

Contributions to Management Science

Abdul Ghofar
Sardar M.N. Islam

Corporate Governance and Contingency Theory

A Structural Equation Modeling
Approach and Accounting Risk
Implications

 Springer

Contributions to Management Science

More information about this series at
<http://www.springer.com/series/1505>

Abdul Ghofar • Sardar M.N. Islam

Corporate Governance and Contingency Theory

A Structural Equation Modeling Approach
and Accounting Risk Implications

 Springer

Abdul Ghofar
Brawijaya University
Malang
Indonesia

Sardar M.N. Islam
VISES, College of Business
Victoria University
Melbourne
Australia

ISSN 1431-1941

ISSN 2197-716X (electronic)

ISBN 978-3-319-10995-4

ISBN 978-3-319-10996-1 (eBook)

DOI 10.1007/978-3-319-10996-1

Springer Cham Heidelberg New York Dordrecht London

Library of Congress Control Number: 2014956505

© Springer International Publishing Switzerland 2015

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Introduction

There are many studies that focus on observing corporate governance and its effectiveness. However these studies have several major limitations, namely: (1) most of the research has paid less attention to environmental and organizational factors that might influence firms in structuring their corporate governance and might have an impact on the effectiveness of corporate governance (Aguilera, Filatotchev, & Jackson, 2008); (2) the studies usually focus only on a single role or dimension of corporate governance effectiveness, that is, either on the performance role or earnings quality role; (3) the studies discuss the determinants and effectiveness of corporate governance separately; (4) the research has largely been undertaken in developed countries which have different control system and problems compared to developing countries; and (5) methodologically, in general, they use relatively less valid and reliable measures in representing the corporate governance construct (Larcker, Richardson, & Tuna, 2007). As a result, research on the effectiveness of corporate governance has produced mixed results, thus limiting understanding of the effectiveness of corporate governance, as well as the determinants of poorly governed firms.

Objectives

Drawing from contingency theory, the general research objective of this study is to analyse factors (business competition and strategy) which influence or determine corporate governance structure and the effectiveness of corporate governance (improving performance and earnings quality by minimizing the likelihood of earnings management) in an integrated theoretical and conceptual framework formalized and modelled by structural equation modelling (SEM) methods.

The specific objectives of this study are (1) to apply the developed theoretical and conceptual framework and the model to Indonesia as a case study for illustrations, operationalization and investigation of the arguments developed in this study and (2) to analyse the case study and model results comparatively with other studies and countries for making general conclusions and theory development.

Critical Literature Review

The contingency theory of corporate governance has two main arguments, which are (1) business environment and strategy determines corporate governance structure; and (2) corporate governance has two roles, which are improving performance and ensuring the quality of earnings by minimizing the likelihood of earnings management.

It is argued that in competitive industries, firms tend to have weaker corporate governance, as competition might reduce agency problems, while corporate governance might impose high tangible and intangible costs. Prospector type strategy firms, which are characterized as innovative, aggressive and high growth firms, are argued to have strong governance in order to assist them in selecting and managing risky projects, as well as managing diversified and complex organizations.

With regard to the roles or objectives of corporate governance, the normative argument asserts that corporate governance should be able to achieve both roles (performance and earnings quality/financial control role) simultaneously. Nevertheless, the normative argument has been challenged, as the financial control role might jeopardize managerial flexibility which leads to poor performance (Young, 2003). Hendry and Kiel (2004) argued that the balance between the financial control and strategic control role would depend on the environmental and organizational context in which a firm operates. Therefore, as corporate governance structure and its effectiveness are determined by environmental and organizational factors, research should include the determinants and effectiveness of corporate governance in an integrated model to obtain a better understanding of corporate governance structure and its effectiveness.

Methodology

This study employs structural equation modelling (SEM), using Analysis of Moment Structures (AMOS) for data analysis, because it allows the evaluation of the reliability and validity of indicators used in representing a complex construct, such as corporate governance and business strategy. It is also possible to examine a series of dependence relationships among the measured variables and latent constructs, as well as between several constructs simultaneously, as developed in this

study. This study uses 66 Indonesian firms which were selected using purposive sampling method as samples, and a three-year period (2008–2010) for observations (198 observations). The Indonesian application was the case study for illustrations for applying the arguments developed in this study. However, the results from the case study and model were analysed comparatively with other studies and countries for making general conclusions and hypothesis/theory development.

Results, Discussion, and Implications

The findings suggest that business competition as an environmental factor and strategy as an organizational factor influence corporate governance structure. Market competition was found to be a substitute of corporate governance. Prospector strategy type firms were also found to have stronger governance. It can be concluded that in structuring their corporate governance, firms might not only consider regulations, but also business environment and strategy. With regard to corporate governance effectiveness, this study found that corporate governance had a negative relationship with earnings management, indicating that corporate governance was effective in improving earnings quality. That also showed that corporate governance could be used as a risk management mechanism especially in mitigating accounting risks. However, it failed to provide any strong evidence on the relationship between corporate governance and performance. This finding indicates that Indonesian corporate governance is dominated by an ethical-based approach, which highlights the financial control role of corporate governance. The findings provide general and comparative insights into the issues of corporate governance and its effectiveness and determinants relevant for wider contexts.

Many thanks to Professor Peter Sheehan and Associate Professor Ern Chen Loo for their intellectually stimulating comments. We would also like to show our special thanks to Associate Professor Ern Chen Loo and Neelan Mahraj for their thoughtful scrutiny and proofreading of the whole written document.

We would like to express our heartfelt thanks to Dr. Rod Turner who provided valuable feedback on the methodology section of this book particularly in regard to the Structural Equation Modelling (SEM). His many years of expertise and deep knowledge about SEM helped estimation of the SEM model in the book.

The authors also would like to thank the editorial team at Springer Verlag, especially Dr. Prashanth Mahagaonkar and Ms. Barbara Bethke, Editors at Springer, for their excellent help and outstanding professionalism in dealing with our book publication issues, tasks and processes. We are very happy for their support and grateful to them.

Malang, Indonesia
Melbourne, VIC, Australia

Abdul Ghofar
Sardar M.N. Islam

Acknowledgement

The modelling and analysis work in this book is based on the following publications of the authors:

1. Ghofar, A., & Islam, S. M. N. (2013). *Determinants and effectiveness of corporate governance*. 10th Asian Business Research Conference, October 6–7th, 2014, Bangkok, Thailand.

List of Abbreviation

ADA	Absolute discretionary accruals
AGFI	Adjusted goodness-of-fit index
AIC	Akaike information criterion
AMOS	Analysis of moment structures
AOP	Audit opinion
AVE	Average variance extracted
BC	Business competition
BI	Bank Indonesia (the Indonesian Central Bank)
BR	Business risk
C.R.	Critical ratio
CAIC	Consistent Akaike information criterion
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CG	Corporate governance
COSO	The Committee of Sponsoring Organizations of the Treadway Commission
CPA	Certified public accountant
CPMA	Certified professional management accountant
CR	Construct reliability
CRR	Credit risk
CSR	Corporate social responsibility
df	Degree of freedom
EAQ	External audit quality
EM	Earnings management
ERC	Earnings response coefficient
ERM	Enterprise risk management
ERR	Exchange rate risk
ES	Ratio of employees to sales
ETO	Employee turnover
FASB	Financial Accounting Standard Boards
GFI	Goodness-of-fit index
GWTS	Growth of sales

HI	Herfindahl index
IA	Ratio of intangible assets to total assets
IAU	Internal audit unit
ICA	Internal control assessment
ICI	Internal control index
ICRM	Index of internal control and risk management
IDX	Indonesian Stock Exchange
IFRS	International Financial Reporting Standard
INB	Independent Board of Commissioners (Directors)
JASICA	The Jakarta Stock Industrial Classification
MOWN	Managerial ownership
NCCG	The National Committee of Corporate Governance
NFI	Normed fit indices
OECD	Organization for Economic Co-operation and Development
PCAFB	Proportion of Audit Committee members with Finance and Accounting Background to total audit committee members
PLS	Partial least square
POWN	Percentage of non-controlling owners
PPES	Ratio of fixed assets to total sales
R&D	Research and Development
RMC	Risk Management Committee
RMI	Risk management index
RMR	Root mean-square residual
RMSEA	Root mean-square error of approximation
ROA	Return on assets
SEM	Structural equation modelling
SMC	Squared multiple correlation
SRMR	Standardized root mean residual
STRG	Strategy
SZB	Size of Board commissioners (Directors)
TLI	Tucker-Lewis index
UK	United Kingdom
USA	United States of America

Contents

1	Introduction	1
1.1	Background to the Research	1
1.2	Research Questions	5
1.3	Research Objectives	6
1.4	Contribution to Knowledge and Statement of Significance	6
1.4.1	Contribution to Knowledge (Academic Contribution)	7
1.4.2	Contribution to Significance (Practical Contribution)	8
1.5	Definition of Key Terms	8
1.6	Organization of the Book	9
1.7	Summary	10
2	Literature Review	11
2.1	Introduction	11
2.2	Basic Concept of Corporate Governance	12
2.3	Corporate Governance Structure, Principles, and Mechanisms	13
2.4	Contingency Theory	15
2.4.1	Control System as a Contingency Factor	16
2.4.2	Business Strategy as a Contingency Factor	17
2.4.3	Contingency Theory and Corporate Governance	18
2.5	The Determinants of Corporate Governance	20
2.5.1	Corporate Governance and Business Environment	20
2.5.2	Corporate Governance and Business Strategy	21
2.6	The Effectiveness of Corporate Governance	23
2.6.1	Board Size and Performance	23
2.6.2	Independent Boards and Performance	24
2.6.3	Financial Expertise of Boards and Performance	26
2.6.4	Ownership Concentration and Performance	27
2.6.5	Risk Management, Internal Control and Performance	29
2.6.6	Managerial Ownership and Performance	32
2.6.7	Earnings Quality and Corporate Governance	33
2.7	Corporate Governance Measures	36

2.8	Corporate Governance in Indonesia	37
2.9	Literature Gaps	38
2.10	Summary	39
3	Conceptual Framework and Hypotheses Development	41
3.1	Introduction	41
3.2	Conceptual Framework	41
3.3	Hypothesis Development	44
3.3.1	The Relationship Between Business Environment and Corporate Governance	44
3.3.2	The Relationship Between Business Strategy and Corporate Governance	45
3.3.3	The Relationship Between Corporate Governance and Earnings Quality	47
3.3.4	The Relationship Between Corporate Governance and Performance	47
3.3.5	The Relationship Between Business Environment and Strategy	48
3.3.6	The Relationship Between Business Strategy and Earnings Quality	49
3.3.7	The Relationship Between Performance and Earnings Quality	50
3.3.8	The Relationship Between Business Strategy and Performance	51
3.4	Summary	51
4	Research Method	53
4.1	Introduction	53
4.2	Data Setting: Indonesian Case	53
4.3	Data and Sampling	54
4.4	Source of Data	56
4.5	Data Analysis	56
4.5.1	Structural Equation Modeling	56
4.5.2	Reflective Versus Formative Measures	59
4.5.3	Multi-variate Outliers	60
4.5.4	Multi-variate Normality and Bootstrap Procedure	61
4.5.5	Mathematical Model of SEM and Estimation Method	62
4.6	Variables and Measures	63
4.6.1	Business Environment/Competition Measure	64
4.6.2	Business Strategy Measures	64
4.6.3	Corporate Governance Measures	66
4.6.4	The Organizational Performance Measure	72
4.6.5	Earnings Quality/Earnings Management Measure	72
4.7	Mathematical Models of The Study	74
4.8	Summary	76

5	Results	77
5.1	Introduction	77
5.2	Descriptive Analysis	77
5.2.1	Industry Category	77
5.2.2	Business Strategy Measures	78
5.2.3	Corporate Governance Measures	80
5.2.4	Business Environment or Competition	82
5.2.5	Performance	83
5.2.6	Earnings Management	83
5.3	Measure of Model Fit	84
5.3.1	Absolute Fit Indices	84
5.3.2	Incremental Fit Indices	86
5.3.3	Parsimony Fit Indices	87
5.4	Discriminant Validity	87
5.4.1	Single-Factor Congeneric Model	88
5.4.2	Confirmatory Factor Analysis	100
5.5	The Convergent Validity or Reliability of the Measurement Models	110
5.6	The Structural Model	113
5.6.1	Results of Structural Model: The Model 1	115
5.6.2	Results of Structural Model: The Model 2	116
5.6.3	Results of Structural Model: The Model 3	117
5.6.4	Results of Structural Model: The Model 4	118
5.7	Hypothesis Testing	120
5.8	Model Evaluation	122
5.9	Summary	123
6	Discussion and Implications	125
6.1	Introduction	125
6.2	Measurement Model Analysis	125
6.3	Discussions of the Results of Structural Model	129
6.3.1	Hypothesis 1	129
6.3.2	Hypothesis 2	131
6.3.3	Hypothesis 3	132
6.3.4	Hypothesis 4	134
6.3.5	Hypothesis 5	136
6.3.6	Hypothesis 6	137
6.3.7	Hypothesis 7	138
6.3.8	Hypothesis 8	139
6.4	Research Implications	139
6.4.1	Theoretical Implications	140
6.4.2	Methodological Implications	141
6.4.3	Practical Implications	142
6.5	Summary	142

- 7 Summary, Limitations and Conclusions 143**
 - 7.1 Introduction 143
 - 7.2 The Model and Research Method of the Study 143
 - 7.3 The Summary of the Results 145
 - 7.3.1 The Key Findings of the Statistic Descriptive Analysis . . . 145
 - 7.3.2 The Key Findings of Measurement Models 146
 - 7.3.3 The Key Findings of Hypothesis Testing 146
 - 7.4 Limitations of the Study 150
 - 7.5 Future Research 151
 - Conclusion 151
- References 153**
- Index 165**

List of Figures

Fig. 3.1	Conceptual framework	44
Fig. 4.1	Formative versus reflective model	60
Fig. 5.1	AMOS output for the single-factor congeneric model of business strategy	89
Fig. 5.2	AMOS output for the single-factor congeneric model of corporate governance	92
Fig. 5.3	AMOS output for the single-factor congeneric model of corporate governance: Model 2	95
Fig. 5.4	AMOS output for the single-factor congeneric model of corporate governance: Model 3	96
Fig. 5.5	AMOS output for the single-factor congeneric model of corporate governance: Model 4	98
Fig. 5.6	Single-factor congeneric model of corporate governance Model 4	100
Fig. 5.7	Confirmatory Factor Analysis (CFA): Model 1	103
Fig. 5.8	Confirmatory Factor Analysis (CFA): Model 2	105
Fig. 5.9	Confirmatory Factor Analysis (CFA): Model 3	108
Fig. 5.10	Confirmatory Factor Analysis (CFA): Model 4	110
Fig. 5.11	Structural model of Model 1	115
Fig. 5.12	Structural model of Model 2	116
Fig. 5.13	Structural model of Model 3	118
Fig. 5.14	Structural model of Model 4	119
Fig. 7.1	Representation of conceptual framework	144

List of Tables

Table 4.1	Sample selection	55
Table 4.2	Differences between covariance-based and variance-based SEM	58
Table 4.3	Comparative analysis between techniques	58
Table 4.4	Summary of variables and indicators	74
Table 4.5	Indicators of internal control and risk management index	75
Table 5.1	Industry category of samples	78
Table 5.2	Data distribution of business strategy measures	79
Table 5.3	Data distribution of corporate governance measures	80
Table 5.4	Data distribution of internal control and risk management index	81
Table 5.5	Herfindahl index	83
Table 5.6	Data distribution of return on assets	84
Table 5.7	Data distribution of absolute discretionary accruals	84
Table 5.8	Summary of fit indices	88
Table 5.9	AMOS output of normality assessment of business strategy	90
Table 5.10	Summary of the other goodness-of-fit indices for the single-factor congeneric model of business strategy	90
Table 5.11	Standardized regression weights for the single-factor congeneric model of business strategy	90
Table 5.12	Variance for the single-factor congeneric model of business strategy	91
Table 5.13	AMOS output of normality assessment of corporate governance	93
Table 5.14	Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate governance	93
Table 5.15	Standardized regression weights for the single-factor congeneric model of corporate governance	93
Table 5.16	Variance for the single-factor congeneric model of corporate governance	93

Table 5.17	Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate governance: Model 2	95
Table 5.18	Standardized regression weights for the single-factor congeneric model of corporate governance: Model 2	95
Table 5.19	Variance for the single-factor congeneric model of corporate governance: Model 2	95
Table 5.20	AMOS output of the modification index	95
Table 5.21	Summary of the other Goodness-of-fit indices for the single-factor congeneric model of corporate governance: Model 3	97
Table 5.22	Standardized regression weights for the single-factor congeneric model of corporate governance: Model 3	97
Table 5.23	Variance for the single-factor congeneric model of corporate governance: Model 3	97
Table 5.24	AMOS output of normality assessment of corporate governance: Model 4	99
Table 5.25	AMOS output of the modification index: Model 4	99
Table 5.26	Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate Governance: Model 4	100
Table 5.27	Standardized regression weights for the single-factor congeneric model of corporate governance: Model 4	101
Table 5.28	Variance for the single-factor congeneric model of corporate governance: Model 4	101
Table 5.29	Summary of fit indices of all four Models	101
Table 5.30	AMOS output of normality assessment of CFA: Model 1	104
Table 5.31	Summary of the other goodness-of-fit indices for CFA: Model 1	104
Table 5.32	Standardized regression weights for CFA: Model 1	104
Table 5.33	Variance for CFA: Model 1	105
Table 5.34	Summary of the other goodness-of-fit indices for CFA: Model 2	106
Table 5.35	Standardized regression weights for CFA: Model 2	107
Table 5.36	Variance for CFA: Model 2	107
Table 5.37	Summary of the other goodness-of-fit indices for CFA: Model 3	108
Table 5.38	Standardized regression weights for CFA: Model 3	109
Table 5.39	Variance for CFA: Model 3	109
Table 5.40	AMOS output of normality assessment of CFA: Model 4	111
Table 5.41	Summary of the other goodness-of-fit indices for CFA: Model 4	111
Table 5.42	Standardized regression weights for CFA: Model 4	111
Table 5.43	Variance for CFA: Model 4	112
Table 5.44	Summary of the goodness-of-fit of CFA: all four Models	112

Table 5.45	Reliability measures	113
Table 5.46	Summary of the other goodness-of-fit indices for structural model of Model 1	115
Table 5.47	Regression weights for structural model of Model 1	116
Table 5.48	Summary of the other goodness-of-fit indices for structural model of Model 2	117
Table 5.49	Regression weights for structural model of Model 2	117
Table 5.50	Summary of the other goodness-of-fit indices for structural model of Model 3	118
Table 5.51	Regression weights for Model 3	119
Table 5.52	Summary of the other Goodness-of-fit indices for structural Model 4	120
Table 5.53	Regression weights for Model 4	120
Table 7.1	Summary of hypothesis testing results	149

Chapter 1

Introduction

1.1 Background to the Research

As good corporate governance is about ethical and proper business practices in all of the firm's activities to improve investors' confidence (Yong, 2009), business players are convinced that increasing a firm's value is the ultimate objective of effective governance. There are many dimensions of effective governance, ranging from its effectiveness in generating the required rates of return for investors to ensuring that managers do not misuse investors' funds (Kaen, 2005). However, the effectiveness of corporate governance cannot be fully understood without the knowledge of the factors that determine corporate governance structure and ultimately influence the effectiveness of corporate governance.

The effectiveness of corporate governance, especially the association between corporate governance and organisational performance, has been the focus of many studies. In attempting to understand this association, much research has explored the agency theory, without dedicating enough attention to the environmental and organisational contexts that may influence corporate governance and its effectiveness in improving performance (Aguilera, Filatotchev, & Jackson, 2008). As a result, previous empirical studies have produced mixed results (Wibowo, 2008; Young, 2003).

One of the possible reasons for this inconsistency is that little attention has been paid to the context in which corporate governance is practiced (Aguilera et al., 2008; Young, 2003). Environmental and organisational factors such as market competition and the business strategy of a firm could explain why firms with weaker corporate governance have better performance. For example, Young (2003) argued that strong monitoring through independent directors might be counterproductive with respect to managerial tasks, as it might distract managers from achieving performance objectives. Further, since a highly competitive market requires managers to be flexible and responsive to changes, rigid controls represent a potential

source of distraction, hampering managers' ability to perform their duties and consequently jeopardising their efforts to generate better performance.

Considering that the effectiveness of corporate governance is determined by environmental and organisational factors, a better understanding of this issue requires that research include the determinants and effectiveness of corporate governance in an integrated model. To understand the effectiveness of corporate governance, knowledge of the factors that determine corporate governance structure is necessary, as the determinants can provide insights into the nature and process of corporate governance effectiveness. To this end, an integrated analysis of the determinants and effectiveness of corporate governance is useful.

Other factors, the tangible and intangible costs of corporate governance could also be the cause of the mixed results. The tangible and intangible costs of corporate governance might also play a role in reducing a firm's financial performance, which in turn could cause a firm to have relatively weak corporate governance. Disclosure and transparency as demanded by corporate governance might impose intangible costs (Aguilera et al., 2008) because a firm should disclose secret information about trade strategy, innovation or research and development which could be imitated by competitors. Moreover, the costs of complying with regulations, which relate to corporate governance have increased, especially after the Sarbanes-Oxley Act (SOX)¹ (Ahmed, McAnally, Rasmussen, & Weaver, 2010). The increased regulatory requirements have imposed more costs, such as the increased costs of board compensation, internal control, legal, and external audit fees. After the enactment of the Sarbanes-Oxley Act in the United States of America (USA), it was estimated that compliance costs ranging from 6 to 39 million dollars were incurred, depending on the size and complexity of the firms (Ahmed et al., 2010). Particularly in regard to audit fees, Asthana, Balsam, and Kim (2009) recorded that the average audit fees had increased to approximately 0.107 % of total assets in 2002 as compared to only 0.070 % in 2000 (Asthana et al., 2009).

Studies in the context of different countries could also be another possible cause of the mixed results. Studies of the effectiveness of corporate governance are still largely undertaken in western countries that have a different context and different problems from developing countries. Hence, Jian (2006), as quoted by Peng, Wang, and Jiang (2008) argued that it is a must for researchers to give more attention to the corporate governance effects in developing countries instead of simply assuming dispersed ownership in the Anglo-American context, which is not supported by empirical data in many developing countries.

Additionally as there are many roles of corporate governance, ranging from a performance role to a financial control role, research should pay attention to both

¹ The Sarbanes-Oxley Act was enacted in 2002 in response to the public company and accounting scandals in the USA. It tightened the regulations for board, management, and public accounting firms which include enhanced regulation with regards to auditor's independence, corporate governance, internal control assessment, and financial disclosure. Although it was enacted in the USA, subsequently some countries such as Japan, India, and Australia have also enacted similar strict regulation.

roles in order to provide more accurate conclusions about the effectiveness of corporate governance. The financial control role of corporate governance relates to ensuring earnings quality by mandating that managers be prevented from engaging in earnings management practices that reflect misappropriations and frauds. The normative argument asserts that corporate governance should be capable of playing the financial and performance roles simultaneously. However, this argument has been challenged because contingencies or environmental and organisational factors might have an influence on which dimension is more dominant.

