουλίου

ΠΛΑΙΣΙΟΥ

Το διοικητικό συμβούλιο κατανοεί και λαμβάνει υπόψιν του την κουλτούρα, τις αξίες και τους κανονισμούς του Νοσοκομείου.

ΠΟΛΙΤΙΚΗ

Το διοικητικό συμβούλιο αποδέχεται ότι μια από τις πρωταρχικές του προτεραιότητες, είναι να αναπτύσσει και να διατηρεί αμοιβαίως υγιή επικοινωνία και εποικοδομητικές σχέσεις με τους φορείς ζωτικής σημασίας, για την ύπαρξη και λειτουργία του νοσοκομείου.

ΣΤΡΑΤΗΓΙΚΗ

Το διοικητικό συμβούλιο βοηθά στη διαμόρφωση του οράματος, χαράσσει τον οδικό χάρτη και εγγυάται τη στρατηγική προσέγγιση, για το μέλλον του νοσοκομείου.

ΑΝΑΛΥΤΙΚΗ

Το διοικητικό συμβούλιο αναγνωρίζει την πολυπλοκότητα και ευαισθησία των θεμάτων που χειρίζεται και στρέφεται στον πλουραλισμό απόψεων, για να αναλύει πολύπλοκα προβλήματα και να συνθέτει κατάλληλες αποκρίσεις.

ΔΙΑΠΡΟΣΩΠΙΚΗ

Το διοικητικό συμβούλιο γαλουχεί την ανάπτυξη της ομαδικότητας στα μέλη του, φροντίζει τη συλλογική τους ευημερία και καλλιεργεί την αίσθηση συνεκτικότητας και ομαδικής δουλειάς.

ΕΚΠΑΙΔΕΥΤΙΚΗ

Το διοικητικό συμβούλιο προβαίνει στις απαραίτητες ενέργειες, για να διασφαλίσει ότι τα μέλη του είναι επαρκώς ενημερωμένα για το νοσοκομείο, τους επαγγελματίες υγείας και λοιπούς εργαζόμενους, καθώς και για το ρόλο του συμβουλίου, τις ευθύνες και την απόδοσή του.

Total Number of Words*

Chapters 1-6:	<mark>57,119</mark>	First submission:	<mark>44,035</mark>
Chapters 1-7:	<mark>59,466</mark>	First submission:	<mark>46,319</mark>

^{*} Footnotes, endnotes, references, and appendices are excluded.