Hendry and Kiel (2004) argued that the balance between financial control and the strategic control role of the board depends on the organisational context in which a firm operates. In a highly turbulent and uncertain environment, boards tend to emphasise strategic control rather than financial control. In contrast, when information asymmetry is prevalent, the strategic control role of corporate governance is overlooked to some extent because the board and shareholders are more concerned with identifying and controlling possible manager misbehaviour. Therefore, to understand the effectiveness of corporate governance, research studies should include both the performance and earnings quality (financial control) roles in their models.

It should be noted that financial control role is closely related to the role of corporate governance in mitigating earnings management risks. Earnings management is one of the accounting risk factors which investors should put sufficient attention on them (Sardar, 2013). Accounting risks have been gaining more attention recently, as many corporate scandals and even financial crises were argued to be the results of accounting risks. Sardar (2013) argued that accounting risks relate to the failure of accounting information to provide relevant and appropriate information to stakeholders in order to make economic and business decisions. By this definition creative accounting (earnings managements) is included in accounting risks by which corporate governance is argued to be one of effective tool to mitigate accounting risks.

An alternative theory which might provide a broader explanation regarding the determinants and effectiveness of corporate governance is the contingency theory. Based on the contingency theory approach, performance cannot be isolated from factors that might affect it. The contingency theory argues that the performance of firms is the result of the alignment between contingency factors such as size, environmental factors, strategy, control and structure (Donaldson, 2001). Based on this concept, the literature on contingency theory in corporate governance has two main arguments which might fill the gaps in the research on corporate governance. Firstly, there is a relationship between corporate governance, business environment and strategy, whereby control or corporate governance is influenced by the business environment and strategy. Secondly, corporate governance has two main roles which are the performance role and the financial control role. Unfortunately, empirical research still pays little attention to the contingency theory in corporate governance (Aguilera et al., 2008).

Using the contingency theory, this study develops an integrated model which contains the determinants and effectiveness dimensions of corporate governance by

arguing that corporate governance structure is influenced by business environment and strategy and that it has a positive effect on accounting performance and earnings quality by minimizing the possibility of earnings management practices. Additionally, as the contingency theory also argues that business strategy selection is affected by the business environment and that it has an effect on performance and earnings quality, this study also observes the relationship between business environment and strategy, the effects of strategy on performance and earnings quality, and the relationship between earnings quality and performance.

This thesis attempts to find empirical evidence to support those arguments in the Indonesian setting for several reasons. Firstly, Indonesia has adopted the Organization for Economic Co-operation and Development (OECD) corporate governance code. However research has not covered the effectiveness of this adoption in Indonesia. Secondly, as a developing country, Indonesia is characterized as having a lack of corporate governance regulations and a high growth economy, as well as a lack of property rights which cause a high degree of uncertainty whereby the difficulties for firms to grow internally by employing mergers and acquisitions are still prevalent (Peng & Heath, 1996). Under such conditions strong governance should be preferred to reduce uncertainty as compared to market modes (Hoskisson, Eden, Lau, & Wright, 2000). However, Hoskisson et al. (2000) explained that firms would face a trade-off between the costs of governance and transaction costs associated with market modes. Implicitly it can be concluded that although regulations on corporate governance could be weak, firms might still have strong governance in response to uncertainties. This argument is also supported by the fact that in implementing corporate governance, Indonesia does not only use a regulatory approach, but also an ethics-based approach which is voluntary. Therefore, the effects of market forces or other contingency factors such as business competition and strategy on governance structure could be more obviously identified, as in structuring corporate governance, firms might consider these factors to ensure the effectiveness of corporate governance.

With regards to methodological issues, this study employs Structural Equation Modeling (SEM) because of its advantages. Firstly, it might solve the methodological problem of corporate governance research as criticized by Larcker, Richardson, and Tuna (2007). They argued that a single indicator or multiple indicators used to represent corporate governance might contain high measurement errors as they are selected arbitrarily without considering whether those measures are measuring the same underlying concept or not. SEM allows researchers to evaluate the reliability and validity of the indicators used in representing a construct. Secondly, it is possible to test a theory that contains multiple equations involving interrelated dependence relationships among the measured variables and the latent constructs, as well as between constructs as developed and tested in this study. Thirdly, although it is not appropriate to have a correlation between indicators or variance of indicators in different constructs, SEM allows researchers to have and observe a correlation among indicators or variances of indicators within a construct. As corporate governance is a very complex construct, it is possible that some indicators might correlate more than could be explained by a model. Hence, it can be said that

the indicators of corporate governance could be categorized into several types of controls (second-order factors). Variance correlation of indicators might also indicate a causal relationship among indicators. As corporate governance theory acknowledges the existence of the relationship among corporate governance mechanisms, it is important to observe the relationships among the indicators of corporate governance.

1.2 Research Questions

The above discussion highlights several important issues. Firstly, the effectiveness of corporate governance depends on the environmental and organizational factors and research relating to the causes of poor governance and poor performance need to be undertaken. Secondly, as the environmental and organizational factors play important roles, contingency factors, namely business environment and strategy determine how a firm structures its corporate governance. Thirdly, observing the effectiveness of corporate governance should include both dimensions of corporate governance effectiveness, namely performance and financial control in order to avoid incomplete insights and inaccurate conclusions. Therefore, the main research questions developed for this study are presented as follow:

1. Does the business environment (competitive and less-competitive environment) affect or determine the corporate governance (strong or weak governance)?
2. Does business strategy affect or determine the corporate governance?
3. Does corporate governance affect organizational accounting performance?
4. Does corporate governance affect earnings quality by minimizing the earnings management practices?

Additionally, as the literature on contingency theory has acknowledged that business strategy is also influenced by the business environment and that it has an effect on performance and earnings quality, this thesis also develops questions about these relationships. The literature also recognizes the relationship between performance and earnings quality. Hence, it is also necessary to develop questions about this relationship. As this study uses SEM, omitting any important relationship as argued in the literature could negatively influence the goodness-of-fit of the developed model. Therefore, additional questions are presented as follows:

5. Does the business environment (competitive and less-competitive environment) affect the business strategy of a firm (prospector and defender type)?
6. Does business strategy affect organizational accounting performance?
7. Does business strategy affect earnings quality/earnings management?
8. Does organizational accounting performance affect earnings quality/earnings management?

1.3 Research Objectives

Based on the above questions, the general research objective of the study is to analyze factors which determine corporate governance structure and the effectiveness of corporate governance in an integrated framework formalized by a structural equation model. The determinants are factors which are hypothesized to affect corporate governance structure. This study asserts that corporate governance structure is influenced by business competition as an environmental factor, and business strategy as an organizational factor. Furthermore, corporate governance has two roles or effectiveness dimensions, which are the performance role and the financial or earnings quality role. Hence, the general objective can be broken down into two objectives, which are the main and the additional objectives.

The main objectives are the main arguments of this thesis, which include the determinants (Objectives 1 and 2) and the effectiveness of corporate governance (Objectives 3 and 4). The main objectives are:

1. To examine the impact of the business environment (competitive and less-competitive environment) on the corporate governance (strong or weak governance).
2. To examine the impact of business strategy on the corporate governance.
3. To examine the impact of corporate governance on organizational accounting performance.
4. To examine the impact of corporate governance on earnings quality.

The additional objectives are any other relationships between constructs (variables) in a model which are argued in the literature to be of importance and therefore to be included. The details of the additional objectives are:

5. To examine the impact of the business environment on business strategy.
6. To examine the impact of business strategy on organizational accounting performance.
7. To examine the impact of business strategy on earnings quality/earnings management.
8. To examine the impact of organizational accounting performance on earnings quality.

1.4 Contribution to Knowledge and Statement of Significance

This study is expected to add new knowledge about the determinants and effectiveness of corporate governance based on the contingency theory. Moreover, it will extend knowledge about the determinants of performance and earnings management as proxies of earnings quality. The theoretical and practical contributions of this study are presented as follows.

1.4.1 Contribution to Knowledge (Academic Contribution)

This study will extend the literature in the area of strategic management, management accounting, and corporate governance. This study investigates the relationships between the contingency factors, namely business environment, strategy, and corporate governance as a control factor. Most of the previous research tried to understand corporate governance and its effectiveness through the agency theory without devoting enough attention to the environmental and organizational contexts in which corporate governance is applied. This study provides an integrated analysis of the determinants and effectiveness of corporate governance in order to obtain a better understanding about corporate governance structure and its effectiveness.

This study argues that a firm may structure its corporate governance in response to the business environment and matching its control to the strategy adopted. Hence, it attempts to provide evidence that the business environment and strategy are determinants of corporate governance as many previous research studies give little attention to the question of why a firm might have relatively weaker or stronger corporate governance.

With regards to the effectiveness of corporate governance, this study observes the effectiveness of corporate governance in improving performance and preventing managers from engaging in earnings management practices. As there are many roles of corporate governance, ranging from a performance role to a financial control role, research should pay attention to both roles in order to provide more accurate conclusions about the effectiveness of corporate governance, since which role is more dominant would depend on the environmental and organizational contexts. Therefore, it is important to observe the effect of corporate governance on both factors.

This study also contributes to the extension of knowledge on the determinants of earnings quality, as the relationship between business strategy and earnings quality has rarely been observed (Bentley, Omer, & Sharp, 2012).

Considering that research on the consequences of corporate governance is largely undertaken in western countries, this study is expected to provide extended knowledge about corporate governance practices in developing countries such as Indonesia which has a different environmental context. This study also contributes towards providing evidence with regards to the effectiveness of the adoption of the OECD corporate governance code of conduct in Indonesia.

Methodologically, this study employs SEM which is still sparsely used by researchers in this field. SEM enables the researcher to assess the validity and reliability of the indicators used to measure the constructs, especially the corporate governance construct. Larcker et al. (2007) argued that the inconclusive results of previous studies on the relationships between corporate governance and performance and other variables could be caused by the relatively less reliable and valid measures used by researchers in representing the complex construct of corporate governance.

1.4.2 Contribution to Significance (Practical Contribution)

This study will broaden the knowledge regarding the determinants of earnings management, performance, as well as corporate governance. Therefore, from a practical point of view, this study is expected to provide an extended and clear picture of the behaviors of Indonesian firms with regards to how they structure corporate governance in assisting investors and managers to make investment and other economic decisions, as well as for regulators to improve business regulation. Investors could be informed about how Indonesian firms behave towards environmental and organizational factors. Additionally, as this study provides evidence regarding the determinants of earnings management, the results of this study will be beneficial for investors in understanding the risk of earnings management. For managers, this study is expected to extend the knowledge about the drivers of performance, as it attempts to provide evidence to support the assertions that corporate governance and business strategy are two determinants of accounting performance. Regulators could also be informed about the extent of the corporate governance regulation effectiveness in Indonesia, especially after the adoption of the OECD corporate governance code of conduct, which would then enable them to make the necessary improvements.

1.5 Definition of Key Terms

The concept of **business environment** used in this study relates to the level of **competitiveness** of the business environment or industry in which a firm operates. A highly competitive business environment also refers to a dynamic environment (Gani & Jermias, 2009), since competition induces markets to be more dynamic, whereas a less competitive environment refers to a stable environment (Gani & Jermias, 2009). Hence, throughout this study, business environment refers to the degree of competitiveness.

Business strategy relates to how a firm competes successfully in a particular market. It also relates to strategic decisions such as choices of product and market segments (Thompson, Strickland, & Gamble, 2010). This study uses the concept of Miles and Snow (1978, 2003) regarding the business strategy typology. Although Miles and Snow's typologies are similar to those of Porter's (1980, 1998), Miles and Snow's theory has more organizational issues, as it includes three fundamental issues, namely the entrepreneurial, technological, and administrative issues (Kald, Nilsson, & Rapp, 2000). The more complex issues of this concept will give more understanding about how corporate governance might interact with business strategy and the environment in generating performance.

Corporate governance relates to a system by which a firm is being controlled and directed (Mitton, 2002). The basic theory of corporate governance relates to the relationship between principals (owners) and agents (management) (Maher &

Andersson, 2000). The separation of owners and agents has caused a rise in agency problems since both parties will maximize their own interests (Eisenhardt, 1989). Therefore, a system that ensures a goal alignment between agents and owners is needed. The system should be able to reduce the possibility that management will abuse its power by harming the shareholder's wealth. Such a system is referred to as corporate governance. Good corporate governance is commonly referred to as the good practices of corporate governance. Corporate governance also shows the degree of controls of a firm or the system of control which helps organizations to effectively manage and direct their resources (Hirschey, 2003).

In this study, **performance** refers to organizational performance which is based on accounting numbers such as return on investment (ROI), return on assets (ROA), free cash flow (FCF), cash flow return on investment (CFROI) are the examples of accounting performance measures (Terblanche, 2008). Theoretically, a concept of performance is a measure used to quantify the efficiency and/or effectiveness of an action (Neely, Gregory, & Platts, 2005). This study uses return on assets (ROA) as a measure of organizational accounting-based performance.

There is no agreed definition about **earnings quality**, as it has a multidimensional character. Research on accounting has used different properties of earnings quality. This study uses **earnings management** as the attribute of earnings quality. Theoretically it is argued that highly managed earnings will show low quality, as earnings management is an indicator of fraud or misappropriation of managers (Lo, 2007; Mir & Seboui, 2006). Scott (2011) defines earnings management as *“the choice by a manager of accounting policies, or real actions, affecting earnings so as to achieve some specific reported earnings objective”*.

1.6 Organization of the Book

This study consists of seven chapters.

Chapter 1 provides a brief introduction to the background of the study. It also outlines the research problems and objectives, the contributions, key terms and structure of the research.

Chapter 2 critically reviews the theory and previous studies regarding business environment, strategy, corporate governance, earnings quality, as well as the basic theory employed in this study, which is the contingency theory. This chapter also provides a review relating to corporate governance in Indonesia and corporate governance measures. The last part of this chapter presents the research gaps.

Chapter 3 proposes the theoretical framework which is employed to guide the study along with the hypothesis development.

Chapter 4 presents the research methodology and the justifications. It includes the justifications for the use of Indonesian firms as samples, sample selection, the data collection, and measures or indicators of construct. Furthermore, the data analysis method is discussed and justified, including the basic theory of the structural equation model, measurement models, and bootstraps procedures.

Chapter 5 reports the results of this study. It comprises the descriptive analysis of the results, the assessment of the discriminant validity which is conducted by the examination of single-factor congeneric model and confirmatory factor analysis, the examination of the reliability of construct measures and results of path analysis or structural model.

Chapter 6 presents the analysis and interpretation of the results. It also discusses the implications of the study.

Chapter 7 presents the summary of the model and the results of the descriptive analysis, measurement models, and hypothesis testing. It also presents the limitations of the study and potential areas for further research.

1.7 Summary

Despite the awareness of the importance of corporate governance in improving performance, research on corporate governance has encountered problems in understanding the effectiveness of corporate governance, including: (1) insufficient attention to the environmental and organizational factors as determinants of corporate governance in understanding the corporate governance structure, (2) the use of single dimension of corporate governance effectiveness, and (3) less attention to the importance of reliability and construct validity of the measures used to represent corporate governance.

This study aims to extend past studies on corporate governance by investigating the impacts of business competition and strategy on corporate governance, as well as the effects of corporate governance on performance and earnings quality/earnings management. Additionally, through an integrated model using SEM, this study also observes the effects of business competition on strategy, the effects of business strategy on performance and earnings quality/earnings management, and the relationship between performance and earnings management.

Chapter 2

Literature Review

2.1 Introduction

This chapter will expand the literature as elaborated in Chap. 1 by reviewing texts in the area of corporate governance in a contingency perspective. As mentioned in Chap. 1, there are two main arguments in the literature of contingency approach of corporate governance employed in this study, which are: (1) there is a relationship between corporate governance and contingency factors (business environment and strategy), whereby the contingency factors would influence corporate governance; and (2) corporate governance has two roles, namely the performance role and financial control role as reflected in the earnings quality. Following these two arguments of the contingency theory in corporate governance, there are four streams of literature which will be elaborated, namely: (1) the relationship between corporate governance and contingency factors (business environment and strategy); (2) the performance role of corporate governance mechanisms; (3) the financial control or earnings quality role of corporate governance mechanisms; and (4) corporate governance measures. However, since it is also important to explain the basic concepts of corporate governance and contingency theory, these are also discussed. Furthermore, as this study will be using Indonesian companies as samples, corporate governance in the Indonesian setting is also presented. Hence, this chapter is organized as follows. Following the introduction in Sects. 2.1 and 2.2 discusses the basic concept of corporate governance, followed by its principles and mechanisms in Sect. 2.3. While Sect. 2.4 presents literature reviews with regards to the concept of contingency theory; the determinants of corporate governance which include the explanations about the relationship between corporate governance and business environment and business strategy are discussed in Sect. 2.5. The effectiveness of corporate governance in improving performance and earnings quality is presented in Sect. 2.6. The next section, which is Sect. 2.7 elaborates on corporate governance measures. As this study will be employing Indonesian data, corporate governance in

the Indonesian setting is presented in Sect. 2.8. Section 2.9 presents the literature gaps and the chapter closes with the summary in Sect. 2.10.

2.2 Basic Concept of Corporate Governance

There is no single definition and model of corporate governance (Keong, 2002; Mitton, 2002). The definition and model of corporate governance evolved with the rise of several scandals (Keasey, Short, & Wright, 2005). One of the definitions of corporate governance was issued by the Organization for Economic Co-operation and Development (OECD), which states corporate governance to be “*the system by which business corporations are directed and controlled*” (OECD, 2004). A more detailed definition formulated by Rezaee (2009) defined corporate governance as:

the process affected by a set of legislative, regulatory, legal, market mechanisms, listing standards, best practices, and efforts of all corporate governance participants, including the company’s directors, officers, auditors, legal counsel, and financial advisors, which creates a system of checks and balances with the goal of creating and enhancing enduring and sustainable shareholder values, while protecting the interests of other stakeholders (Rezaee, 2009).

Based on Rezaee’s definition, it can be seen that corporate governance is a very complex. There are many factors that influence corporate governance, such as regulations and market mechanisms. Therefore as markets, regulation and legal systems, financial and economic systems, as well as ethics and cultures in which the corporate governance system is implemented, vary, there are possible differences in corporate governance implementation among countries and firms.

This definition also explains that corporate governance has two broad goals, which are creating and enhancing sustainable shareholders’ values, which is the same as firm value (Brigham & Houston, 2009), and protecting stakeholders’ interests, especially shareholders as the principals of the firms. The goal of corporate governance in protecting shareholders’ interests is based on the agency theory (Maher & Andersson, 2000). The agency theory argues that the separation of owners and managers (agents) gives rise to agency problems, since both parties will maximize their own interests (Eisenhardt, 1989). Such agency problems basically arise because a perfect contract which enables the anticipation of all possible future events as the consequence of the separation of ownership and management is impossible to attain (Keasey et al., 2005). The combination of the unavailability of a perfect contract and self-interest demands a system that ensures goal alignment between agents and owners. A system able to reduce the possibility that managers abuse their power to harm the shareholders’ wealth is known as corporate governance.

By protecting shareholders’ interests, corporate governance might increase shareholders’ value, as not well managed agency problems would cause agency costs, which include theft of corporate wealth, earning manipulation, and excessive management compensation (Mueller, 2006). Then corporate governance could

exert a strong effect on the resource allocation of firms and increase capital mobility and globalization (Maher & Andersson, 2000). Furthermore, it might also improve the reputation of firms, because firms with high quality governance would show high credibility of their management (Ljubojevic & Ljubojevic, 2008). Hence, good practice of corporate governance has been perceived as a guarantee of the credibility of reports produced by firms which is more important than the contents of the reports, which include financial variables such as profit or other financial performances (Mir & Seboui, 2006). Good corporate governance implementation could also reduce costs of equity, as it limits insider tradings and increases information symmetry, as well as reduces costs of external monitoring by outside investors (Chen, Chen, & Wei, 2009; Kothari, Xu, & Short, 2009). Additionally, it could increase the understanding of shareholders about accrual and potential cash flows of firms, which would then improve valuation efficiency (Drake, Myers, & Myers, 2009).

Another argument on how corporate governance might generate firm value is endorsed by the contingency theory. The contingency theory argues that corporate governance, especially the boards, has two roles which are conformance/financial control role and performance role (Aguilera, Filatotchev, & Jackson, 2008; Hung, 1998). The performance role also relates to the strategic control role, as boards and other corporate governance mechanisms are argued to have an important role in strategic planning and execution (Schmidt & Brauer, 2006). However, the performance role might not necessarily align with the conformance/financial control role. Conformance/financial control role argues that tight monitoring through corporate governance mechanisms is needed to ensure that management has the same interests as shareholders. However, strong monitoring through independent board members might not be beneficial for performance improvement, as tight monitoring might reduce the flexibility of management in adapting to environmental changes (Young, 2003). Contingency theory asserts that the control system of a firm should be structured to support the strategy implementation of the firm (Donaldson, 2001). Therefore, to improve performance, corporate governance as a control system should be aligned or matched with the business strategy of a firm. Further explanation on how corporate governance should be aligned or matched with strategy will be elaborated in Sects. 2.4 and 2.6.

2.3 Corporate Governance Structure, Principles, and Mechanisms

The structure of corporate governance refers to a set of interrelated components of corporate governance principles, functions, and mechanisms (Rezaee, 2009). As there is no available single concept of corporate governance, its structure varies, depending on influencing factors such as the attributes of cultural, social, legal, and economic systems in which it is being implemented. However, the OECD has

outlined the principles of good corporate governance, which are commonly used as benchmarks. In general these principles are set to ensure the integrity of the market and its efficiency, promote transparency, and protect the economy as a whole (OECD, 2004). There are five OECD's principles of corporate governance which regulate shareholders' rights and key ownership functions, the equitable treatment of shareholders, the role of stakeholders, disclosure and transparency, and the responsibility of the board (OECD, 2004).

The first OECD's principle of corporate governance mandates a firm to have a corporate governance framework which ensures and facilitates the exercise of shareholders' rights, while the second principle regulates that all shareholders, including minority and foreign shareholders should be treated equally. Stakeholders' rights should also be recognized, as established by law or agreements to promote active cooperation between a firm and stakeholders in creating sustainable financial performances, jobs, and wealth (OECD, 2004). The framework should also ensure that a firm discloses timely and accurately all material matters regarding itself, as shareholders and other stakeholders depend on the information disclosed by the firm to make economic decisions. As boards take on a crucial role to control and monitor management, their responsibilities and accountabilities should be defined and guaranteed in the framework to ensure effective monitoring.

Besides all these principles, corporate governance structure is formed and shaped by internal and external mechanisms. These mechanisms are intended to ensure and maintain the achievement of corporate governance objectives. Internal mechanisms are used as tools to manage, direct, control and monitor a firm's activities to create value, and they include the boards of directors, the audit committee, internal controls, and internal audit functions (Rezaee, 2009). Although the external mechanisms such as capital market, the market for corporate control, labor markets, and government regulations come from external sources, these external mechanisms are aimed at monitoring a firm's activities and performance to ensure the alignment between outsider's interests and insider's interests (Rezaee, 2009).

Overall, the mechanisms of corporate governance are structured to minimize the conflict of interests between management and other stakeholders. These different mechanisms could act as complements or substitutes of each other (Ward, Brown, & Rodrigues, 2009). For example, shareholders might still ensure that the effective corporate governance is in place, although they reduce the board's oversight by increasing ownerships as a direct monitoring mechanism. Additionally, to some extent monitoring through the board's oversight might not result in minimizing agency problems as managers could take advantage of information asymmetry (Ward et al., 2009). In such a case, management remuneration mechanisms should be set up as complement mechanisms to curb agency problems. Consequently, individual corporate governance mechanisms should not be seen as separate mechanisms but rather more as a bundle of mechanisms (Rediker & Seth, 1995; Ward et al., 2009).

2.4 Contingency Theory

The essence of contingency states that the effectiveness of a firm comes from the alignment or fitting of the characteristics of a firm to contingencies that reflect the situation of the firm (Donaldson, 2001). A contingency is any variable that moderates the effect of organizational characteristics on performance. Contingencies include the external and internal attributes of a firm such as the environment (Geiger, Ritchie, & Marlin, 2006; Hambrick, 1983; Hoque, 2004) and strategy (Hoque, 2004; Langfield-Smith, 1997).

Contingency theory tries to explain the determinants of the effectiveness of a firm. However, the effectiveness of a firm has a broad definition, which includes profitability (Yeung & Ennew, 2000), customer satisfaction (Ittner & Larcker, 1998), or using a combination of non-financial and financial measures (Kaplan & Norton, 1992). Overall, effectiveness refers to performance (Donaldson, 2001).

The contingency approach has been widely used in management control system (MCS) research (Langfield-Smith, 2007). The focus of contingency theory in MCS is to observe the effects of the interdependence between organizational structure and contingency factors (environment and strategy) in creating performance, which is commonly referred to as the structural contingency approach (Donaldson, 2001).

Donaldson (2001) explains that a structural contingency model contains three elements: first, it is assumed that there is a relationship between organization control and contingencies; second, contingencies would determine the structure of a firm; third, the fit between organizational structure and contingencies would result in a superior performance. Hence, the model of contingency approach should show a relationship and interdependence between structure or control and contingency factors (environment and strategy). It could also be argued that a certain level of fit between organizational structure variables and contingency variables would lead to improved performance.

The relationship between organizational structure, control system and contingencies is the focus of many researchers. The business environment is viewed as an important contingent factor which shapes the structure and strategy of a firm (Chenhall & Morris, 1986; Donaldson, 2001; Geiger et al., 2006). The effectiveness of firms depends on their capability to fit with the environment (Langfield-Smith, 1997). The adaptation of firms to their business environment would determine whether they could survive or not. However, this adaptation is not a simple task, since business environment are evolving continuously (Thompson, Strickland, & Gamble, 2010).

Hence, a firm needs a strategy to be able to adjust and adapt to the continuous changes in the business environment. Strategy is used to find a better way of adaptation to the business environment, when compared to competitors. The fit between business environment and strategy is the source of competitive advantages, which would ensure not only the survival of firms, but also their capabilities to beat their competitors (Donaldson, 2001; Miles & Snow, 1978, 2003).

Furthermore, it is argued that strategy formulation and implementation need to be coordinated to ensure that resources and capabilities of organizations are used properly to support such tasks. Therefore, to be able to coordinate strategy formulation and implementation, a well designed control and structure system is required. The control and structure system should also be designed in a such way as to provide assurance that organizational resources and capabilities are obtained and used effectively and efficiently in accordance with the strategy adopted by organizations (Langfield-Smith, 2007).

The fit or alignment is another issue in contingency theory (Donaldson, 2001). The fit concept or alignment refers to a combination of levels of controls and contingencies (for example business environment and strategy) which would generate a superior performance. It is argued that the superior performance is a result of the proper combination of contingency factors. Hence, strategy and controls should also be aligned in order to generate higher performance, as a certain strategy type might not fit with a certain degree of controls.

Overall, it can be concluded that contingency theory asserts that contingency factors are interrelated. Business environment, strategy, and controls are the three important contingency factors which have relationships among them. Moreover, higher performance could be realized by fitting or matching these factors.

2.4.1 Control System as a Contingency Factor

A control system in contingency model research is commonly referred to as management control system, which is defined by Anthony (1965) and quoted in Langfield-Smith (2007) as “*the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives*”. Langfield-Smith (2007) argued that this definition differentiates between strategic control and management control. In the context of current business, this definition has been perceived to be inadequate, as strategy formulation and implementation are significant tasks of managers (Otley, 1994). Hence, Anthony and Govindarajan (2007) have redefined management control system as “*the process by which managers influence other members of the organization to implement the organization’s strategies*”.

Furthermore, from this definition, it can be seen that corporate governance in a sense has to be taken as a management control system (Pitelis, 2004), whereby its effectiveness is contingent on other factors (Aguilera et al., 2008). Corporate governance is a control system which ensures that all the organization members respect the rights and interest of stakeholders and are accountable for resource distribution and allocation (Maher & Andersson, 2000). Moreover, the role of corporate governance, especially of the board, has been extended to strategic decision making as the influence of institutional investors increases (Pugliese et al., 2009).

There are many categorizations of control systems made by researchers. Bureaucratic and organic controls are among categories that are said to exist (Donaldson, 2001). Bureaucratic controls are characterized as formal and top-down or centralistic approach for decision making, while organic controls have more informal and decentralized structure. These control approaches are determined by the business strategy chosen by organizations. For example, Donaldson (2001) explained that organic and decentralized controls might tend to be adopted by innovator or prospector firms, as they need flexibility in their controls. Defenders or low cost strategy firms might tend to adopt more bureaucratic and centralized control, as they need more controls to monitor costs in order to minimize them.

2.4.2 Business Strategy as a Contingency Factor

Business strategy has been defined in many ways. In general, business strategy relates to how a firm competes successfully in a particular market. It is also concerned with strategic decisions such as choices of product and market segments (Thompson et al., 2010) as well as with many factors, including the long-term directions of a company, scope of an organization's activities, employment and deployment of resources (Langfield-Smith, 2007).

As the business environment varies depending on its risks and the levels of competitiveness, many different strategy types also exist. Miles and Snow (1978, 2003) proposed four typologies of business strategy, namely prospectors, defenders, analyzers and reactors. These types of strategy are based on three fundamental issues which are the entrepreneurial, technological, and administrative issues. Kald, Nilsson, and Rapp (2000) argued that the Miles and Snow's concept of strategy is similar to the generic strategy of Porter (1980, 1998); however, it has more organizational contents, as their concept includes those three fundamental issues.

The entrepreneurial issues are those concerned with which products a firm should develop and which markets it should enter and penetrate. Some firms might look for growth by developing new products and diversifying their markets, but some others might choose to focus on a particular product or market. The technological issues are those concerned with the selection of the appropriate technology for production and distribution systems while the administrative issues focus on how a firm deals with uncertainties of organizational systems which includes activities to formulate, implement, and rationalize organizational system strategies.

Defenders are the opposite of prospectors. While reactor firms do not have any consistent strategy, analyzer firms combine both defenders and prospectors. This study uses only a prospector and defender typology since both have more distinct characteristics when compared with the analyzer and reactor strategy type.

Miles and Snow (1978, 2003) characterized prospectors as firms which always try to find and exploit new products and market opportunities. They gain growth

from new markets and new products which enable them to have flexibilities in all their operations and technology. Hence they minimize long-term capital investment in the production processes, but invest in research and development (R&D) and marketing. Since they are looking for growth, it is not common for prospectors to gain efficiency. Administratively, a prospector's problem is about how to facilitate rather than to control organization operations.

On the contrary, Miles and Snow (1978, 2003) explained that defenders are more narrowly focused and have a limited range of services. They tend to maintain stability and efficiency. Their growth is gained by penetrating deeper into current markets which cause cautious and incremental growth to occur. They develop a high degree of formalizational controls and rely on functional structures.

Regarding the effectiveness of both strategies, Miles and Snow (1978, 2003) argued that both strategies could be effective, depending on the business environment where the strategies are implemented. In a dynamic environment where business is very competitive and risky, prospectors would have better performance, as they aim at taking advantage by exploiting new markets and investing in new products. Moreover, the organic or informal control of prospectors would benefit them by ensuring flexibility. As opposed to such a situation, defenders would gain a better performance in a less dynamic environment. Efficiency and tight control would boost their profits where growth is minimized.

2.4.3 Contingency Theory and Corporate Governance

Although the contingency approach of corporate governance has not been fully examined (Aguilera et al., 2008), the relationship between corporate governance and contingent factors has attracted the attention of some researchers (Filatotchev & Toms, 2003; Naiker, Navissi, & Sridharan, 2009; Pearce & Zahra, 1992). Filatotchev and Toms (2003) explained that strategy and corporate governance relationship should be seen from a dynamic perspective. Corporate governance could be influenced by previous strategic decisions and outcomes. In their research, Filatotchev and Toms (2003) found that surviving firms had changed their financial and governance structures in order to fit in with new environments.

Furthermore, Naiker et al. (2009) argued that the relationship between any regulations, including corporate governance and firm value would be moderated by the firm's strategy. They argued that the impact of the agency costs as imposed by certain regulations on firm value would depend on the strategies adopted by the firms. Their finding shows that if a firm uses suitable strategies, the agency costs of certain rules could be minimized.

Aguilera et al. (2008) proposed three constructs to explain the relationship between corporate governance and the organizational environment and the effectiveness of corporate governance, namely costs, contingencies, and complementarities.

Contingency arguments assert that the effectiveness of corporate governance would be contingent on organizational factors such as strategy, size, environment, and other resources and capabilities in the organizational context (Aguilera et al., 2008). Hence, corporate governance structure and its effectiveness would depend on contingency factors in responding to the internal and external factors. Firms might structure their corporate governance by considering environmental and organizational factors such as the business competition and strategy in order to ensure the effectiveness of control through corporate governance and strategy implementation. They also argued that the role of corporate governance might differ in different contexts, which means that the effectiveness of corporate governance would depend on a firm's size, age, phases, and the character of industries and innovation.

Despite contingencies, costs of corporate governance could also be considered in understanding corporate governance and its effectiveness, as corporate governance practices might impose tangible and intangible costs on companies which would not be beneficial for creating performance and firm value. Tangible costs of compliance would not be trivial, as firms would spend huge sums to comply with corporate governance. They have to pay fees to external auditors and board of director members, as well as to develop effective internal control. These compliance costs would be higher as the regulation gets tighter. As mentioned in Chap. 1, it was estimated that a firm might spend 6–39 million dollars to comply with the Sarbanes-Oxley regulations (Ahmed, McAnally, Rasmussen, & Weaver, 2010). These costs could be higher for a complex firm, small firm, or lower growth firm. The intangible costs of corporate governance might include the proprietary of information (Aguilera et al., 2008), as one of the important corporate governance mechanisms is disclosure and transparency. This mechanism will force a firm to disclose its secret information such as strategy, trade, and research and development which might increase the risk of imitation.

Complementarities suggest that various mechanisms of corporate governance complement each other. Corporate governance mechanisms are interrelated and they could be effective in combination. However, another theory also exists, which argues that some corporate governance mechanisms function as substitutions. Ward et al. (2009) argued that corporate governance should be viewed as a bundle, whereby each mechanism could be a substitute for another. They argued that when a firm is performing well, monitoring and incentive alignment mechanisms would operate as substitutes in ensuring effective governance. However, under poor performance, a greater proportion of monitoring mechanisms is needed when compared to incentive alignment.

The contingency theory is also used to explain the roles or effectiveness dimensions of corporate governance. Corporate governance roles would be a balance between the accountability role or financial control role and entrepreneurial/strategy or performance roles (Aguilera et al., 2008; Hung, 1998). The effectiveness of corporate governance should not only be measured by its ability to monitor managers' behaviors, but also by its ability to support strategic planning and implementation which lead to superior performances. Hence, a normative argument

asserts that control role is a broad mechanism in shaping the vision and missions, which also include improving the innovation and entrepreneurship capacity of a firm (Hendry & Kiel, 2004). Nevertheless, the normative argument has been challenged, as in generating performance, managers might need flexibility and more discretion, while tight control might reduce their capability to execute flexibility (Young, 2003). Hendry and Kiel (2004) argued that the balance between financial and strategic control would depend on the organizational context in which a firm operates. In a highly turbulent and uncertain environment, corporate governance, especially by the board would emphasize strategic control rather than financial control. On the other hand, when information asymmetry is relatively prevalent, the strategic role of corporate governance would be overlooked, as boards and shareholders would be concerned with identifying and controlling managers' behaviors in order to protect shareholder's interests.

2.5 The Determinants of Corporate Governance

As mentioned in Chap. 1, this study argues that business environments and business strategy influence corporate governance structure. Firms will match their corporate governance structure with the business environment in which they operate and business strategies adopted in order to generate an improved performance. This section will elaborate theories and research studies regarding how the business environment and business strategy influence corporate governance structure. Section 2.5.1 will explain the relationship between corporate governance and business environment; while Sect. 2.5.2 will elaborate the relationship between corporate governance and business strategy.

2.5.1 Corporate Governance and Business Environment

The relationship between the business environment and corporate governance has been documented in several research papers. Research has identified that business competition, as one of the business environment characteristics, could be a substitute for external corporate governance mechanisms (Allen & Gale, 2000; Chou, Ng, Sibilkov, & Wang, 2011). Allen and Gale (2000) have identified the board of directors as the main internal mechanism of corporate governance and the market for corporate control as the external mechanism. They argued that competition is an alternative mechanism for ensuring performance, as it would reduce managerial slack or moral hazard. Furthermore, market competition could force a firm to improve performance, leading to increased alignment between shareholders and principals (Tian & Twite, 2009). As markets are competitive, managers would be forced to show high performance by reducing costs or boosting income, otherwise bankruptcy and job loss would be the consequences (Chou et al., 2011). The

substitution ability of competition has explained why many Japanese firms, which have relatively low levels of independent boards and large board sizes, could have superior performance (Allen & Gale, 2000). This argument seems to support the idea that financial control and performance/strategic control could be contingent on the environmental contexts.

Tian and Twite (2009) provided evidence about the substitution effect between corporate governance and market competition using Australian samples. They measured internal corporate governance using board characteristics, ownership structure and CEO compensation, and it was found that these variables had a weak effect on productivity when a firm was facing tight competition. Indeed, they found that more effective boards and CEO compensation had a positive effect on productivity; however it was less effective when markets were competitive.

Supporting Allen and Gale (2000), Chou et al. (2011) also found that in competitive industries, firms tend to have weak corporate governance structures. Strong competition was related to weak corporate governance, while on the contrary, strong corporate governance had an association with low competition. Moreover, it was found that strong corporate governance only had a positive effect on performance when competition was relatively low.

Other studies such as by Januszewski, Koke, and Winter (2002) and Karuna (2007) suggested a complementary relationship between corporate governance and competition. This contention does not view competition as a disciplinary mechanism, but it is argued that the effect on competition on managerial incentives would depend on managerial preferences (Karuna, 2007). Here, it is argued that a tradeoff between monitoring costs and opportunistic behavioral impacts would determine the optimal strength of corporate governance. If competition is not effective to reduce the possibility of the opportunistic behaviors of managers, firms might have stronger governance and conversely if competition does impose sufficient discipline, firms might have weaker corporate governance by considering tradeoffs between costs of governance and costs of opportunistic behavior of managers (Karuna, 2010).

2.5.2 Corporate Governance and Business Strategy

Research has documented evidences of the relationship between mechanisms of corporate governance and business strategy, especially the relationship between board characteristics and strategy. It is argued that the effectiveness of the size of the boards is contingent on business strategy. A diversification strategy relates to a greater board size (Kiel & Nicholson, 2003; Pearce & Zahra, 1992). Diversification firms tend to seize new market opportunities and utilize technological and financial capabilities more efficiently. Hence, they need skills to integrate these resources and access to these skills. Moreover, diversification would impose greater costs on a firm due to difficulties relating to coordination, information asymmetry, and incentive misalignment between managers and departments (Chen & Yu, 2012; Denis,

Denis, & Yost, 2002). Increasing board size would enable firms to obtain and utilize those skills and cope with all costs.

Greater board independence is argued to be more beneficial for a cost-efficiency strategy rather than for innovation strategy firms, as tight monitoring through a board independence mechanism might reduce firm performance goals because restrictions and controls could limit manager's capability in making business decisions which are crucial to firm value (Gani & Jermias, 2006; Young, 2003). Young (2003) argued that the independence of directors could be counterproductive with regards to managerial tasks, since strong control might distract managers from running the companies.

Gani and Jermias (2006) also argued that as independent directors are outsiders, they have less specific knowledge about a firm which will force them to rely on outcome control in evaluating managers. Unfortunately, accounting management research has documented that the use of outcome control system in performance management would result in bias evaluation, as an evaluator evaluates performance without considering the appropriateness of the decision resulting in that outcome (Gosh & Lusch, 2000). Therefore, managers could be punished because of poor performance arising from factors beyond their control. Neglecting the controllability factors in performance management would have a negative impact on firm performance as managers might sacrifice firm's long-term performances by hindering risky projects or long-term expenditures (Hanson & Mowen, 2007). On the contrary, cost-efficiency strategy firms could obtain benefits from greater board independence, as they would direct firms to be more cost effective (Gani & Jermias, 2006). By depending on outcome control, outsiders would stress more on cost reduction, as it would boost profits.

Unfortunately, researchers do not have an agreement on this matter. Pearce and Zahra (1992) argued that outsiders are beneficial for a diversification or innovation strategy firm. As an innovation strategy firm would always seek market opportunities and adopt current technology development, it needs access to resources and markets. Hence, outsiders would provide more access as needed by an innovator. Furthermore, tight controlling and monitoring would benefit a diversification strategy firm in hindering them from wasting resources by taking risky projects (Jiraporn, Kim, & Davidson, 2006). Wasting resources is one of the problems of an innovator as it is more aggressive in investing resources such as R&D. Tight monitoring would also cause managers to be more cautious in their R&D investment (Dong & Gou, 2010). Dong and Gou (2010) found that independent directors related positively with R&D investment intensity. This finding implicitly showed that independent boards did not hamper the innovation and aggressive strategy of a firm. Conversely they induced managers to be more cautious about their investments.

2.6 The Effectiveness of Corporate Governance

As mentioned earlier, corporate governance through its mechanisms and principles has extended its roles from protecting shareholders' interests and managers' expropriation to creating value or performance. Hence, it can be concluded that there are two main dimensions of corporate governance effectiveness which are performance dimension and earnings quality dimension which relates to the protection of shareholders' interests.

Sections 2.6.1 to 2.6.6 will elaborate how the corporate governance mechanisms may improve or have relationships with firm performance. The six mechanisms of corporate governance include: the size of boards, independence of boards, ownership concentration, risk management and internal control, and managerial ownership and performance. The relationships between these mechanisms are explained, as they are used by this study to measure the complex concept of corporate governance. Hence it is necessary to provide an explanation of how these six mechanisms relate to performance. In this section the terms "performance" and "firm value" will be used interchangeably, as both terms show the financial effectiveness of an organization. Section 2.6.7 will elaborate the relationship between corporate governance and earnings quality.

2.6.1 Board Size and Performance

Board size has been found to affect the roles of the boards (Zahra & Pearce, 1989). Unfortunately, to ensure the effectiveness of the boards, no definite formula as to how many members should a board have exists. Jensen (2010) suggested that a firm should have a board of not more than eight members. Larger boards would create coordination and communication problems, which might result in poor performance (Jensen, 2010; Lipton & Lorsch, 1992). Time consuming problems and difficulties in arranging board meetings and reaching consensus are two examples of coordination and communication problems, which could lead to less efficient decision making (Jensen, 2010). Additionally, too many members might cause a possibility of overcapacity, as a free rider problem might arise, where members would depend on others to perform their duties (Jensen, 2010; Yunos, 2011). These disadvantages of the larger boards are consistent with economics and social psychology theories about decision making, as it is argued that a group's final decision is a compromise of diversified opinions and a project would be accepted by a group only after being considered as a good project by several of the group members (Cheng, 2008).

The negative impact of large boards on performance has been recorded by many studies. Yermack (1996) observed the relationship between the size of the board and firm value. Using 452 large US companies between 1984 and 1991 as samples, he found that board size had an inverse correlation with firm value as measured by

Tobin's Q. Firms with smaller boards showed better firm value as well as financial ratios (Yermack, 1996). Continuing the work of Yermack (1996), Mak and Kusnadi (2005), using Malaysian and Singaporean companies as samples, found that the size of boards had a negative relationship with the value of firms. Guest (2009) also found that the size of boards had a negative impact on profitability, Tobin's Q, and share prices in a United Kingdom (UK) setting.

However, support for larger boards also exists. Larger boards might offer advantages with regards to knowledge and expertise of board members (Larmou & Vafeas, 2010). Larger companies require a greater number of board members to ensure that control and monitoring is placed appropriately and to gain more access to resources (Kiel & Nicholson, 2003). Using Australian companies' data, Kiel and Nicholson (2003) provided evidence that the size of the boards has a strong correlation with revenue and market capitalization.

It is obvious that research has different results and arguments about the relationship between the size of boards and performance. Larger boards might provide a positive or negative contribution to a firm's performance. The contribution of board size, either positive or negative would be contingent on other factors such as the characteristics of firms and government regulation pertaining to corporate governance (Guest, 2009). Reducing board size is more beneficial for a firm when the market for corporate control is more active (Cheng, Evans, & Nagarajan, 2008). Furthermore, there is evidence that for smaller and poor operating performance firms, increasing board size has a positive correlation with stock returns (Larmou & Vafeas, 2010).

Overall, the size of boards might improve performance. However, its effectiveness would depend on other corporate governance mechanisms and contingency factors such as size of a firm, business environment, and strategy.

2.6.2 Independent Boards and Performance

Independent boards refer to board members who come from outside or directors who do not have any affiliation either with controlling shareholders, managers, or board of directors. As independent boards are perceived to have no relationship with managers, they are perceived to be able to monitor managers firmly and independently. In the context of monitoring and the separation between control and decision making, independent boards are essential to protect shareholders' interests (Duchin, Matsusaka, & Ozbas, 2010), as they would be more effective in minimizing opportunistic behaviors of managers (Kiel & Nicholson, 2003). Monitoring roles of boards are expected to reduce the agency problems between shareholders and management and hence, markets should favor them (Lefort & Urzua, 2008). In addition, independent boards would provide a counterbalance to the managers as insiders, so that managers would not be able to take advantage of their position by sacrificing shareholders' interests (Yunos, 2011). Many corporate scandals, such as Enron are perceived to be caused by the lack of board

independence (Young, 2003). Thus the proposition that boards should be dominated by independent members has become a worldwide wisdom.

The proportion that independent directors could contribute to firm value and performance is not only based on the argument that board independence would support the controlling and monitoring roles. As a board has an advisory role, it is argued that the independence of boards is to improve the performance of a firm by providing independent professional consultation to managers (Lin, 2011). Furthermore, as independent board members are outsiders who have experience and relationships with external parties, they are expected to establish better external linkages (Gani & Jermias, 2009; Hung, 1998).

Studies carried out by Ivashkovskaya and Stepanova (2010); Victoria (2006) and Lin (2011) supported the above argument. Using 87 firms from nine European countries (Denmark, France, Germany, Italy, the Netherlands, Portugal, Spain, Belgium, and Austria) during 2000–2001, Victoria (2006) reported that there was a strong positive association between independent board members and profitability ratios as measured by ROA, ROE and market to book ratio (MTB). Similar to Victoria (2006), Ivashkovskaya and Stepanova (2010) found that the independence of the board of directors had a positive correlation with Tobin's Q. Evidence is also provided by Lin (2011) who examined the effect of board characteristics on performance in Taiwan. He measured the performance using three dimensions, which are ROA, ROE and Tobin's Q. Characteristics of boards were defined by duality, size, number of supervisory directors, the percentage of family-controlled directors who serve on the board, number of independent directors, and number of inside directors. Using 3 years observations, Lin (2011) found that duality, size and family-controlled directors had a negative influence on performance. Nevertheless, this study also found that inside and outside directors, as well as supervisory directors were correlated positively with performance. Hence, these findings indicate that the boards would be more effective if they are more coordinated and have interpersonal relationships.

Research also found that board characteristics have a relationship with financial distress. Li, Wang, and Deng (2007), using Chinese listed companies as samples found that the degree of board of directors' independence negatively correlated with financial distress. It means that the independence of the board of directors enables firms to closely monitor management discretions and prevent firms from bankruptcy.

Nevertheless opposing theories and evidence also exist. The stewardship theory asserts that insider directors are more beneficial, as they are more knowledgeable about a firm and, hence would contribute more towards the firm's performance. Some also argued that a greater number of independent boards is not beneficial for a company as they could restrain managers from being more innovative (Gani & Jermias, 2006; Young, 2003). As a representation of shareholders, independent boards would stress more on monitoring and controlling managers which might reduce managers' discretion. Meanwhile inside directors are argued to be more focused on the operational side of firms, as they are more knowledgeable about firms' operations (Kiel & Nicholson, 2003). These contentions are supported by

some studies which show that the effect of board independence on firm value or performance is still inconclusive (Kim & Lim, 2010). Bhagat and Black (2002) found that no association exists between firms' performance and the number of independent board of directors. This finding shows that the independence of directors did not cause any improvement on financial indicators of firms as measured by EPS, revenue, and revenue growth (Bhagat & Black, 2002). Brown & Caylor's research (2006) formed an index to represent 51 firm-specific variables of internal and external governance. They ranged the index from 0 to 52 and found that a better index associated with a better financial performance. They also found that the factors of board independence did not correlate with Tobin's Q.

In addition, ownership concentration is found to be important explanation regarding the relationship between the independence of a board and performance. Interesting research about ownership concentration as a moderating variable in the relationship between board independence and firm value was conducted by Setia-Atmaja (2009). He investigated the impact of board and audit committee independence on performance which was measured by Tobin's Q. He also investigated whether the impact of both the variables on firm value is moderated by ownership concentration and dividend payouts. Ownership concentration reflects blockholders which is also considered to enhance corporate governance, as it puts more control on, and has enough power to force managers to act in their interest (Setia-Atmaja, 2009). His findings showed that board independence and audit committee independence were positively correlated with Tobin's Q. However, the impact of board independence on firm value was moderated by ownership and dividend policy.

Moreover, the costs of acquiring information are also found to have an effect on the effectiveness of independent boards. Costs of acquiring information by outside directors might determine their effectiveness in improving firm value and performance (Duchin et al., 2010). Outside directors might not have enough information about a firm, as insider directors have. Therefore, the effectiveness of outside directors in executing their roles depends on the cost of acquiring information. Duchin et al. (2010) found that when the cost of information was low, the performance of a firm increased as outsiders were added to the board and vice versa.

It can be concluded that independent directors might contribute much to improving performance and firm value. However, some contingency and complementary factors might exist and affect the effectiveness of independent boards.

2.6.3 Financial Expertise of Boards and Performance

To be effective in carrying out their roles, board directors should have appropriate skills and capabilities. As they have a monitoring role, especially for financial activities of firms, board directors should have the required knowledge and expertise in finance and accounting. It is perceived that the collapse of Enron and

WorldCom was caused by the lack of relevant financial knowledge of board directors (Lanfranconi & Robertson, 2002).

The Indonesian's corporate governance code of conduct has recognized the importance of finance and accounting background and expertise of the boards, especially the audit committee. As it is mandated that an audit committee should assist the board of commissioners (board of directors) to ensure all matters regarding financial reports are presented fairly in accordance with all regulations and that internal control structure is maintained adequately and effectively, and at least one of the audit committee members should have accounting and finance background. This code has similar directives with that of the Blue Ribbon Committee's recommendation (1999), which requires New York Stock Exchange (NYSE) to ask large listed companies to have audit committee members who have financial background (Abbott, Parker, & Peters, 2002).

Empirically, financial and accounting expertise of the audit committee members is found to have a positive relationship with earnings quality (Abbott, Parker and Peters 2002; McMullen & Raghunandan, 1996; Yunos, 2011). Abbott, Parker and Peters (2002) found that the financial expertise of an audit committee has a negative relationship with financial reporting restatements and fraud. This finding supported the study of McMullen and Raghunandan (1996) which reported that a Certified Public Accountant (CPA) on an audit committee enhanced the financial reporting quality. Using Malaysian companies as samples, Yunos (2011) also found that financial expertise of board members increased accounting conservatism. Accounting conservatism relates to the quality of financial reporting, since it shows less aggressive financial reporting policies.

Financial and accounting expertise of audit committee members also contribute to a firm's market value. By examining 136 voluntary announcement of NASDAQ firms during 1990–2001, Davidson, Xie, and Xu (2004) reported a positive share price reaction when a firm announced that new members of its audit committee had financial expertise, indicating that markets reward firms whose audit committee members have financial and accounting knowledge.

Overall, empirical studies have shown that directors should have financial expertise or background so as to exercise their controlling and monitoring roles. The issues of controlling and monitoring of a firm, to some extent are related to the fields of finance and accounting.

2.6.4 Ownership Concentration and Performance

Ownership and control cannot be separated completely within a firm, as owners have a control right and the controllers frequently have equity ownerships. Hence, the ownership structure is an important element of corporate governance. The traditional agency conflict between owners and controllers (managers) has given rise to a proposition for having greater overlapping between ownership and control.

Managerial ownership is perceived to reduce conflict of interest between controllers and owners, and hence, to increase firm value (Denis & McConnell, 2003).

However, some argued that ownership concentration is not an effective mechanism to reduce agency problems. Yunos (2011) argued that managerial ownership would not reduce conflict of interests in countries where ownership structure is highly concentrated such as in East Asian countries. In these countries, the controlling owners have access to private information and they could take advantage of it by jeopardizing the interests of the minority shareholders. Hence, it is argued that high concentration of ownership would cause a conflict of interest between large shareholders and minority shareholders, leading to poor financial performance. Thomsen, Pedersen, and Kvist (2006) had a similar argument by providing evidence in Continental European countries where minority shareholder protection is low. It was reported that high block-holder ownership is related to lower firm value and accounting profitability. This finding did not conclude that ownership concentration has no contribution to firm value; it however, found that if the level of block-holder ownership is considered too high by minority shareholders, it would have a negative effect on the financial performance in the following year (Thomsen et al., 2006).

Ownership concentration is also argued to have a moderating effect on the relationship between director independence and performance (Setia-Atmaja, 2009). Concentrated owners are reluctant to appoint independent directors, as they would put less control on financial reporting quality (Yunos, 2011) and block-holders might substitute the control role of the independent boards (Setia-Atmaja, 2009). Independent boards might have a greater role in monitoring dominant shareholders, as they have incentives to engage in expropriation activities. Setia-Atmaja (2009) found that independent boards have a greater effect on performance for closely-held firms.

The negative effect of ownership concentration is also argued to have an impact on quality of earnings, as dominant shareholders might have incentives to implement weak internal controls in order to facilitate expropriation (Bozec & Bozec, 2007). The reasons for expropriation might induce firms to disclose less information to conceal expropriation activities, prevent leakage of proprietary information to competitors, and to avoid unwanted political or social monitoring (Fan & Wong, 2002). Chin, Kleinman, Lee, and Lin (2006) found that in the East Asian Region, controlling owners concealed their private control benefits by publishing less accurate earnings forecasts in order to minimize outside intervention. Supporting this argument, Givoly, Hayn, and Katz (2009) found that public ownership had improved quality of earnings, as shareholders and creditors demanded a high quality of reports.

In contrast to the arguments mentioned earlier, some argued that ownership concentration provides better protection for shareholders in countries where legal protection is relatively weak (Denis & McConnell, 2003). In such countries, increasing ownership is a strategy commonly selected by shareholders to protect themselves from misappropriation by managers, because concentrated ownership

provides them with more powerful rights to get involved with governance (Heugens, Essen, & Oosterhout, 2008).

However, the type of controlling shareholders or block-holders also has an effect on performance. It is argued that family controlling shareholders might improve performance, as they are able to reduce managerial expropriation and care more about long-term relationships (Hamadi, 2010). Family controlling shareholders usually stay longer in firms which induced them to be more concerned with long-term reputation. Nevertheless, the finding of Hamadi (2010) did not consider that the likelihood of expropriation and the quality of earnings were produced by concentrated ownership firms. It could be that accounting performance reported by firms has been manipulated to mask expropriation activities.

2.6.5 Risk Management, Internal Control and Performance

In today's business environment, a firm is all about managing risks. By managing risks, a firm might generate profits and ensure that the sustainability of its operation leads to shareholders' confidence. Nevertheless, risks have evolved and sharply increased due to competition, technology development, economic and political changes, and other factors. Although these increased risks might potentially damage a firm, they also provide competitive advantage resources. Thus, managing risks is not about eliminating risks because it is impossible, but it is an attempt to manage and convert risks from potentially damaging factors to opportunities for gaining competitive advantages.

As risks have potential power to damage a firm and are pervasive, managing risks is becoming a cause for concern for every business player. Shareholders have grave concerns about risks, since giving authority to managers carries with it a risk that managers would diminish resources without creating shareholders' wealth. Hence, the concept of risks has become a core of corporate governance and it relates to the concept of internal control (Spira & Page 2003). From the view point of agency theory, the concept of corporate governance has centered on risk management, especially on the financial risk aspects which prevents a firm from fraud and incompetency. Internal control is designed to deter these risks based on the relationships between internal control concept, financial reporting quality and corporate governance. Hence, it is obvious that the concepts of risk management, internal control and corporate governance are interrelated. The link between risk management, internal control and corporate governance is obvious, considering that deficiencies in internal control would increase firm risks and the cost of equity (Ashbaugh-Skaife, Collins, Kinney, William, & Lafond, 2009) which reflects the fallacy of good corporate governance.

However, the financial orientation of internal control concept has been replaced by a more holistic concept of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The COSO has recognized that internal control has three objectives, which are, to achieve effectiveness and efficiency of

operations, reliability of financial reporting and compliance with applicable laws and regulations (Committee of Sponsoring Organisations of the Treadway Commission (COSO), 1992). These objectives implicitly consist of an argument that corporate governance not only focuses on financial reporting quality, but also should not impede a firm from creating value (Spira, Laura & Page 2003). These also extend the concept of risk in corporate governance from financial risk management concept to what is known as enterprise risk management (ERM). ERM is a more holistic approach, which includes the concept of internal control.

Enterprise risk management has been defined by COSO (2004) as “*a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives*” (COSO, 2004). Using the same tone, COSO has ruled that ERM has four objectives (1) Strategic as high-level goals; (2) Operations: effective and efficient use of resources; (3) Reporting: reliability of reporting system; and (4) Compliance. This definition and the objectives clearly show the link between internal control and the concept of risk management. Furthermore, this concept recognizes the importance of managing risks in an integrative way.

Risk management has benefited firms in adding firm value, as it reflects the ability of firms to cope with factors that might have exposures on their earnings. While reducing the downside, ERM also aims at developing initiatives to seek higher returns from new opportunities (Andersen, 2008). It is expected that ERM should enable firms to ensure that the quality of internal processes is to avoid potential loss and to enable them to develop innovative investments. Andersen (2008) argued that having effective risk management should allow firms to be less sensitive to market fluctuations and to be better in adapting to environmental variations. As firms are less sensitive to market fluctuations, effective ERM would cause low vulnerability of earning projections, which leads investors to require lower rates of return and creditors would also ask for lower cost of debt (Andersen, 2008; Froot, Scharfstein, & Stein, 1994; Lim & Wang, 2007). Low cost of capital might increase performance and firm value as the firm would have more opportunities in its investment portfolio.

Furthermore, less sensitive market fluctuations and the low cost of capital would minimize cash flow variability and hence increase the going concern of firms. Thus, bankruptcy risk or financial distress would be low if firms have effective risk management (Andersen, 2008; Dolde, 1995; Froot et al., 1994; Guay, 1999). Consistent with this argument, research has found that there is a relationship between hedging and leverage (Lin, Phillips, & Smith, 2008). Leverage is commonly used as a proxy for debt capacity, which also indicates potential financial distress; while hedging, using derivative instruments reflects risk management of firms as the use of derivative might reduce the total risk of firms (Guay, 1999). Lin et al. (2008) findings indicate that firms in a costly financial distress situation are becoming more efficient in their investment by borrowing less and conducting more

hedging. They also found that firms which had more investment in risky technology assets were more aggressive in hedging and use less debt financing.

Additionally, risk management has been perceived to support optimal investments (Lin et al., 2008), because effective risk management would increase the confidence of investors to invest in long-term specific investments (Andersen, 2008). Risk management would increase shareholders' confidence regarding the cash flow stability and internal fund flow, thus it would reduce shareholders' reluctance to invest in risky and long-term investments, such as R&D (Andersen, 2008; Dolde, 1995).

However, one of the important questions in research on risk management is what internal factors affect the effectiveness of risk management and internal control to improve a firm's financial performance? Research has found that other corporate governance mechanisms and contingency factors have an influence on the relationship between risk management or internal control and financial performance.

The characteristics of the board of directors have a significant role in pushing managers to implement effective risk management and internal control (Gordon, Loeb, & Tseng, 2009; Yatim, 2009; Zhang, Zhou, & Zhou, 2007). Board independence is argued to be the most effective in monitoring and controlling manager's policies and activities. Outsiders such as independent directors should have the expertise and objectivity to control and advise managers. Hence, independent directors are expected to be more aware and to provide superior monitoring of firm's internal control and risk management (Yatim, 2009). The other characteristics of the boards, such as board expertise and frequencies of board meetings are also argued to have a positive relationship with the establishment of a risk management committee (Yatim, 2009).

The appointment of an audit committee as part of the monitoring system is also perceived to contribute positively to the implementation of internal control and risk management. Accounting and financial expertise and background of audit committee members as regulated by many corporate governance rules and principles are expected to boost the effectiveness of internal control and risk management. Zhang et al. (2007) found that internal control weaknesses were mostly identified in firms whose audit committees had poor financial accounting expertise. Furthermore, external auditor independence was also identified as having a positive relationship with internal control, as they found that changing auditors was more likely to occur in firms that have internal control weaknesses (Zhang et al., 2007).

Contingency factors such as industry competition, environmental uncertainty, firm size and complexity, as well as monitoring of boards are argued to be determinants of the effectiveness of ERM (Gordon et al., 2009). This argument is based on the contingency theory which asserts that performance is created by the fit between contingency factors and control, which means that the relationship between risk management and financial performance is contingent upon contingency factors. Gordon et al. (2009) argued that more volatile and competitive markets would require a firm to have more control and more activities of risk management; while greater complexity and size would cause difficulties in integrating managerial control systems which would lead to greater demand of risk

management activities. Nevertheless, more alignment between these factors (competition, size, complexity, and board monitoring) and risk management would result in superior financial performances. Using 112 US firms, Gordon et al. (2009) provided evidence that the relationship between financial performance and ERM is contingent upon these factors.

Overall, it can be concluded that internal control, risk management and corporate governance are three related concepts. Theoretically, risk management and internal control might contribute towards performance and the value of firm. However, the effectiveness of risk management and internal control is contingent upon other factors such as competition, firm size and complexity, as well as corporate governance mechanisms.

2.6.6 Managerial Ownership and Performance

As agency theory argues that ownership separation causes agency problems, and managers as agents are self-interested and so might sacrifice the interests of shareholders. Managerial ownership is a mechanism that is expected to align managers' interests and shareholders' interests. Managerial ownership is expected to reduce moral hazards of managers which could be in the form of an incentive to consume perquisites excessively, reluctance to provide sufficient efforts, and even misappropriation or frauds. By holding ownership, managers are motivated to show sufficient effort in improving the performance and value of firms, to reduce their incentives for perk consumption and engagement in non-maximizing projects that might result in low financial performance (Florackis, Kostakis, & Ozkan, 2009).

The common idea among researchers in the corporate governance study asserts that there is a positive and linear correlation between managerial ownership and organizational performance as proposed by Jensen and Meckling (1976) (Florackis et al., 2009). However, other research has revealed non-monotonic relationship between both variables. Barnhart and Rosenstein (1998) found a curvilinear relationship between managerial ownership and Tobin's Q. The increased managerial ownership proportionally increased Tobin's Q, however it decreased after the managerial ownerships exceeded the 25 % level. Similarly, Florackis et al. (2009) found a significant positive link between managerial ownership and performance at low levels of managerial ownership, which was lower than 15 %.

A non-monotonic relationship might exist as higher managerial ownership levels would cause managers to be risk averse (Himmelberg, Hubbard, & Palia, 1999). Hence, it reduces the willingness of managers to invest in risky projects which would have a negative effect on firm's performance.

It should be noted earlier that this study does not assume a non-monotonic relationship between managerial ownership and performance as managerial ownership is just being used as one of the measures of corporate governance construct. In Structural Equation Modeling (SEM), indicators of a construct should have high communality with other indicators. The measurement model of SEM would assess

whether the managerial ownership indicator has high communality with other measures, otherwise it is better to exclude such an indicator from the model. Although Indonesian firms are dominantly owned by families or financial institutions, they prefer to hire outsiders as managers while they take on the role as controllers in the board of commissioner/director under the two-tier system. Further explanation about corporate governance practices in Indonesia will be presented in Sect. 2.9. Hence, it can be expected that managerial ownership is relatively small and a linear relationship is assumed.

Research has also revealed the determinants of the level of managerial ownerships. It is hypothesized that the level of managerial ownership is not a random phenomenon. Hence, it is argued that some aspects of the environmental and organizational factors that determine the level of managerial ownership might affect the relationship between managerial ownership and performance. High R&D investment is found to affect the shape of the relationship between managerial ownership and performance. Cui and Mak (2002) found that for high R&D firms, the relationship between both variables (managerial ownership and performance) was in the form of a W-shape. It was found that performance measured by Tobin's Q declined as managerial ownership increased from 0 % to 10 %, but performance increased when managerial ownership was between 10 and 30 %. As managerial ownership reached between 30 and 50 %, Tobin's Q decreased again. If managerial ownership was above 50 %, Tobin's Q decreased. Other factors such as advertising and size of firm which also reflect risk are argued to be the determinants of the level of managerial ownership, and they are also perceived to affect the relationship between managerial ownership and performance.

The relationship between managerial ownership and other mechanisms of corporate governance is also perceived to exist. Ward et al. (2009) argued that monitoring mechanisms of corporate governance could be substituted by incentive mechanisms and vice versa, depending on the organizational context. As shareholders are likely to be more concerned about governance issues when their rate of return is threatened, in poor performance conditions shareholders would demand more control mechanisms and less incentive alignment mechanisms. On the contrary, good performance might cause a demand for incentive alignment mechanisms rather than control or monitoring mechanisms.

2.6.7 Earnings Quality and Corporate Governance

Earnings quality is one of the most important functions of firm value, since shareholders depend on earnings quality to make investment decisions. It is argued that earnings quality might increase the efficiency of resource allocation in the capital market by improving the quality of decisions of investors (Dechow, Ge, & Schrand, 2010; Pergola, Joseph, & Jenzarli, 2009). This is based on an accounting and finance argument which relates the description of earnings quality to the decision-usefulness of earnings in capital market valuation (Dechow et al., 2010),

as accounting information in which earnings are the bottom line has a purpose to be used in rational economic decisions of the users (Scott, 2011).

Furthermore, earnings quality is the indicator of minimized agency problems (Pergola et al., 2009). By improving the quality of earnings, managers show good intentions to align their interests with shareholders' interests, as transparency and accountability are the attributes of earnings quality. Lack of interest alignment between managers and shareholders might cause managers to be reluctant to show transparency and accountability because information asymmetry would benefit them. Moreover, earnings which do not reflect the underlying performance of a firm would cause loss of shareholders' confidence and would then increase the agency problems.

There is no agreed definition of earnings quality, as it has a multidimensional character. Research on accounting has used different properties of earnings quality. Earnings persistence is one of the properties that is perceived to be important (Dechow et al., 2010; Jeon, Kang, & Lee, 2004; Li, 2008; Richardson, Sloan, Soliman, & Tuna, 2005). As earnings should be reported based on the underlying performance of a firm, qualified earnings should be persistent over periods. Reported earnings are functions of the fundamental earnings process and errors induced by the accounting system (Dechow et al., 2010). Fundamental earnings process is created from features of a firm such as operating activities, macro business condition, managerial skills, etc. Then good earnings, as reflections of the fundamental process, have less unexpectedness (Boonlert-U-Thai, Meek, & Nabar, 2006).

Earnings management practices also refer to the attributes of earnings quality. Although the lack of earnings management would not ensure the quality of earnings, highly managed earnings would show low quality, as earnings management is an indicator of fraud or misappropriation of management (Lo, 2007; Mir & Seboui, 2006).

Furthermore, as earnings quality is related to decision usefulness, the relevance of earnings is an important attribute of quality. The conceptual framework of financial accounting outlined by Financial Accounting Standard Boards (FASB) asserts that relevance is one of two main attributes of useful information (Godfrey, Hodgson, Holmes, & Tarca, 2006). Research has recognized that earnings response coefficient (ERC) as a measure of earnings value relevance is an indicator of higher quality of earnings (Goodwin & Ahmed, 2006; Dechow et al., 2010).

External indicators such as misstatements and frauds are also used as proxies of earnings quality (Dechow et al., 2010; DeFond, 2010). The occurrence of misstatements and frauds is an indicator that managers have tried to manage and manipulate earnings. However, these proxies are actual occurrences of lack of earnings quality, rather than an underlying construct of earnings quality attributes (DeFond, 2010). Misstatements and frauds are commonly reported by regulators or auditors. Hence, it is possible that the unavailability of misstatement and fraud reports does not reflect the quality of earnings, as the underlying concepts of low quality of earnings such as abnormal accruals are still possible.

Several studies have tried to find the determinants of earnings quality attributes. One of the determinants of earnings quality is corporate governance (Dechow et al., 2010). It is argued that one of the most important purposes of corporate governance is to ensure that the quality of financial reports published by firms (Jiang, Lee, & Anandarajan, 2008). As mentioned earlier, one of the basic reasons why corporate governance might increase firm value is its ability to improve the quality of earnings which reflects the financial control and monitoring roles of corporate governance. Boards of directors, audit committees, and internal control play an important role in monitoring and controlling financial reporting systems, which would restrict a manager's opportunity to manage earnings and to engage in fraudulent practices (Abbott, Parker and Peters, 2002; Dechow et al., 2010; Mir & Seboui, 2006; Yunos, 2011).

Theoretically, board characteristics (size, expertise and independence of boards) are expected to provide independent monitoring on management performance and accountability. Empirical research has produced inconclusive results regarding the effectiveness of board characteristics to prevent earning manipulation (Niu, 2006). However, empirical studies have provided evidence showing that independent directors are effective in reducing practices of earnings management which is part of opportunistic behavior of managers. By using UK firms as samples, Osma (2008) found that independent directors had the capabilities to detect opportunistic reductions in research and development (R&D). R&D spending is normally used to manage earnings, either by reducing or increasing R&D spending, depending on the earning pressure situation faced by managers (Osma, 2008). The negative effect of independent boards on earnings management was also found to be effective under the new accounting reporting regime. A study carried out by Marra, Mazzola, and Prencipe (2011) showed that after the mandatory application of International Financial Reporting Standard (IFRS), board independence was found to be effective in reducing earnings management. The IFRS framework has also been found to have contributed to the effectiveness of two corporate governance mechanisms, which are the independence boards and audit committee. Independent directors are also negatively related to frauds (Beasley, 1996). Beasley (1996) reported that firms which had no reported fraud tend to have higher proportion of outside directors. Furthermore, a higher proportion of independent directors is related to higher levels of voluntary disclosure, and hence would increase the quality of financial reporting (Cheng & Courtenay, 2006).

Chen, Elder, and Hsieh (2007) found that in the Taiwanese setting, independence and financial expertise of directors were negatively associated with absolute value of discretionary accrual. Discretionary accrual was used as a proxy for management earnings, as it represents management choices and accounting policies, which might increase or decrease the value of earnings (Ronen & Yaari, 2008). Supporting the findings of Chen et al., (2007), Chang and Sun (2009) found that after the Sarbanes-Oxley Act was implemented, independence of directors was not only related to less possibility of earnings management, but also earnings informativeness. Firms which had more independent directors experienced more positive investors' reaction as measured by cumulative abnormal returns. Although it was

found that the aggregate score of corporate governance had a positive association with both earnings informativeness and earnings management, they failed to provide evidence that independence and expertise of the audit committee have positive (or negative) relationship with informativeness (earnings management). Size of boards may also contribute to improve earnings quality, as larger boards also include more independent boards (Ronen & Yaari, 2008).

Contrary to the many previous research studies, using Indonesian firms as samples, Siregar and Utama (2008) provided evidence that audit quality, independence of boards, and audit committee do not have any influence on the type of earnings management. Efficient earnings management practices were found to be the characteristics of earnings management practices in Indonesia. Earnings management practices as measured by discretionary accruals were perceived to be efficient, as they had a positive relationship with future earnings, hence discretionary accruals had an ability to improve value relevance of earnings. However, these inconsistent findings seem to be the result of sampling selection. This study used 6 years of observation periods which were 1995–1996 and 1999–2002. As Indonesia had started to regulate independent directors and audit committees in 2001, the effect of the regulation was not in place when this research was conducted. Hence, it would be interesting to observe the impact of corporate governance mechanisms on earnings management after the regulation of corporate governance has been enacted.

Risk management and internal control are also related to the credibility of the financial reporting process (Jennings, Pany, & Reckers, 2008). The implementation of internal control is expected to eliminate misstatements, errors and frauds. It is known that one of the attributes of the quality of financial reports is determined by the occurrence of misstatements, errors or frauds (Dechow et al., 2010). On the other hand, an effective risk management would reduce the likelihood of frauds or misstatements, since low risks might eliminate the needs to manage or manipulate earnings, especially in poor performance years (Bentley, Omer, & Sharp, 2012).

Ownership structure is also considered to play an important role in influencing the earnings quality as it might reflect control over a firm. Katz (2009) found that firms with majority ownerships held by private equity (PE) sponsors had better earnings quality and long term performance during the estimated period of 3 years after initial public offering (IPO). This finding revealed that PE-backed firms engaged in less earnings management, as PE sponsors commonly sit as directors and place tight controls on firms (Katz, 2009).

2.7 Corporate Governance Measures

As corporate governance is a complex concept, research has developed many measures to capture the complexity of corporate governance practices. There are at least three approaches to measuring corporate governance, namely a single measure, multiple measures, and indexing. Many research studies used only a

single measure of corporate governance, such as independence boards, size of boards, and other individual measures. Others have formed an index to measure corporate governance mechanisms. Gompers, Ishii, and Metrick (2003) constructed an index that represents 24 governance rules and observed the relationship between the index and abnormal return. The 24 governance rules represented the rights of shareholders which include anti-greenmail, blank check preferred stock, business combination laws, bylaw and charter amendment limitations, classified board, compensation plans, control-share acquisition laws, cumulative voting, directors' duties provisions, fair-price provisions, golden parachutes, director indemnification, limitations on director liability, pension parachutes, poison pills, a secret ballot, executive severance agreements, special meeting limitations, super-majority requirements for approval of mergers, unequal voting rights, and limitations on action by written consent. Based on these rules they categorized samples into two groups: democracies and dictatorships. Democracies were those which have higher index or powerful shareholders. In contrast, dictatorships consisted of firms which had limited rights of shareholders. Extending Gompers, Ishii and Metrick's research, Brown and Caylor (2006) formed an index to represent 51 firm-specific variables of internal and external governance. They ranged the index from 0 to 52 and found a better index that is associated with a better financial performance.

Larcker, Richardson, and Tuna (2007) argued that inconclusive results of previous studies on the relationship between corporate governance and performance and other variables could be caused by the use of less reliable and valid measures of corporate governance construct. They asserted that the measurement error of a single measure would cause the regression coefficients to be consistent. The use of multiple indicators might reduce such a problem. However an arbitrary selection of measures would also contain substantial measurement errors, unless individual indicators used are measuring the same underlying governance construct (Larcker et al., 2007). Hence Larcker et al (2007) suggested that researchers should use multiple measures, to ensure the reliability and validity of the measure of corporate governance construct by using factor analysis.

2.8 Corporate Governance in Indonesia

Indonesia has a two-tier board structure in which the board of commissioners has a duty to oversee and advice, while the board of directors carries out the operations of a company. It is mandated by the Indonesian security exchange regulator (BAPEPAM-LK) that 30 % of commissioners should be independents. It is also required for a firm to have an audit committee to be chaired by an independent commissioner.

In the past, Indonesian companies lacked good corporate governance practices, which was exposed during the 1997–1998 crisis (World Bank, 2010). At that time, the World Bank (2010) had characterized Indonesian corporate governance practices as lacking in transparency, less-dispersed-ownership controlled by family

groups, weak rules on related party transaction which resulted in significant minority shareholders expropriation. In response to those problems, the Indonesian government established the National Committee of Corporate Governance (NCCG) which developed the Code for Corporate Governance that was published in 2001. The code has been revised in 2006 in order to comply with OECD principles of corporate governance.

Although it is assessed that Indonesia has improved significantly in its corporate governance practices, the World Bank (2010) has identified several weaknesses, especially in disclosure qualities and minority shareholders' rights. Several recommendations were made to improve corporate governance practices in Indonesia, namely, improving the ownership disclosure regulations and other non-financial disclosure, improving the effectiveness of independent commissioners and audit committees, better protection of shareholders by amending the company law, expanding board member powers, and giving more power to minority shareholders on board selection.

Research on corporate governance in Indonesia had mainly focused on the importance of corporate governance in reducing agency costs or boosting performance. Direct relationships between several corporate governance mechanisms and performance or earning managements were observed by researchers. For example, Mitton (2002) observed the performance of firms in five Asian countries during the 1997–1998 crisis, including Indonesia. He found that firms which had better corporate governance practices, measured by disclosure quality and higher outside ownership concentration showed improved performance during the crisis. Hence the financial crisis awakened many Asian countries, especially Indonesia, to improve their corporate governance practices through strengthening the regulation as explained above.

An interesting research on corporate governance in Indonesia was conducted by Wibowo (2008). This research not only observed the relationship between corporate governance mechanisms and performance, but also the effect of organizational culture on corporate governance. Using SEM, Wibowo (2008) failed to find any effect of corporate governance on performance, but it was found that organizational culture had an effect on corporate governance structure. This research has provided evidence that in structuring their corporate governance structure, Indonesian firms not only considered regulations, but also other aspects which might affect their efforts in improving performance, such as organizational culture.

2.9 Literature Gaps

Some research gaps can be found in the above research and literature review.

Firstly, the relationship between contingency factors and corporate governance has been rarely observed in an Indonesian Setting. This study observes the influence of two important contingent factors (business environment and strategy) on corporate governance in an Indonesian context.

Secondly, most of the previous research focused either only on determinants (business competition and strategy) or effectiveness (performance or earnings quality) of corporate governance without observing both (determinants and effectiveness simultaneously). This study develops an integrated model which includes the factors affecting corporate governance (determinants) and effectiveness of corporate governance.

Thirdly, most of the previous research focused either on performance or earnings quality as the effectiveness dimensions of corporate governance. This study examines both roles of the corporate governance to understand which role is more dominant in a particular environment. The importance of observing both effectiveness dimensions of corporate governance is presented in Sects. 1.1 and 2.4.3.

Fourthly, most of the previous research which used multiple indicators of corporate governance selected their indicators arbitrarily without considering whether those measures were measuring the same underlying concept (Larcker et al., 2007). Larcker et al. (2007) asserted that the inconclusive results of many corporate governance studies were caused by the use of less reliable and valid measures of corporate governance. This study uses structural equation modeling (SEM) which allows researchers to measure a construct using multiple variables and to assess their reliability and validity. Therefore, it is expected that the measurement issues will be well addressed.

Fifthly, research on the relationship between contingency factors and corporate governance are mostly conducted in western countries which have different contexts and problems as compared to developing countries. This study uses Indonesian firms as samples; therefore it is expected to provide insights with regards to corporate governance practices in developing countries.

In general, this study is expected to fill all these gaps in order to extend the knowledge on the determinants and effectiveness of corporate governance based on the contingency theory.

2.10 Summary

The literature reviewed in this chapter indicates that the organizational and environmental factors of firms have an influence on corporate governance and the effectiveness of corporate governance. Business competition and strategy are argued to be determinants of corporate governance. Unfortunately, little attention has been given to business competition and strategy as determinants of corporate governance. It is also revealed that research on corporate governance using the contingency theory has been mostly performed in western countries. Hence, it is essential to know the generalizability and applicability in different contexts, particularly in the Indonesian context.

This chapter also shows that previous studies have a uni-dimensional approach in measuring the effectiveness of corporate governance, namely performance. The uni-dimensional approach could result in misleading conclusions about the

effectiveness of corporate governance, as corporate governance based on contingency theory perspective has two dimensions of effectiveness, which are performance and earnings quality. The environmental and organizational contexts might determine which dimension is more dominant. Therefore, research in corporate governance should consider both dimensions of the corporate governance effectiveness to gain a deeper understanding about the benefits of corporate governance and to prevent researchers from drawing misleading conclusions.

The literature also highlights the problems in measuring corporate governance constructs. A single measure might not represent the complex construct of corporate governance. However, the use of an index might also contain errors if the indicators are selected arbitrarily. Researchers should ensure the reliability of measures in representing the corporate governance construct.

This chapter also presents an overview of the uniqueness of the corporate governance system in Indonesia, including a brief presentation on the regulations and corporate governance research. Research gaps were discussed in the last section of this chapter.

Chapter 3

Conceptual Framework and Hypotheses Development

3.1 Introduction

Chapter 2 covers the review of literature relevant to this study. The literature review is used as the theoretical foundation for the conceptual framework, hypotheses, research methods and discussions of this study. Therefore, after reviewing the relevant literature, the development of the conceptual framework and the hypotheses to be tested are presented in Chap. 3. There are eight hypotheses to be tested in relation to the interrelationship between corporate governance, business environment, and strategy, and the impact of corporate governance and strategy on performance and earnings quality.

Section 3.2 will cover the conceptual framework developed in this chapter. Section 3.3 presents the hypotheses to be tested and the arguments in generating the hypotheses. Section 3.4 summarizes this chapter.

3.2 Conceptual Framework

This study employs the contingency theory as the basic argument. Based on the literature review in Chap. 2, two main arguments are being developed. Firstly, that there is a relationship between contingency factors and corporate governance. This argument asserts that corporate governance structure is influenced by business competition as an environmental factor, and business strategy as an organizational factor. In other words it is argued that business competition/environment and strategy are determinants of the corporate governance structure. Secondly, corporate governance has two roles, which are the performance role and the financial or earnings quality role. Both roles are also argued to be the dimensions of corporate governance effectiveness, as they are perceived in the literature to be determinants

of firm value (see Booth, 1998; Mir & Seboui, 2006). It should be noted also that earnings quality role reflects the conformance or control role.

The first determinant of corporate governance structure included in this model is business competition as a reflection of the business environment. It is argued that business competition influences the degree of control through corporate governance. In a highly competitive or dynamic business environment, a firm would tend to have less-strong corporate governance, as competitive forces could be a substitution of control. Since a dynamic business environment demands a firm to be more aggressive and innovative in adopting fast changes, in such an environment, a firm would tend to select the prospector strategy. However in a less competitive market or a relatively stable environment, a firm would tend to have a defender type of strategy and strong control.

Business strategy is also hypothesized to be the determinant of corporate governance. It is argued that business strategy has an influence on the degree of control (corporate governance), whereby prospector firms tend to select strong corporate governance. Strong control would be more beneficial for a firm that pursues a prospector type of strategy, since it might assist them in managing risks effectively, thus making them become more risk-takers (Jiraporn, Kim, & Davidson, 2006). Moreover, as prospector firms commonly have complex organizations (Bentley, Omer, & Sharp, 2012), strong control might assist them in managing such complex systems as well as provide them with ample needed resources (Hung, 1998) in order to be more innovative (Becker-Blease, 2011). However, tight control is less beneficial for defenders, since it reduces the flexibility of management (Young, 2003) and imposes more costs on smaller firms (Ahmed, McAnally, Rasmussen, & Weaver, 2010) as small size is commonly the characteristic of defender firms (Tan & See, 2004). Thus, this study argues that prospector firms would have stronger corporate governance.

The model for this study not only incorporates determinants (business competition and strategy) of corporate governance, but also looks at the effectiveness of corporate governance based on the contingency approach. The contingency theory in corporate governance argues that corporate governance has two important roles, namely; improving performance and earnings quality. The earnings quality role is practiced by minimizing the likelihood of earnings management, as earnings management reflects the misbehavior of managers and it could jeopardize the earnings quality. Normatively, it is perceived that corporate governance has an ultimate objective to improve the value of a firm. To improve the value of a firm, corporate governance has to improve performance and earnings quality simultaneously, as both are argued to be determinants of a firm's value.

However, normative view might not always exist in reality, literature also argued that one of the roles (either performance or earnings quality role) could be more dominant, depending on the organizational and environmental context. Hence, observing the impact of corporate governance on performance and earnings quality would enable this study to confirm whether a normative view exists or not in the Indonesian setting. Moreover, many previous studies did not find any relationship between corporate governance and performance. As performance is commonly

measured using accounting numbers which is argued to be vulnerable to managers' manipulations through earnings management, any findings of absence of relationship between corporate governance and performance does not mean that corporate governance is not effective. Therefore, research should include both dimensions of effectiveness of corporate governance in order to avoid misleading conclusions with regards to the effectiveness of corporate governance.

Despite these arguments, as this study develops an integrated approach with regards to the contingency theory in corporate governance research, using structural equation modeling (SEM), it is also possible to observe other relationships among the variables in a model. The contingency theory also asserts that business strategy is affected by business competition. On the other hand, the literature also demonstrates that business strategy has an impact on earnings quality and performance. Hence, the model of this study also incorporates the relationship between business competition and strategy, as well as the impact of business strategy on earnings quality/earnings management and performance.

Additionally, as the literature argued that performance has a relationship with earnings quality/earnings management, this study also develops a hypothesis on the relationship between performance and earnings quality/earnings management. It is argued that, as poor performance firms have more motivations to manage earnings, the relationship between performance measured using accounting numbers and earnings management is negative. In other words, performance has a positive relationship with earnings quality, as good performance firms have less incentives to engage in earnings management.

As business strategy and corporate governance are very complex constructs, multi variables are used in measuring them. Using Miles and Snow's (1978, 2003) theory of strategy typology, five variables are used to differentiate between prospector and defender strategy firms, namely the ratio of intangible assets to total assets, employee turnover, ratio of employees to total sales, sales growth, ratio of fixed assets to sales. Six variables are selected to measure corporate governance, which are size of the board of commissioners (directors), percentage of independent commissioners, percentage of audit committee members who have accounting and finance background, index of internal control and risk management, percentage of public ownership, and managerial ownership. Herfindahl index is used to measure the degree of competition in a market, while return on assets and absolute discretionary accruals are used to measure performance and earnings management. The measures will be explained in detail in Chap. 4.

Therefore, based on the above considerations, the conceptual framework of this study is presented in Fig. 3.1 below. This study model is developed based on our previous paper which has been presented in "Asian Conference on Corporate Governance and Sustainability" which held in Thailand, 2013.

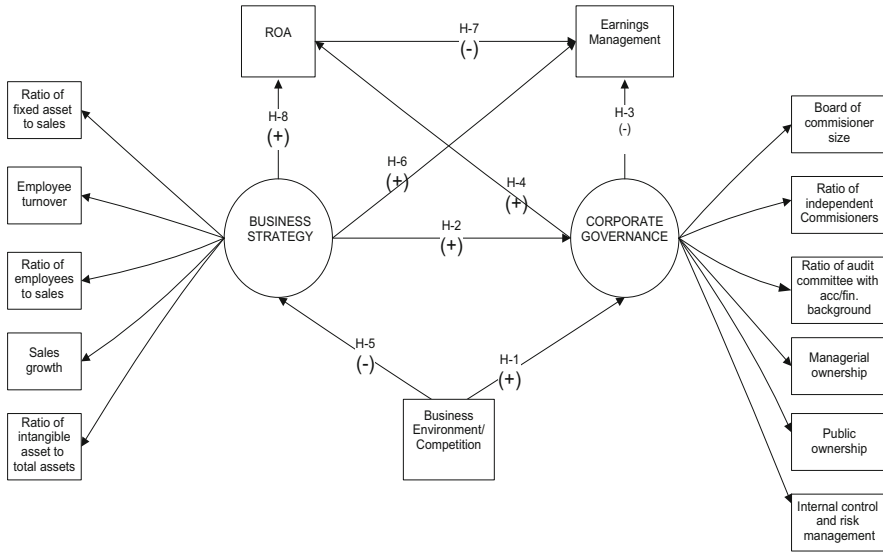


Fig. 3.1 Conceptual framework

3.3 Hypothesis Development

In order to achieve the objectives of this study and guided by the research framework, the following hypotheses and their justifications are developed to formalize the arguments. Hypotheses 1, 2, 3 and 4 (H-1, H-2, H-3 and H-4), which reflect the main argument of this study content the determinants of corporate governance (H-1 and H-2) and effectiveness of corporate governance (H-3 and H-4). Other hypotheses (H-5, H-6, H-7 and H-8) are developed to enrich the discussion and to extend the knowledge in corporate governance and management literature. As this study employs structural equation modeling (SEM), excluding any important relationship in the model might have a negative impact on the goodness-of-fit of a model.

3.3.1 The Relationship Between Business Environment and Corporate Governance

Previous studies have argued that competition is a substitution of corporate governance (Allen & Gale, 2000; Chou, Ng, Sibilkov, & Wang, 2011; Tian & Twite, 2009). High competition might induce managers to show high performance, otherwise they might lose their jobs or experience company takeovers (Chou et al., 2011). Moreover, the threat of liquidation is another explanation for the substitution effect, as tight competition might force non-performing firms to go bankrupt, hence managers would demonstrate efforts to improve performance to prevent the

likelihood of bankruptcy (Schmidt, 1997). Showing high performance is argued to be one of the mechanisms which might reduce moral hazards or managerial slack (Allen & Gale, 2000). Therefore, high competition could lead to the alignment or minimization of agency problems between managers and shareholders (Tian & Twite, 2009). As the agency theory asserts that corporate governance has a role to reduce agency problems as its main function, then it can also be argued that competition could substitute corporate governance, since both have a similar function, which is to reduce agency problems by aligning the interests of managers and shareholders.

The substitution argument of competition is also supported by the findings regarding the high costs of corporate governance. As corporate governance imposes high intangible and tangible costs, firms in a competitive market might try to reduce these costs, as high costs might jeopardize their performance, while agency problems might have been minimized by competition. Previous studies conducted by Giroud and Mueller (2010), Tian and Twite (2009), Chou et al. (2011) provided evidence that in a highly competitive market, firms tend to have weak corporate governance. Therefore, the hypothesis of this study is presented as follows:

H-1: Since business environment, as measured by the degree of competition, is argued to be the substitution of corporate governance, it will influence the degree of corporate governance. If the business environment is relatively competitive, a firm will tend to have weak corporate governance. Conversely, if the business environment is relatively less competitive, a firm will tend to have strong corporate governance.

3.3.2 The Relationship Between Business Strategy and Corporate Governance

The fit between strategy and control is another issue in the contingency theory (Donaldson, 2001). Control is considered important to ensure that a strategy is always suitable to the current environment. A control system is beneficial for reducing uncertainty, stressing on problem solving, assisting in new product development and seeking market opportunities (Langfield-Smith, 1997).

The organizational theory of Miles and Snow (1978, 2003) gives a clear depiction of strategy adopted by a firm and how strategy and controls create accounting performance. Prospectors, which are characterized as aggressive and opportunity seekers, would be successful in operating in a highly competitive market, which needs more flexibility in internal management control systems and risk taking strategies. Strong corporate governance might benefit them by preventing them from wasting firm's resources (Jiraporn et al., 2006) and increasing their focus on risk management. Defenders, which are more focused on efficiency and are narrowly focused, are more suitable in a stable environment (Miles & Snow, 1978, 2003). They might benefit from strong governance, especially independent boards,

since strong governance would help managers to be more costs efficient (Gani & Jermias, 2006), but this could also reduce the flexibility of managers to adapt to changes to the environment (Young, 2003) and impose overwhelming costs (Ahmed et al., 2010; Switzer, 2007).

Using the strategy typologies introduced by Porter (1980, 1998), Gani and Jermias (2006) investigated the impact of board's independence on accounting performance across different types of strategy. They found that the independence of boards was more beneficial for cost-efficiency strategy rather than for differentiation strategy, since tight monitoring by boards might impede the ability of firms to innovate and differentiate their products and services (Gani & Jermias, 2006). Strong monitoring might direct firms to be more cost effective (Gani & Jermias, 2006). However, it should be noted that independent boards and other controls might take on multi-roles (Dallas, 2003), depending on the current situations and problems faced by firms. Independent boards and other controls could also be beneficial for prospector or innovator firms, since they might limit the aggressiveness of managers and might hinder managers from making too risky investments. They might force managers to be more cautious in their investment decisions and not to waste the firms' resources (Jiraporn et al., 2006).

On the other hand, although strong control might also have a positive impact on cost-efficiency firms or defenders, it might reduce the flexibility of management to adapt to environmental changes. This inflexibility might increase the obsolescence risks (Young, 2003) of defenders. Additionally, since many defenders are small firms (Tan & See, 2004), the costs of strong control would be overwhelming, because there is evidence that the compliance costs of corporate governance for small firms are disproportionately higher than that of large firms (Ahmed et al., 2010; Switzer, 2007).

Other previous studies also support the argument that corporate governance is beneficial for innovative firms. Wu (2008) found that internal governance mechanisms, as measured by managerial ownership and board competence had an innovation enhancing effect. Wu (2008) demonstrated that both mechanisms had positive relations with innovation performance in terms of new product introduction. Becker-Blease (2011) also found that better corporate governance, as measured by G-index was positively associated with four measures of innovation, namely R&D expenditures, awarded patents, the quality of patents awarded, and the number of patents awarded per dollar of R&D. Therefore, as contingency theory argues that strategy influences the degree of control, this study presents an argument that business strategy has an effect on corporate governance and the hypothesis is presented as follows:

H-2: Since each business strategy type needs different degree of control, business strategy influences corporate governance. A prospector will tend to have strong corporate governance, while a defender will tend to have weak corporate governance.

3.3.3 The Relationship Between Corporate Governance and Earnings Quality

Corporate governance is one of the mechanisms that is expected to reduce the likelihood of fraud/accounting irregularities/earnings management (Osma & Noguera, 2007; Park & Shin, 2004; Pergola, Joseph, & Jenzarli, 2009). It is argued that the most crucial and important function of corporate governance is to ensure the quality of financial reports by minimizing the likelihood of frauds, as many fraudulent scandals have increased greater public concern on the importance of corporate governance (Jiang, Lee, & Anandarajan, 2008). Corporate governance has been considered as reducing the agency problems which cause the theft of corporate wealth, earning manipulation and excessive compensation for management (Mueller, 2006). Strong controls might improve the quality of earnings, as opportunistic behaviors of managers could be detected and minimized. Hence, corporate governance has been perceived as a guarantee of the credibility of reports produced by firms, and as being more important than any other financial variables, such as profit or other financial performances (Mir & Seboui, 2006).

Many previous studies have provided evidence that corporate governance has a negative relationship with earnings management. Chen, Elder, and Hsieh (2007) demonstrated that in the Taiwanese context, corporate governance mechanisms, namely independence and financial expertise of boards, as well as voluntary formation of independent directorship had an inverse relationship with the probability of earnings management. While Lo, Wong, and Firth (2010) found that in China, independent boards and financial expertise of audit committee members reduced the likelihood of transfer pricing manipulation. Stronger control through audit committee independence, after Sarbanes-Oxley was also found to have minimized the earnings management practices. Therefore, the hypothesis of this study is presented as below:

H-3: Corporate governance has a positive influence on earnings quality by reducing the likelihood of earnings management.

3.3.4 The Relationship Between Corporate Governance and Performance

Good corporate governance is argued to be able to improve financial performance by reducing agency problems such as minimizing theft of corporate wealth, earning manipulation, and excessive management compensation (Mueller, 2006). All corporate governance mechanisms are targeted at increasing shareholders' wealth (Lazonick & O'Sullivan, 2000) by improving accounting performance and increasing the quality of accounting performance as reported in financial reports (Mir & Seboui, 2006).

From the literature, it can be easily noted that boards should be structured in such a way so as to effectively monitor managers (Hung, 1998; Kiel & Nicholson, 2003), to provide consultancy (Lin, 2011), assist strategy development and implementation, as well as to provide external linkages (Hung, 1998; Pearce & Zahra, 1992; Pugliese et al., 2009). Therefore, it is argued that independent and more experienced boards in terms of financial and operational expertise could increase their capabilities in executing their functions. The size of boards is also argued to be important, as larger boards would provide more resources and external linkages for the firms (Pearce & Zahra, 1992). Internal control and risks management are also perceived to be capable in improving performance, as they force managers to manage and to convert risks into competitive advantages (Spira & Page 2003), to increase the confidence of shareholders regarding cash flow stability, as well as to reduce shareholders' reluctance to invest in risky and long-term investment, such as R&D (Andersen, 2008; Dolde, 1995). Management compensation is also a mechanism used to motivate managers to provide maximum efforts in improving performance (Karuna, 2007).

Previous studies conducted by Ivashkovskaya and Stepanova (2010), Lin (2011), and Victoria (2006) found that independent boards had a positive correlation with performance, while Kiel and Nicholson (2003) and Larmou and Vafeas (2010) provided evidence that size of boards has a positive association with performance. A positive relationship between financial expertise of board and financial performance has been found by Davidson, Xie, and Xu (2004), while Gordon, Loeb, and Tseng (2009) provided evidence on the performance and risk management relationship. Overall, it can be argued that there is a positive relationship between corporate governance and firm performance. The hypothesis of this study is presented as follows:

H-4: Corporate governance has a positive influence on performance

3.3.5 The Relationship Between Business Environment and Strategy

Strategic management literature has asserted that the effectiveness of firms is contingent upon contextual variables such as environment, strategy and structure (Aguilera, Filatotchev, & Jackson, 2008; Donaldson, 2001; Fauzi & Idris, 2009). Business environment has been considered to be an important factor that shapes firms. The effectiveness of firms depends on their capability to fit in with the environment (Gani & Jermias, 2009; Geiger, Ritchie, & Marlin, 2006; Langfield-Smith, 1997). The adaptation of firms to their business environment would determine whether they could survive or not. However, this adaptation is not a simple task, since business environment is evolving continuously (Thompson, Strickland, & Gamble, 2010). Hence, a firm needs a strategy to enable it to adjust and adapt to

the continuous changes in the business environment. Strategy is used to find a way of better adapting to the business environment when compared to its competitors.

The fit between business environment and strategy is one of the sources of competitive advantage, hence matching the strategy to a firm's business environment is an important task, which would ensure not only the survival of firms, but also their capabilities to beat their competitors. Miles and Snow (1978, 2003) argued that in a competitive market, aggressive or prospector strategy firms would have better performance, as such a market needs aggressiveness in finding and exploiting new opportunities. Moreover, as a competitive market is argued to be risky and as being a more turbulent environment, prospector strategy firms have the advantage of adapting to such environment, since they have more flexible structures (Miles & Snow, 1978, 2003). Previous studies done by McKee, Varadarajan, and Pride (1989) and Geiger et al. (2006) found that firms in competitive markets had a tendency to select the prospector strategy. Therefore, this study argues that business environment determines the choice of a firm's strategy. This study presents the following hypothesis:

H-5: Since business environment shapes the strategy of a firm, it will influence the selection of the strategy typology choices of a firm. If the business environment is relatively competitive, a firm will select a prospector-strategy type. Conversely, if the business environment is relatively less competitive, a firm will select a defender-strategy type.

3.3.6 The Relationship Between Business Strategy and Earnings Quality

Corporate governance, business environment and strategy not only influence the accounting performance of a firm, but they would also have an effect on the quality of earnings generated by the firm. It should be noted that managers have a tendency to maximize their own interests by managing earnings or manipulating earnings that result in low earnings, since the environment and business strategy might motivate them to do so (Bentley et al., 2012). Unfortunately, research on the relationship between strategy characteristics and quality of earnings or accounting irregularities has been rarely observed.

Following Bentley et al. (2012), this study hypothesized that prospector firms are more likely to be engaged in earnings management. As prospector firms are characterized to be high risk firms, they tend to be aggressive and to place investments on risky projects such as engaging in R&D activities which might make them vulnerable to over-extending their resources and increasing the risk of incurring losses (Miles & Snow, 1978, 2003). Hence, prospectors might have high fluctuation in earnings that might motivate them to deliberately reduce such fluctuation, since high fluctuation in earnings is considered to be not beneficial for share prices (Ashari, Hian, & Wei, 1994; Bathala & Carlson, 1997; Godfrey & Jones,

1999). Prospectors are also perceived to have high growth due to their innovativeness and aggressiveness (Bentley et al., 2012; Naiker, Navissi, & Sridharan, 2009). Unfortunately, high growth firms are hypothesized by Nissim and Penman (2001) as quoted by Dechow, Ge, and Schrand (2010) to have less sustainable earnings, which might motivate them to manage earnings and have greater measurement error and more manipulation opportunities (Richardson, Sloan, Soliman, & Tuna, 2005). In supporting such an argument, Caixing and David (2011) argued that growing firms are more likely to manage earnings to maintain their growth.

The complexity of prospectors' organizations might also result in poor internal control that increases the possibility of frauds (Bentley et al., 2012). It is argued that prospectors have relatively complex organizations as they are more likely to have decentralized control in order to maintain their flexibility (Miles & Snow, 1978, 2003). Their tendency to diversify their products and markets also adds complexity to their organizations. Unfortunately, as explained in Chap. 2, diversification would impose greater costs on a firm due to difficulties in relating to coordination, information asymmetry, and incentive misalignment between managers and departments (Chen & Yu, 2012; Denis, Denis, & Yost, 2002). Hence, prospectors might have greater instability and complexity of organization which motivate them to engage in financial reporting irregularities.

Therefore, the hypothesis of this study is presented as follows:

H-6: Business strategy influences the earnings quality which prospector firms are more likely to engage in earnings management practises.

3.3.7 The Relationship Between Performance and Earnings Quality

Firm performance is commonly perceived to affect earnings quality (Lee, Li, & Yue, 2006). It is commonly hypothesized that poor accounting performance would induce firms to manipulate earnings, as these firms are more likely to have financial troubles (Sun & Rath, 2009). Lee et al. (2006) predicted and found that high performance firms had better earnings quality, as the proportion of true economic earnings to reported earnings was higher when compared to those of the low performance firms. They also found that higher reported earnings had a positive relationship with price responsiveness. Moreover, firms with extremely poor performance might also severely decrease their earnings to gain from the extremely high improved performance in the following period, which is known as the "big bath" practice (Healy, 1985; Scott, 2011). Ashari et al. (1994) provided evidence which showed that motivation of managers to engage in income smoothing was stronger if firms were facing poor performance and high fluctuations in earnings. Kinney and McDaniel (1989) found that poor performance firms were more likely to correct reported earnings, which indicates the existence of earnings management. Latridis and Kadorinis (2009) also found that poor performance and high leverage

firms were more likely to use earnings management to meet or exceed financial analysts' forecasts. Therefore, the hypothesis of this study is formulated as follows:

H-7: Performance has a negative relationship with earnings management

3.3.8 The Relationship Between Business Strategy and Performance

Traditionally, in the contingency context, the relationship between strategy and performance would depend on the environmental context in which the firms are operating (Donaldson, 2001). Miles and Snow (1978, 2003) asserted that prospector strategy firms could out-perform defender firms in a competitive market, as prospector strategy firms seek new opportunities and are more prepared for changes in the market. Conversely, defender strategy firms might generate profit better in a less competitive or stable market, as a less turbulent market needs more cost-efficiency rather than innovativeness.

However, new contention in literature has argued that firms might generate more profits by benefiting from risk taking, pro-activeness, and innovativeness (Tang & Tang, 2010). Innovativeness has been perceived to be the key success of firms in sustaining their competitiveness and growth (Mu, Peng, & MacLachlan, 2009). Being innovative, especially in a new product development, firms might create entry barriers (Demsetz, 1982) which would result in a leadership position in the market. Tang and Tang (2012) argued that risk taking and innovative firms have strategic flexibility which enables them to generate high profits. Strategic flexibility refers to the capabilities in identifying environmental changes and deploying resources in response to changes (Yuan, Zhongfeng, & Yi, 2010). Moreover, Tan and See (2004) found that during the Asian financial crisis of 1997–1998, firms which adopted aggressive strategic orientation experienced less severe losses as compared to defensive firms. Therefore, the hypothesis of this study is presented as below:

H-8: Prospector strategy firms have better accounting performance

3.4 Summary

In this chapter, a model and eight hypotheses are developed based on the contingency perspective as the basic theory, and the structural equation modeling (SEM) as the methodology. The model depicts the relationships among the variables which shows that corporate governance is affected by business competition and business strategy. It also shows that corporate governance has an effect on performance and earnings quality by minimizing the likelihood of earnings management practices.

Despite these relationships, this model also demonstrates that business competition as an environmental factor influences business strategy selection of a firm. Business strategy is also argued to have influences on performance and earnings quality/earnings management. It is also argued and depicted that performance has an association with earnings quality/earnings management.

The model also presents the measures of constructs. Corporate governance is measured using six indicators while five indicators are used to measure business strategy. Other constructs are used by a single indicator for each of them. Justifications and arguments for measures and methodology will be elaborated in Chap. 4.

Chapter 4

Research Method

4.1 Introduction

The hypotheses that were developed in Chap. 3 should be tested using a relevant research method to achieve the objectives of this study as presented in Chap. 1. Hence, this chapter provides the explanation relating to the research method used, which include sampling method, sources of data, variables and measures, as well as the data analysis method. This chapter is organized as follows. Section 4.2 discusses the data setting while Sect. 4.3 provides a discussion and reports on the data and sampling used in this study, Sect. 4.4 reports the sources of data. The discussion on data analysis is presented in Sect. 4.5 while Sect. 4.6 presents the variables and measures, including the justifications for using them. The mathematical models are presented in Sect. 4.7, and Sect. 4.8 summarizes the content of this chapter.

4.2 Data Setting: Indonesian Case

In testing the hypothesis, a quantitative research method is employed, using SEM. As the quantitative method requires empirical data, the discussion on the samples is important to prevent sampling bias. This study employs Indonesian data as samples. Some justifications regarding the use of Indonesian data have been provided in the chapter containing the literature reviewer. However, it is necessary to provide clear theoretical arguments behind the detailed justifications in this chapter. Firstly, in developing markets, it is difficult for firms to grow internally through mergers and acquisitions, as lack of property rights and unstable political structures are still prevalent (Peng & Heath, 1996). Under such conditions, strong governance should be preferred to reduce uncertainty compared to market modes (Hoskisson, Eden, Lau, & Wright, 2000). However, Hoskisson et al. (2000) explained that firms would face a trade-off between cost of governance and transaction costs associated with

market modes. Therefore, the effect of market forces, such as business competition and strategy on governance could more obviously be identified in emerging markets such as in Indonesia. Moreover, in implementing corporate governance, Indonesia does not only use a regulatory approach, but also an ethics-based approach, which is voluntary. Unfortunately, research on the effect of firm-environment and contingency factors on corporate governance structures is commonly conducted in developed countries. Secondly, Indonesia revised its corporate governance code of conduct in 2006 by adopting the OECD principles. By employing Indonesian samples in the transition period, this study could contribute towards observing the effectiveness of these principles, especially in developing countries where good corporate governance practises are still perceived to be weak. Thirdly, as a developing country, Indonesia still has weak corporate governance regulations, especially legal protection of minority shareholders (World Bank, 2010). Previous research has revealed that firms in East-Asian countries which have strong governance showed better performance, especially during the financial crisis (Mitton, 2002). These findings provide implicit information about the importance of corporate governance for firms in developing countries. However, most research has continued to focus on developed countries which have different problems and context from that of developing countries. Therefore, Jian (2006), as quoted by Peng, Wang, and Jiang (2008) argued that it is a must for researchers to give more attention to the corporate governance effects in developing countries instead of simply assuming dispersed ownership in the Anglo-American context, which is not supported by empirical data in many developing countries. Fourthly, Wibowo (2008) revealed that when Indonesian firms structured their governance they consider not only the regulations, but also other factors such as culture. Therefore, it is interesting to observe other variables such as contingency factors, whether they also contributed in influencing the practises of corporate governance in Indonesia.

4.3 Data and Sampling

Following Nazari (2010) and Chen, Chen, Liao, & Chen (2009) who use archival and pooled panel data in SEM studies, this study uses secondary data extracted from companies listed in the Indonesian Capital Market (IDX). The population of the study consists of all companies listed in the Indonesian Capital Market. It should be noted that SEM allows researchers to employ a longitudinal model by comparing the results of each year of the observation periods to observe the effect of time. However, this study assumes the pooled panel data model, as the samples for each year are below 100, thus insufficient for longitudinal analysis. It also assumes that time would have less effect on results, as the constructs used in this study such as corporate governance and business strategy are long-term policies; hence unlikely to differ in very short periods (of 3 years' observations).

The 3 years period of 2008–2010 is selected as the observation period. Indonesia started to implement corporate governance principles in 1999 by establishing the

National Committee for Corporate Governance (NCCG). The Corporate Governance Codes and Principles were officially published in 2001 by this committee (Wibowo, 2008). The most recent revised codes and principles were enacted in October 2006. The revised codes and principles were to be effectively implemented in 2007 and 2008. Hence, the observation period from 2008 to 2010 is selected to capture the implementation impact of the latest codes and principles. The 3 years period of 2008–2010 is used to ensure a sufficiency of samples. SEM requires an observation in the range of 150–400 to be considered sufficient (Hair, Anderson, Tatham, & Black, 2010). The samples include 198 firm-year observations from 2008 to 2010. The purposive sampling method is used. To be included in the sample, a firm should fulfil all the criteria below:

1. It should be listed in the Indonesian Capital Market for the years 2008–2010.
2. It should not be listed under the financial, property, real estate and building construction industries. While this study uses intangible assets as one of the strategy measures, firms in these industries usually have very low investment in intangible assets, and these are also usually non-current asset (fixed-assets) based firms that invested more heavily in non-current assets. Therefore, excluding these firms from the samples is expected to provide results with less bias. Financial companies are excluded, as they have special regulations pertaining to corporate governance and are regulated by the Indonesian Central Bank (BI).
3. It should have complete data for the years 2008–2010 as required.
4. Firms in industries that have less than six companies each are excluded, as they might be indications of oligopoly industries.
5. A single company which possesses more than 50 % of the market share in an industry is excluded, as it might be an indication of a monopoly.
6. It should have annual reports which are available on its website or on the Indonesian Capital Market website (Table 4.1).

The final sample consists of 66 companies for the 3 years period (198 observations). The sample firms accounted for 17 % of the total population. Therefore, the samples are considered to be representative and sufficient.

Table 4.1 Sample selection

Sample selection	
Total firms listed for 3 years	382
Less:	
• Financial companies	(67)
• Property, real estate, building construction	(44)
• Companies belong to an industry which have less than six companies	(56)
• Companies which have more than 50 % market share	(3)
• Annual reports are not available in IDX's website and a company's website for the observation periods. This includes annual reports which could not be downloaded	(146)
Total sample	66

4.4 Source of Data

The data were collected from three separate sources: the Indonesian Capital Market fact book, annual reports, and the Mint Global database. Market share data and the industry classification to measure the Herfindahl Index of each company listed in IDX in each industry category were extracted from the Indonesian Capital Market fact book published by Indonesian Capital Market (IDX). The industry categorization is based on two digits classification used by IDX, which is known as the Jakarta Stock Industrial Classification (JASICA).

The annual reports were extracted from the Indonesian Capital Market's website at www.idx.co.id. Some of the annual reports were retrieved from the respective company's websites, as these were not available or could not be downloaded from the IDX's website. The data on corporate governance mechanisms were extracted manually from the annual reports.

The strategy, earnings management, and performance measures were taken from the Mint Global database. Mint Global database publishes the summary and analysis of the annual reports and financial statements of firms. Any missing figures on the Mint Global database were acquired from the respective annual reports.

4.5 Data Analysis

This study employs three data analysis steps. First, descriptive statistics including minimum, maximum, frequency, mean, and standard deviation are provided using SPSS. Second, testing the reliability and validity of the measurement of corporate governance and strategy construct is employed. The hypothesis testing using Structural Equation Modeling (SEM) would be the third stage of the data analysis. The justifications of using SEM are provided in Sect. 4.5.1.

4.5.1 *Structural Equation Modeling*

The main aims of this study are: (1) to observe the relationship between contingency factors (business environment and strategy) and corporate governance. In other words, this study investigates the influence of the business environment and strategy on corporate governance; and (2) to observe the performance role and financial control or earnings quality role of corporate governance. The second objective is mainly aimed at investigating the influence of corporate governance on performance and earnings quality, as well as the impact of business environment/competition and strategy on corporate governance. The argument of this study is based on the contingency theory. The arguments underlying the aims of this study

have been presented in the conceptual framework that was developed for this study (in Chap. 3). In order to test the model, SEM is considered appropriate, as this study examines a series of interrelated dependence relationship simultaneously. SEM is useful in testing theories that contain multiple equations involving interrelated dependence relationships among measured variables and latent constructs, as well as between constructs (Hair et al., 2010). Moreover, this study uses two variables which are complex and having multi-measures, namely business strategy and corporate governance. SEM allows the researcher to employ latent or unobservable variables to be measured using several manifests, or indicators, or observed or measure variables, as well as to ensure the reliabilities and validities of measure variables in measuring the latent variables (Gefen, Straub, & Boudreau, 2000).

Structural equation modeling is a multi-variate technique which includes conventional statistical analysis such as multiple regression, factor analysis, and uni-variate and multi-variate analysis of variance (Holmes, Cunningham, & Coote, 2006). It was developed from the combination of path analysis and factor analysis. Compared with other multi-variate analyses, SEM has at least three important benefits: firstly, it allows researchers to estimate multiple and interrelated dependence relationships; secondly, it has an ability to represent unobserved concepts and account for error which is inherent in the measures and thirdly, it provides goodness-of-fit tests which is a crucial aspect in answering the question of whether the sample data is a good fit to the proposed theoretical model (Hair et al., 2010; Holmes et al., 2006). As SEM minimizes the differences between the sample covariance/variance matrix and the hypothetical matrix of a proposed model (Chen et al. 2009), it would be able to test the hypothesised model statistically to determine whether the whole system of variables is consistent with the data or not.

There are two types of SEM, namely (1) covariance-based, of which Analysis of Moment Structures (AMOS), Latent Variables Analysis, Causal Modelling (LISREL) are examples, and (2) variance/component-based approach used is Partial-Least Square (PLS) (Chin, 1998; Fornell & Bookstein, 1982). Covariance-based SEM is more theory-driven which tends to estimate parameters using maximum likelihood estimation (Vinzi, Chin, Henseler, & Wang, 2010). As a multi-variate analysis, covariance-based SEM follows a multivariate normal distribution and requires large sample sizes (Wibowo, 2008). However PLS is a regression based model which is intended for causal-prediction for high dimensional data analysis in a low-structure environment (Dijkstra, 2010). PLS is designed to explain variance in order to examine the significance of the relationships, hence it is more suitable for predictive applications and theory building (Gefen et al., 2000). PLS has less restrictions compared to covariance-based SEM, as it does not need normality assumption and large samples (Wibowo, 2008). By adapting and reproducing the work of Chin and Newstead (1999), Wibowo (2008) presents the differences between covariance-based and variance-based SEM as shown in Table 4.2:

Despite its benefits, PLS as variance-based SEM has several limitations. Gefen et al. (2000) compared the capabilities of common-based model (LISREL), variance-based (PLS), and regression, as presented in Table 4.3. The deficiencies

Table 4.2 Differences between covariance-based and variance-based SEM

Criterion	Covariance-based SEM	Variance-based SEM
Approach	Covariance based	Variance based
Objective	Parameter oriented	Prediction oriented
Parameter estimates	Consistent	Consistent as indicators and sample size increase (i.e., consistency at large)
Assumptions	Typically multivariate normal distribution and independent observations (parametric)	Predictor specifications (non-parametric)
Implications	Optimal for parameter accuracy	Optimal for prediction accuracy
Sample size	Ideally based on power analysis of specific model—minimal recommendations range between 200 ^a and 800	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations range from 30 to 100 cases
Software	e.g. AMOS, LISREL, EQS	e.g. PLS-PC, PLS-Graph, Smart PLS

Source: Wibowo (2008) by adopting and reproducing the work of Chin and Newstead (1999)
^aHair et al. (2010) recommended that a set of 150 samples is adequate; While Gefen et al. (2000) recommended 100–150 samples. However, the number of samples would depend on the number of parameters to be estimated

Table 4.3 Comparative analysis between techniques

Capabilities	Covariance-based SEM (LISREL or AMOS)	Variance-based SEM (PLS)	Regression
Examines interaction effect of cause-effect paths	Supported	Supported	Supported
Examines interaction effect on item loadings	Supported	Not readily supported	Not supported
Examines interaction effect on non-common variance	Supported	Not readily supported	Not supported
Examines interaction effect on the entire model	Supported	Not readily supported	Not supported
Can cope with relatively small sample size	Problematic	Supported	Supported
Readily examines interaction effect with numerous variable levels	Problematic	Supported	Supported
Can constrain a path to a given value	Supported	Not supported	Not supported
Examines nested models	Supported	Supported	Supported

Source: Gefen et al. (2000)

of PLS have also been highlighted by Wibowo (2008), namely: (1) it does not support rigorous analysis of all variance components of each observed variable as an integral part of examining structural model; (2) it does not allow researchers to put constraints on a path with a given value; and (3) alternative confirmatory factor analysis comparison cannot be conducted through PLS.

Although traditionally covariance-based SEM such as LISREL and AMOS requires normal multivariate distribution and large samples, the later versions of both softwares have accommodated the inclusion of non-normal multivariate distribution and relatively small sample data (less 200) (see Byrne, 2006; Wibowo, 2008; Aryani, 2009). Considering that this study uses confirmatory factor analysis and other benefits of covariance-based SEM, AMOS software is used. Discussions on how this study deals with non-normal data are presented in Sect. 4.5.4 of this chapter.

4.5.2 Reflective Versus Formative Measures

SEM consists of two models, namely measurement model and structural model (Blunch, 2008). The structural model reflects the assumed causation in a set dependent and independent constructs variables developed from theoretical considerations. The structural model also refers to the path analysis in which hypotheses are observed. While the measurement model presents how latent variables are measured or operationalized using observed or manifests variables, the measurement model provides the validities and reliabilities of measures used in representing the latent variables, as latent variables are constructs which are usually complex and have many measures, although a single measure is adequate (Gefen et al., 2000; Hair et al., 2010).

Two alternative measure models are available in SEM, namely reflective and formative. The reflective model assumes that latent constructs cause the measured variables or changes in measured variables reflect changes in latent constructs (Bollen & Lennox, 1991; Gefen et al., 2000; Hair et al., 2010). Hence, in the reflective models, the causality, as commonly presented by arrows, flows from latent constructs to the indicators. Measures or indicators in a reflective model should be interchangeable and any single indicator could be removed without changing the constructs (Bollen & Lennox, 1991). Although researchers might remove or change indicators of a construct, Bollen and Lennox (1991) requires that the researchers should still ensure that the constructs have sufficient reliability. On the other hand, in a formative model, measures or indicators form the construct, of which the causality flows from indicators to the constructs (Bollen & Lennox, 1991; Gefen et al., 2000; Hair et al., 2010). By using a formative model, the constructs are no longer considered as latent variables, as indicators form the constructs (Hair et al., 2010).

Although research in management, marketing, and other business areas has increasingly paid greater interests on the formative model (Hair et al., 2010), it is still problematic (Wilcox, Howell, & Breivik, 2008). Wilcox et al. (2008) and Hair et al. (2010) have identified several problems in the formative model. Some of these problems are: firstly, it is not possible to determine if a construct is formative of reflective in social and business research as these are inherently neither reflective nor formative. Hence, researchers have to choose the model they use. Secondly, in

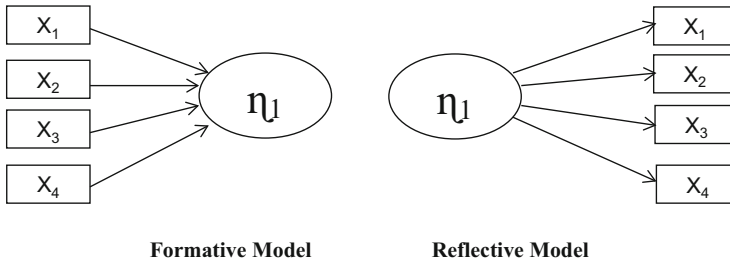


Fig. 4.1 Formative versus reflective model

many cases, researchers could not depend on indicators in determining whether the constructs should be measured reflectively or formatively, and thirdly, a formative model lacks internal validity and internal consistency, as well as greater statistical identification difficulties. As is the case with indices, since the indicators form the constructs, internal validity and consistency measures are not available in a formative model.

Hair et al. (2010) argued that as there is no formula to determine which model should be used and research is still being conducted to find the best solution, researchers may select any approach with careful consideration of the indicators selected. Following Wibowo (2008), this study uses reflective approach in measuring corporate governance construct. Larcker, Richardson, and Tuna (2007) argued that one of the limitations of previous research on the relationship of corporate governance and performance is the lack of validity and reliability of corporate governance measures. Hence, by using a reflective approach, this study would be able to measure the validity and reliability of the corporate governance measures used in this study. Additionally, corporate governance theory recognizes that corporate governance mechanisms are a bundle which may have complementary and substitution effects among mechanisms and indicators. Using a formative model might not allow researchers to observe and assume the existence of relationship among indicators, as indicators should be uncorrelated. The reflective approach is also used in measuring the business strategy construct, as all measures are derived from Miles and Snow's (1978, 2003) theory, and Hambrick (1983) has provided evidence that the measures are correlated, which has resulted in many previous research studies using them interchangeably. The measures will be presented in Sect. 4.6.3. The difference between normative and reflective models can be seen in Fig. 4.1.

4.5.3 *Multi-variate Outliers*

Hair et al. (2010) define outliers as observations which are distinctly different from other observations on one or more identifiable characteristics or variables. Outliers should be viewed within the context of analysis, and evaluated by the type of

information, as they cannot definitely be distinguished as being either beneficial or problematic (Hair et al., 2010). Hair et al. (2010) explained that outliers could be problematic as they are not representative of the population and counter to the analysis objectives which then might distort statistical tests. However, they could also be beneficial because their existence could be an indication of the population characteristics which would not be found in the normal course of analysis.

In dealing with outlier observation, researchers could retain or delete them if necessary. However, Hair et al. (2010) argued that researchers should retain them unless obvious evidence shows that they are truly aberrant and not be representatives of any observations in the population. Furthermore, deleting outliers could improve the multi-variate analysis but at the cost of data generalizability (Aryani, 2009). Hence, this study retains the outliers' data. However, in dealing with non-normal data, this study will employ the Bollen-Stine bootstrap method. The explanation about this method is provided in Sect. 4.5.4.

4.5.4 Multi-variate Normality and Bootstrap Procedure

Some parametric tests, including SEM, require or assume that data are normally distributed (Hair et al., 2010). Normality refers to the shape of data distribution and its correspondence to the normal distribution (Hair et al., 2010) in which the data show a symmetrical and bell-shaped curve, where the middle of the curve has the greatest frequencies of score and smaller frequencies towards the extremes (Gravetter & Wallnau, 2007).

One of the most important applications of SEM is to assess how well the hypothesised model developed by the researcher fits the sample data, which is referred to as the goodness-of-fit of the model, as the validity of either measurement or structure is determined by goodness-of-fit (Hair et al., 2010). Chi-square (χ^2) is the most common and basic measure of goodness-of-fit. Since SEM commonly uses the maximum likelihood or general least square to estimate the parameters, both of which require the data to be continuous and multi-variate normal, the existence of multivariate non-normality data would cause χ^2 statistic as a measure of goodness-of-fit likely to be inflated, and which should not be compared against regular (normal) central distributions (Byrne, 2006). The standard errors of parameter estimates could also be underestimated, as normal distribution assumption is not fulfilled (Blunch, 2008). Hence, Hair et al. (2010) argued that sufficient large deviation from normal distribution might result in invalid statistical tests. Fortunately, statistics provide alternatives in dealing with the presence of multi-variate non-normal distribution data, one of which is by using bootstrap procedure (Bollen & Stine, 1992).

The bootstrapping procedure calculates a new critical Chi-square (χ^2) which represents a modified goodness-of-fit by resampling the data of which the original sample is perceived as the population. Byrne (2006) explained further that from the resampling procedures, multiple sub-samples of the same size as the parent sample

are drawn randomly, with replacement from this population and provide the data for empirical investigation of the variability of parameter estimates and indices of fit.

Naive and Bollen-Stine bootstrap procedure are two alternatives among the available bootstrapping procedures. However, Bollen and Stine (1992) argued that the naive procedure commonly does not work with the test statistics and fit indices, as bootstrap samples are drawn from a data matrix which is inconsistent with the null hypothesis, $H_0: \Sigma = \Sigma(\theta)$ of which the values of bootstrap of the test statistic tend to reject the null hypothesis (H_0). Therefore, the raw data matrix should be transformed, such that the covariance structure matches that of the model-implied covariance matrix. The Bollen-Stine bootstrap method is an alternative to deal with the problem of the naive procedure, which would provide better fit indices. Therefore, this study uses Bollen-Stine to test the hypothesised model under non-normal data. If the Bollen-Stine p -value is less than 0.05 ($p < 0.05$), the model will be rejected. The number of bootstrap samples is commonly in the range of 250–2000 (Bollen & Stine, 1992). This study employs 1,000 bootstrap samples.

4.5.5 *Mathematical Model of SEM and Estimation Method*

The SEM (the discussion of SEM in this section is based on Blunch (2008)) has two parts, which are the structural model and measurement model. The mathematical models of SEM also comprise of two models. The general structural model could be specified as:

$$\eta = B\eta + \Gamma\xi + \zeta \quad (4.1)$$

where η is $m \times 1$ latent endogenous variables; B is $m \times m$ coefficient matrix for latent endogenous variables; Γ is $m \times n$ coefficient matrix for latent exogenous variables; ξ is $n \times 1$ latent exogenous variables; ζ is $m \times 1$ latent errors in equations.

The measurement model of SEM could be separated into two, which could be specified as follows:

$$y = \Lambda_y \eta + \varepsilon \quad (4.2)$$

$$x = \Lambda_x \xi + \delta \quad (4.3)$$

where y is $p \times 1$ vector of endogenous observed variables; x is $q \times 1$ vector of exogenous observed variables; Λ_y is $p \times m$ coefficient matrix relating y to η ; Λ_x is $q \times n$ coefficient matrix relating x to ξ ; ε is $p \times 1$ measurement errors for y ; δ is $q \times 1$ measurement errors for x .

With the assumptions as follows:

1. ζ is uncorrelated with ξ
2. ε is uncorrelated with η
3. δ is uncorrelated with ξ
4. ζ , ε , and δ are mutually uncorrelated
5. $(I-B)$ is nonsingular.

In estimating parameters, SEM minimizes the differences between the empirical covariance matrix and the covariance matrix implied, which is capable of defining the relationship between the observed and constructs or latent variables and the interaction among the constructs (Blunch, 2008; Chen et al. 2009). It can be said that SEM minimizes a function of that difference:

$$F = f \left[S - \sum (\theta) \right] \quad (4.4)$$

where S is the empirical covariance matrix and $\sum (\theta)$ is the covariance matrix implied by a model with the parameters θ . As the fit-function F can have many forms, in estimating parameters SEM offers many methods including the maximum likelihood (ML), unweighted least squares (ULS), generalized least squares (GLS), scale free least squares (SLS), and asymptotically distribution-free estimation (ADF).

However, Blunch (2008) argued that the maximum likelihood (ML) is the preferred estimation method in SEM, as it has a number of favourable qualities which are: (1) it is consistent that is the estimates $\hat{\theta}$ approach the parameter values θ asymptotically by increasing n ; (2) the ML-estimator is asymptotically unbiased, asymptotically sufficient and asymptotically normally distributed. Therefore, this study uses the maximum likelihood (ML) method in estimating parameters.

4.6 Variables and Measures

For the structural modeling, this study would employ an exogenous variable and four endogenous variables. The exogenous observed variable is Business Competition (ξ_1) as measured by dummy variables. The two endogenous latent variables are Business Strategy (η_1) as measured by five indicators and six indicators are used to measure Good Corporate Governance construct (η_2). The two other endogenous variables are Accounting Performance as measured by return on assets (ROA) (η_3) and Earnings Management as measured by absolute discretionary accruals (η_4).

Business strategy and corporate governance are treated as latent variables which have many indicators, as these constructs are complex and no single measure might represent them. The other three constructs, which are business competition, performance and earnings management are measured using a single indicator, which is commonly used in previous studies. Using a single proxy for these three constructs is assumed to be sufficient to reflect each of the three concepts, as SEM allows researchers to use a single indicator to reflect a construct when the researcher employs an established scale with a known reliability (Gefen et al., 2000; Hair et al., 2010). The explanation of each measure of the constructs are presented as follow.

4.6.1 *Business Environment/Competition Measure*

The concept of business environment used in this study relates to the level of competitiveness of the business environment or industry in which a firm operates. Highly competitive business environment refers to a dynamic environment (Gani & Jermias, 2009), since competition induces markets to be more dynamic, whereas a less competitive environment refers to a stable environment (Gani & Jermias, 2009). This study only uses a single concept of business environment, namely the competitiveness of the business environment, as previous research has revealed that corporate governance has a relationship with competition level within an industry (Allen & Gale, 2000; Chou et al., 2011; Januszewski, Koke, & Winter, 2002). Following previous research, the Herfindahl Index is used to measure business competition variable which reflects industry concentration, barriers of entry (Cheng, 2005), as well as threats to firms and their managers (Tian & Twite, 2009).

Herfindahl Index (HI) is computed as the sum of the squared firm's market share within an industry. HI is formulated as:

$$HI = \sum_{j=1}^i s_{ij}^2 \quad (4.5)$$

where s_{ij} is the market share of firm j in industry i . The Herfindahl Index is calculated for each year, market share is calculated by using a firm's net sales divided by the total net sales of the industry. The industry classification is based on the Jakarta Stock Industrial Classification (JASICA) used by IDX. This study uses two-digit level JASICA codes. As many industries in JASICA have less than five companies, only those which have more than five companies are included.

The higher the HI, the more concentrated is the industry, which means a less competitive or stable environment. On the other hand, lower HI shows a more competitive or dynamic environment.

As it is appropriate to use a dummy as exogenous observed variables (non-measures of latent variable) (Fillone, Tiglao, & Montalbo, 2005; Fox, 2008; Heckman, 1978), following Gani and Jermias (2009) this study uses a dummy variable to measure business competition. An industry which has HI below the mean of HI of all industry samples is classified as having a competitive market and given a score of 0, while a score of 1 is given for an industry which has HI above the mean, as it is classified as less-competitive industry.

4.6.2 *Business Strategy Measures*

This study employs Miles and Snow's (1978, 2003) concepts of strategy. As explained in Chap. 2, the Miles and Snow's concept of strategy is similar to the

generic strategy of Porter (1980, 1998). However, it has more organizational contents which includes entrepreneurial, technological and administrative aspects (Kald, Nilsson, & Rapp, 2000). Therefore, the organizational contents of this concept would provide more understanding on how corporate governance interacts with strategy and environment. Moreover, as reactor and analyser strategy type have no distinctive characteristics, this study would focus on prospector and defender strategy type.

There are many indicators used in previous studies to distinguish between the prospectors and defenders. Some studies use only three indicators, but others use five or more indicators. This study uses five indicators, of which the data are available in the Mint Global database or annual reports of Indonesian firms. These indicators are:

1. Asset Efficiency as measured by the ratio of fixed assets to total sales (PPES). As defenders are argued to maximize efficiency (Miles & Snow, 1978, 2003), they are expected to have a smaller ratio of fixed assets to total assets (Bentley, Omer, & Sharp, 2012; Hambrick, 1983; Naiker, Navissi, & Sridharan, 2009). On the contrary, prospectors have low degree of mechanization and tend to avoid commitments to a single technological process which result in low asset efficiency (Bentley et al., 2012). Following Naiker et al. (2009), this study uses the ratio of fixed assets to sales of a firm to measure asset efficiency.
2. A company's organizational stability as measured by employee turnover (ETO). Defenders are perceived to implement centralized control in ensuring efficiency, while decentralized controls are focuses of prospectors (Miles & Snow, 1978, 2003). Following Bentley, Omer and Sharp (2012), this study uses employee turnover to measure a firm's organizational stability. Employee turnover is measured by using the standard deviation of total number of employees. A higher ratio is expected to represent prospectors.
3. A company's ability to produce and distribute products and services efficiently as measured by the ratio of employees to sales (ES). As defender strategy firms are efficiency focused, they are expected to have fewer employees per sales, while prospector firms would have a higher ratio of employees to sales (Bentley et al., 2012; Ittner, Larcker, & Rajan, 1997).
4. A company's ability to innovate as measured by the ratio of intangible assets to total assets (IA). Prospectors are argued to find new products and markets (Miles & Snow, 1978, 2003). Hence prospectors are characterized as innovative firms (Tan & See, 2004). Many previous studies used the ratio of research and development (R&D) to total sales and the ratio of marketing expenses to total sales as measures of innovation. Unfortunately, only a small number of firms report marketing expenses in their annual reports. Most firms report marketing expenses as sales and general expenses without providing separate figures for marketing expenses. R&D data could be also problematic because of the lack of mandatory reporting and firm's strategic motivations (Palangkaraya et al., 2010). In Indonesia, firms might capitalize their R&D expenses rather than expensed them to distribution expenses over several periods. Moreover, only very few

Indonesian companies report R&D expenses in their annual reports. Another alternative of innovation measure is intangible asset intensity (Tadesse, 2006). Tadesse (2006) argued that intangible asset measures innovation as R&D does. However, intangible assets are broader than R&D, as they include components such as R&D, brands, organizational capital, etc (Martins & Alves, 2010). Therefore, including intangible assets as an innovation indicator would provide a broader measure. Moreover, theoretically intangible assets might influence governance policies and structures, as they need more expertise and independent boards, as well as high demand on auditing to ensure the monitoring and improvement of intangible assets (Martins & Alves, 2010).

5. Company's growth as measured by sales growth (GWTS). As the prospector strategy always tries to exploit new markets and opportunities (Miles & Snow, 1978, 2003), firms pursuing this strategy are expected to have greater growth (Bentley et al., 2012; Ittner et al., 1997; Naiker et al., 2009).

Many previous research studies used a composite score in measuring business strategy, including the studies by Ittner et al., 1997 and Bentley, Omer, and Sharp (2011). However, as this study employs SEM, a composite index is not applied. The use of composite scores has raised objections, since: (1) the simple summation of item scores ignores the possibility that some items might not be equally good in measuring constructs or it could be that some measures might contribute more to the measurement of constructs; and (2) the composite scores assume that each indicator is either measured without error or the error variances are equal (Holmes et al., 2006). Therefore, this study uses each score of five variables of strategy as manifest or measured variables in SEM rather than uses a composite score.

4.6.3 Corporate Governance Measures

Corporate governance is a complex construct. Previous research has used many measures to capture this complex construct. Many previous studies used either a single indicator or index of corporate governance. However Larcker et al. (2007) argued that usage of both a single indicator or an index might cause measurement problems in econometrics. The measurement error of a single indicator would cause inconsistent regression coefficients, while, the same problem might occur if an index is used by naively summing a set of indicators. Larcker et al. (2007) explained that multiple indicators might reduce measurement errors; however it should be ensured that the individual indicators are measuring the same underlying concept. If individual indicators measure a different underlying concept, the results might still contain measurement errors and interpretations would be difficult to be conducted. Larcker et al. (2007) suggested that researchers should be alert in selecting corporate governance measures by ensuring the reliability and validity of measures. Therefore, they employ the Principal Components Analysis (PCA) to develop the corporate governance construct.

SEM is expected to reduce the measurement errors of multiple indicators as it ensures that all individual indicators are measuring the same underlying construct through its measurement model as used in uni-dimensional and confirmatory factor analysis. SEM consists of two parts, which are the structural model and measurement model (Hair et al., 2010). The measurement model of SEM would ensure the connection between the construct and indicators (Blunch, 2008). As SEM also employs factor analysis in its measurement model, the reliability and validity of a construct measure could be evaluated.

Based on theory and previous studies, six indicators of corporate governance are used. These six indicators are argued to have a relationship with earnings management and performance. These six indicators also relate to accounting-based corporate governance. The six indicators are:

Size of Board of Commissioners (SZB) The term “board of commissioners” is the same as board of directors. This indicator is measured by the number of commissioners (directors) members of a firm on a board in each year of the observation period. Following Yermack (1996) and Eisenberg, Sundgren, and Wells (1998), this study uses the logarithm (log) of the number of commissioners (directors) members on a board to make the distribution more symmetric and reduce the variance extracted of the corporate governance construct.

Board of Commissioners Independence (INB) This indicator is measured by the proportion of independent commissioners (directors) to total number of commissioners (directors) on the board. The Jakarta Stock Exchange (now known as the Indonesian Stock Exchange) has published a decree, No. KEP-315/Bursa Efek Jakarta/06-2000, which defines independent directors as those who: (1) do not have any affiliation with controlling shareholders; (2) do not have any affiliation with the board of managing directors and/or board of commissioners; and (3) at the same time do not work as directors of other companies which have any affiliation with the company.

Audit Committee Financial Expertise (PCAFB) This indicator is measured by the proportion of audit committee members with finance and accounting background to total audit committee members. This definition includes members who have financial or accounting education background, members of accounting professional bodies, and accounting or finance professional designation such as certified public accountant (CPA), certified professional management accounting (CPMA), etc. This definition was also used by Yunos (2011). Considering the importance of the expertise of audit committee members, especially in the field of finance and accounting, this variable is separated from the internal control and risk management variable. In Indonesia, the regulation with regards to finance or accounting background of audit committee members is relatively new. The Indonesian corporate governance code of conduct has mandated that at least one member of the audit committee should have a finance or accounting background, which shows the importance of this indicator. Moreover, SEM allows the researcher to assess correlations among indicators within the corporate governance structure.

Therefore, measuring finance/accounting expertise of audit committee members separately from internal control would allow the researcher to observe the contribution of this new regulation, as well as the relationship between finance/accounting expertise and internal control.

Public Ownership (POWN) This indicator is computed as a percentage of the total ownership of non-controlling owners. Controlling owners are those who own five per cent or more of the total shares of a firm, hence public ownership reflects the dispersion of ownership. The information of public ownership and controlling ownership is reported in annual reports of Indonesian companies. The World Bank (2010) has identified that one of the characteristics of the Indonesian capital market is the high concentration of ownership, which results in significant expropriation by minority shareholders and a lack of transparency. As explained in Chap. 2, ownership concentration could have a negative effect on control, as dominant shareholders might implement weak internal controls in order to facilitate expropriation (Bozec & Bozec, 2007). Moreover, it is theoretically and empirically proven that dispersion of ownership has a relationship with disclosure and transparency (Legenzova, 2008). A diffused ownership company might have more incentives to provide voluntarily disclosure and to conduct more public communication to reduce agency costs, as information asymmetry would cause an adverse reaction from investors (Garcia-Meca & Sanchez-Ballesta, 2010). Closely held companies might have low incentives to disclose more information, as owners might have private access to information, and limited separation between ownership and control might reduce agency costs (Bauwhede & Willekens, 2008). Therefore, dispersed ownership indicates good corporate governance practises especially transparency. The dispersed ownership measure was also used by Sunityo-Shauki and Siregar (2007).

Managerial Ownership (MOWN) MOWN is computed as the percentage of shares owned by management (board of management). This measure is also used by Short and Keasey (1999). Managerial ownership reflects the managerial incentive and compensation in order to reduce agency problems between agents or management and owners (Himmelberg, Hubbard, & Palia, 1999).

Internal Control and Risk Management (ICRM) ICRM as measured by an index. Internal control and risk management measures are developed using a single index, since an internal control concept in corporate governance focuses on managing risks, especially financial risks (Spira, & Page 2003). Moreover, as explained in Chap. 2 theoretically internal control relates directly to risk management, hence measuring internal control is the same as evaluating risk management. Risk management has been perceived to be an integral part of internal control and governance (Lajili & Zeghal, 2005). Hence, measuring both constructs in one single index is theoretically justified. In measuring internal control and risk management (ICRM), this study uses an index based on the indicators which were developed from theory and previous research as indicators of internal control and risk management quality. Information about the quality of internal control and risk

management is generally not available (Krishnan, 2005). Nevertheless, theoretically and empirically, some variables are perceived to be indicators of internal control and risk management. Many previous studies used dummy variables or an index to measure internal control or risk management. This study develops an index to measure internal control and risk management variables. Using a dummy variable as an indicator of latent variables might underestimate the correlation in SEM results, as SEM software would commonly compute all variances and covariances using a Pearson Product Moment methodology, which assumes that variables are normally distributed continuous variables (Holmes-Smith, 2012). However, AMOS 19 is able to handle dummy measures of latent variables by using the Bayesian method as an option. However, using Bayesian method would not allow researchers to use different indices of goodness-of-fit to check the fitness of a model. Hence, this study does not use dummy measures as indicators of a latent variable. The ICRM index is calculated by dividing an ICRM score assigned to a firm by the total score of ICRM. A total score of ten is assigned to a firm if it has all the ten indicators stated below, of which five indicators are in relation to internal control and the other five reflect risk management:

1. If a company has a separate internal audit unit (IAU), a score of one is assigned. An internal audit unit is argued to be one of the important aspects of an internal control system (Ho & Hutchinson, 2010), as it has been found to have improved efficiency and reduced the possibility of fraud and external audit expenses (Adams, Grose, & Leeson, 2004).
2. If the external auditor of a firm is one of the big four accounting firms (EAQ), a score of one is assigned. External audit quality could be correlated with the disclosure of a company's internal control quality (Zhang, Zhou, & Zhou, 2007). Internal control risks are important risks which an external auditor is required to evaluate during an audit engagement (Arens, Elder, & Beasley, 2010). Moreover, after the enactment of the Sarbanes-Oxley Act, as external auditors are required to test and report internal control deficiencies, this would result in high costs of audit (Bedard & Graham, 2011). Reputable external auditors are more likely to have better resources to conduct a good audit in a tightly regulated industry, as well as not to compromise their reputations by reducing the quality of the audit process or not disclosing any internal control deficiencies of clients (Zhang et al., 2007). Hence, the quality of external audit could be an assurance of good internal control of a firm.
3. A score of one is assigned if the auditor's opinion/report of a firm is unqualified (AOP). Another indicator of good internal control is reflected in the quality of the auditor's report. External auditors would issue an unqualified report when they are sure that the financial reports are fair and free of material misstatement (Arens et al., 2010). Under the Sarbanes-Oxley Act, auditors also have to express an opinion on the internal control (Zhang et al., 2007). Auditors would issue an unqualified report on internal control over financial reporting when they are satisfied with two conditions, namely: (1) there are no material weaknesses; and (2) there are no restrictions on the scope of the auditor's work

(Arens et al., 2010). Therefore, auditor's report could be used as an indicator of internal control quality.

4. If the audit committee of a firm consists of more than 50 % independent members (PIAC), a score of one is assigned. One of the quality attributes of an audit committee is the proportion of independent audit committee members to the total number of members (Krishnan, 2005). In Indonesia, there is no mandatory rule about how many members of an audit committee should be independent members. However, Indonesia's codes of good corporate governance suggest that the composition of an audit committee should be structured, taking into consideration the complexity of a company, as well as the effectiveness of decision making.
5. A score of one is assigned if a firm reports the assessment of the quality of internal control (ICA) and zero if it does not include such a report in the financial reports. In Indonesia, there is no mandatory rule regarding the requirements for firms to disclose internal control quality. However, in the United Kingdom (UK), under the Turnbull guidelines and in the US, under the Sarbanes-Oxley Act 2002, firms are required to disclose the manager's assessment on the effectiveness of internal control over the financial reporting process as it is perceived to be the best practice of corporate governance (Spira & Gowthorpe, 2008).

The five indicators stated above relate to internal control. The other five indicators relate to risk management, which conceptually could be divided into two, namely risk management committee and disclosure of certain risks. The indicators are presented as follows.

6. Risk management committee (RMC) is one of the risk management quality measures (COSO, 2004). Therefore, a score of one is assigned to a firm with a risk management committee. A risk management committee reflects the greater attentiveness of a firm regarding the importance of risk management and control. Yatim (2009) found that there was a strong association between a risk management committee and the quality of board structures, as firms with more board expertise, board diligence, board independence, and a two-tier boards system have a greater tendency to establish a risk management committee. Yatim (2009) asserted that the audit, finance, or risk management committee of the board generally considers risk management, as it has become the focus of the board.

The other four measures relate to disclosure of risk management. Risk management information has been perceived to be a tool to help shareholders and other interested parties in identifying and assessing management's effectiveness in dealing with uncertainties and opportunities (Lajili & Zeghal, 2005). Using a survey of 554 institutional investors in the United Kingdom (UK), Solomon et al. (2000) found that respondents expected and believed that improving the quality of corporate governance might also lead to improvement in risk management disclosure. Moreover, risk management disclosure is also perceived to reduce information asymmetries and promoting transparency (Lajili & Zeghal, 2005). Hence, Lajili and Zeghal (2005) argued that risk

management disclosure is one of the important elements of corporate governance, which is aimed at providing guidance for stakeholders to assess management's effectiveness in dealing with risks and their impact on firm value and growth, as well as reducing agency costs by minimizing information asymmetries. Therefore, Van de Ven (2010) argued that transparency/disclosure is the essence of risk management in an accounting perspective.

Although there are many elements of risk management disclosure, this study selects four elements, which are documented in previous studies as important and crucial to disclose, namely they are:

7. Business risks or market risks disclosure (BR) which includes information about assessment of market competition and strategies of a firm in dealing with such market competition. Business risks disclosure would enable stakeholders to assess strengths and weaknesses of a firm within an industry or market in order to forecast its investment returns.
8. Credit risks disclosure (CRR). Credit risks have been perceived to be one of the main causes of either the Asian financial crisis in 1997–1998 (Rahman, 1998) or the financial crisis in 2007 (Lang & Jagtiani, 2010). Lang and Jagtiani (2010) argued that high mortgage-related securities which were owned by firms demonstrated the violation of the basic principles of risks management. This violation of risk management is a result of severe agency problems and a bad corporate governance system (Lang & Jagtiani, 2010). Hence, as credit risks are crucial factors which might cause firms into facing bankruptcy problems and which reflect agency problems, the disclosure of such risks might show good practices of corporate governance, as it would enable stakeholders to evaluate risks as well as reduce information asymmetry.
9. Exchange rate risk disclosure (ERR). Rahman (1998) explained that the Asian financial crisis in 1997–1998 showed that Asian firms were vulnerable to exchange risks. High foreign debts without being accompanied by good risk management practises of Asian banks and private sectors triggered off liquidity problems, when many Asian firms' debt-servicing burden was above their ability to obtain new external borrowings and that of their countries' foreign reserves (Rahman, 1998).
10. Corporate social responsibility (CSR) disclosure. CSR is one of the practises of risk management, as it could be viewed as a real option which might minimize the downside business risks of a firm (Husted, 2005). This view is based on the argument that CSR is an investment which might provide direct and indirect benefits to a firm. CSR has been perceived, not only as a signal of complete altruism, but also as activities which generate financial benefits, as it creates goodwill and insurance-like protection against risks (Godfrey, Merrill, & Hansen, 2009).

These four risk disclosures were also used by Amran, Bin, and Hassan (2008). If a firm has a separate section for each type of disclosures stated above, a score of one would be assigned to the firm for each type of disclosure. A separate section for disclosing risks in an annual report indicates the extent and depth of management's

deliberation regarding the risk and strategies taken by management in dealing with such risk.

Hence the formula of ICRM index could be presented below:

$$\text{ICRM index} = \frac{\sum \text{Score of ICRM assigned for firm } i}{\sum \text{Total Score of ICRM (10)}} \quad (4.6)$$

4.6.4 The Organizational Performance Measure

Organizational performance is measured using an accounting based-performance measure, which is the return on assets (ROA). ROA is computed using a formula:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total assets}} \quad (4.7)$$

This formula is also used by many previous researchers, such as Chen et al. (2009). ROA is used since it is considered as one of the important drivers of firm value (Booth, 1998), which not only reflects the profitability of firms but also the efficiency of the use of assets. This study employs an accounting-based measure of performance, as most performance indicators rely on accounting numbers. Moreover, accounting-based measures reflect more the performance of organizational factors, such as strategy and control implemented within a firm, while, market-based measures are influenced by more complex factors, including the confidence of investors.

4.6.5 Earnings Quality/Earnings Management Measure

Earnings quality is measured by discretionary accruals. As explained in the literature review, there are many dimensions of earnings quality, and one of them being the non-existence of earnings management. Earnings management is argued to be a sign of agency problems in which managers manage earnings through accounting policies and practises in order to maximize their interests (Ronen & Yaari, 2008). Accounting earnings comprise of a cash flow component and an accruals component, of which the latter contains discretionary and non-discretionary accruals. An accrual component represents accounting entries involving managerial discretions in order to adjust for deficiencies of cash accounting. There are two types of an accrual component, which are discretionary accruals and non-discretionary accruals which represent necessary adjustments to the industry-related and firm-specific business conditions, while discretionary accruals are perceived as an earnings management measure (Sun & Rath, 2009). As corporate governance is expected to reduce the likelihood of earnings management, many previous research

papers had argued and found that corporate governance mechanisms have a negative relationship with discretionary accruals (see Sect. 2.7.1).

To measure the discretionary and non-discretionary components, the parameters of the Jones' (1991) regression model are used. This model was also adopted by Sun and Rath (2009) and Mir and Seboui (2006). The formula of Jones Model is presented below:

$$TA_{it}/A_{i,t-1} = \alpha_1(1/A_{i,t-1}) + \alpha_2(\Delta REV_{it})/A_{i,t-1} + \alpha_3(PPE_{it})/A_{i,t-1} + \varepsilon_{it}, \quad (4.8)$$

Total accruals are computed using a formula presented below:

$$TA_{it} = (\Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STD_{it} - Dep_{it}) \quad (4.9)$$

where:

TA_{it} is total accruals,

ΔCA_{it} is the change in current assets,

ΔCL_{it} is the change in current liabilities,

$\Delta Cash_{it}$ is the change in cash and cash equivalents,

ΔSTD_{it} is the change in short-term debt,

Dep_{it} is depreciation,

ΔREV_{it} is the change in revenues,

PPE_{it} is the change in property, plant and equipment,

$A_{i,t-1}$ is total assets

ε_{it} is the error term (discretionary accruals).

The discretionary accrual component is represented by the error (ε_{it}) of the regression model above. As the aim of this study is to observe the effect of corporate governance, strategy, and performance on earnings management, it only employs the magnitude of discretionary accruals without differentiating between income increasing and decreasing earnings management. Hence, the absolute value of discretionary accruals is used. The absolute value of discretionary accruals represents the magnitude of adjustments made by managers to arrive at a certain reported earnings numbers which are desired in maximizing their interests, such as to achieve targeted earnings or to maximize bonus. The higher value of absolute discretionary accruals shows greater exercise of accounting discretion.

The summary of constructs and indicators are presented in Table 4.4.

As mentioned earlier, this study uses an index to measure internal control and risk management. Indicators of the index are presented in Table 4.5.

Table 4.4 Summary of variables and indicators

Constructs	Type of variables	Acronym of constructs	Measurements
Business competition	Exogenous	BC	Dummy = 1 if less competitive, 0 otherwise To determine whether an industry is competitive or less competitive, Herfindahl Index (HI) is used. An industry which has below the mean of HI is categorised as competitive. On the contrary if HI is above the mean, an industry is perceived as less-competitive.
Business strategy	Endogenous	STRG	1. Asset Efficiency as measured by ratio of fixed assets to total sales (PPES) 2. Company’s organizational stability as measured by employee turnover (ETO) 3. Company’s ability to produce and distribute products and services efficiently as measured by ratio of employees to sales (ES) 4. Company’s ability to innovate as measured by ratio of intangible assets to total assets (IA) 5. Company’s growth as measured by sales growth (GWTS)
Corporate governance	Endogenous	CG	1. Logarithm (log) of size of board commissioners (SZB) 2. Proportion of independent commissioners to total commissioners on the board (INB) 3. financial and accounting background to total audit committee members (PCAFB) Proportion of audit committee members with 4. Total ownership percentage of non-controlling owners (POWN) 5. The percentage of shares owned by management (board of management) (MOWN) 6. Index of internal control and risk management (ICRM). The formula of ICRM is: $\frac{\sum \text{Score of ICRM assigned for firm } i}{\text{Total Score of ICRM}}$
Organizational performance	Endogenous	ROA	Return on assets
Earnings quality/ earning management	Endogenous	EM	Absolute value of discretionary accruals developed by Jones (1991)

4.7 Mathematical Models of The Study

As this study employs four endogenous variables, the structural model of this study consists of four equations. Following the formula (4.1) above, the four equations of this study could be presented as follow:

Table 4.5 Indicators of internal control and risk management index

No	Indicators	Score
1	A company has a separate internal audit unit (IAU)	1
2	If the external auditor of a firm is a big four accounting firm (EAQ)	1
3	Unqualified audit opinion (AOP)	1
4	If the audit committee of a firm consists more than 50 % of independent members (PIAC)	1
5	The availability of the quality of internal control assessment (ICA)	1
6	The availability of a risk management committee (RMC)	1
7	Business risks or market risks disclosure (BR)	1
8	Credit risks disclosure (CRR)	1
9	Exchange rate risk disclosure (ERR)	1
10	Corporate social responsibility (CSR) disclosure	1
Total available score		10

$$\eta_1 = \gamma_{11}\xi_1 + \zeta_1 \tag{4.10}$$

$$\eta_2 = \gamma_{12}\xi_1 + \beta_{12}\eta_1 + \zeta_2 \tag{4.11}$$

$$\eta_3 = \beta_{13}\eta_1 + \beta_{23}\eta_2 + \zeta_3 \tag{4.12}$$

$$\eta_4 = \beta_{14}\eta_1 + \beta_{24}\eta_2 + \beta_{34}\eta_3 + \zeta_4 \tag{4.13}$$

while the measurement models of the two multi measures constructs (business strategy and corporate governance) are:

$$Y_1 = \lambda y_{11}\eta_1 + \varepsilon \tag{4.14}$$

$$Y_2 = \lambda y_{21}\eta_1 + \varepsilon \tag{4.15}$$

$$Y_3 = \lambda y_{31}\eta_1 + \varepsilon \tag{4.16}$$

$$Y_4 = \lambda y_{41}\eta_1 + \varepsilon \tag{4.17}$$

$$Y_5 = \lambda y_{51}\eta_1 + \varepsilon \tag{4.18}$$

$$Y_6 = \lambda y_{62}\eta_2 + \varepsilon \tag{4.19}$$

$$Y_7 = \lambda y_{72}\eta_2 + \varepsilon \tag{4.20}$$

$$Y_8 = \lambda y_{82}\eta_2 + \varepsilon \tag{4.21}$$

$$Y_9 = \lambda y_{92}\eta_2 + \varepsilon \tag{4.22}$$

$$Y_{10} = \lambda y_{102}\eta_2 + \varepsilon \tag{4.23}$$

$$Y_{11} = \lambda y_{112}\eta_2 + \varepsilon \tag{4.24}$$

where, ξ_l is the exogenous observed variable which is the Business Environment/Competition. The two endogenous latent variables are Business Strategy (η_1) as measured by five indicators while six indicators are used to measure Good Corporate Governance construct (η_2). The two other endogenous variables are Accounting

Performance as measured by return on assets (ROA) (η_3) and Earnings Management as measured by absolute discretionary accruals (η_4). While γ_{11} is the coefficient matrix relating ξ_1 to η_1 , γ_{12} is the coefficient matrix relating ξ_1 to η_2 , β_{13} is the coefficient matrix relating η_1 to η_3 , β_{21} is the coefficient matrix relating η_1 to η_2 , β_{23} is the coefficient matrix relating η_2 to η_3 , β_{14} is the coefficient matrix relating η_1 to η_4 , β_{24} is the coefficient matrix relating η_2 to η_4 , β_{34} is the coefficient matrix relating η_3 to η_4 , and ζ_i is the error of each equation. λ is the coefficient of each measure, ε is the error of each measurement equation, Y_i is indicator/measure of η_i .

4.8 Summary

This chapter discusses the research method used in this study. In order to achieve the objectives of the study, data are collected from the Indonesian Capital Market fact book published by Indonesian Capital Market (IDX), annual reports, and the Mint Global database. Samples of 66 firms over a 3-years period (198 observations) were selected using a purposive sampling approach.

SEM is employed as data analysis for this study. SEM is considered appropriate as this study examines a series of interrelated dependence relationships simultaneously. SEM is useful in testing theories that contain multiple equations involving dependence relationships (Hair et al., 2010). Moreover, this study uses two variables, which are complex and having multi-measures, namely business strategy and corporate governance. SEM allows the researcher to employ latent or unobservable variables which are measured using several manifests or indicators or observed or measure variables, as well as ensuring the reliability and validity of indicators used in measuring latent variables (Gefen et al., 2000).

As it is allowed in SEM to use a dummy variable in measuring exogenous variables, a dummy is employed to measure business competition. The categorization of business competition is determined using Herfindahl Index. Five measures are used as indicators of business strategy, while six measures are employed to reflect corporate governance. Return on assets (ROA) is an indicator of organizational performance used in this study. Absolute discretionary accruals, calculated using Jones' (1991) model, is employed as an indication of earnings management.

Chapter 5

Results

5.1 Introduction

The purpose of this chapter is to present the results of the data analysis using the research method as explained in Chap. 4. This chapter is organized as follows. Firstly, Sect. 5.2 presents the descriptive analysis which includes the industry category of the samples and descriptive analysis of measures of constructs. Secondly, Sect. 5.3 presents the discussions of the measure of model fit. Section 5.4 discusses the discriminant validity. At this stage, the examination of single-factor congeneric model and confirmatory analysis is presented. Section 5.5 discusses the reliability of the constructs, while Sect. 5.6 provides the results of the full structural model. The last section (Sect. 5.7) summarizes the content of this chapter.

5.2 Descriptive Analysis

The descriptive statistic presents the industry category and data distribution of measures of constructs employed in this study. The descriptive statistic is described below.

5.2.1 *Industry Category*

As explained in Chap. 4, this study uses 198 observations, which include 66 firms for 3 years (2008–2010). The distribution of samples, based on industry categories is provided in Table 5.1:

It can be seen from Table 5.1 that the largest number of firms included as samples are in the category of wholesale (18.18 %). This sample reflects the

Table 5.1 Industry category of samples

Industry category	Firms	
	Raw number	(%)
<i>Agriculture</i>		
Plantation	3	4.55
<i>Mining</i>		
Coal mining	5	7.58
Crude Petroleum & Natural Gas	1	1.52
<i>Basic industry and chemicals</i>		
Metal and allied products	1	1.52
Chemicals	4	6.06
Plastics and packaging	3	4.55
Pulp and paper	3	4.55
<i>Miscellaneous</i>		
Automotive and components	3	4.55
Textile and garments	3	4.55
Cable	1	1.52
<i>Consumer goods</i>		
Food and beverages	2	3.03
Pharmaceuticals	4	6.06
<i>Infrastructure, utilities and transport</i>		
Transportation	4	6.06
Telecommunication	3	4.55
<i>Trade, services and investment</i>		
Wholesale	12	18.18
Retail trade	8	12.12
Restaurant, hotel and tourism	5	7.58
Advertising, printing and media	1	1.52
Total	66	100.00

distribution of firms listed on the Indonesian Stock Exchange, as in 2010 the wholesale industry had the largest number of firms (27 listed companies) after property and real estate and bank. As explained in Sect. 4.3 this study does not include the finance industry which includes bank and investment as well as the property, real estate, and building construction industries Other industry categories which have less than six firms each are also excluded, such as cement, wood, footwear, electronics, fishery, metal and mineral mining.

5.2.2 Business Strategy Measures

Table 5.2 reports the distribution of five measures of business strategy construct.

From Table 5.2 it can be seen that the sample firms had an average ratio of employee to sales (ES) of 0.014 (1.4 %). This ratio shows that Indonesian firms

Table 5.2 Data distribution of business strategy measures

Measures	N	Minimum	Maximum	Mean	Std. deviation
ES	198	0.001	0.084	0.014	0.014
ETO	198	-0.611	0.816	0.063	0.163
IA	198	0.000	0.547	0.009	0.060
GWTS	198	-0.492	0.796	0.115	0.164
PPES	198	0.009	6.140	0.638	0.970

ES the ratio of employee to sales, *ETO* employee turnover, *IA* the ratio of intangible assets to total assets, *GWTS* sales growth, *PPES* the ratio of fixed assets to sales

were slightly less efficient compared to the US firms which were included in Bentley, Omer, and Sharp's (2012) research, which showed 0.01 (1 %). The ratio of fixed assets to sales as another measure of efficiency was 0.638 (63.8 %) on average, which was slightly lower compared to that of New Zealand sample firms used by Naiker, Navissi, and Sridharan (2009) which showed 0.760 (76 %). This indicates that the sample firms in this study showed higher operational efficiency compared to New Zealand sample firms employed by Naiker et al. (2009).

The Indonesian firms were more stable in terms of employee turnover compared to US firms. The mean of ETO in the Bentley et al., (2012) study showed 1.38, while this study showed only 0.063. This study also revealed that Indonesian firms did not invest much in intangible assets, as the average ratio of intangible assets to total assets was only 0.009 (0.9 %), with a minimum of 0 and a maximum of 0.547 (54.7 %), indicating that some of the sample firms did not engage in intangible investments while others had extensive intangible asset investments. The low investment in intangible assets was in line with the research and development (R&D) investment. Using the available data, this study revealed that the average ratio of R&D to total sales of sample firms showed only 0.0005 or 0.05 %, with a minimum of 0 and a maximum of 0.02 or 2 %. These indicate that sample firms conducted very minimal research and development activities which might have led to the low intangible assets. Furthermore, these results indicated that firms in developing countries, such as Indonesia, firms engage in very few R&D activities compared to developed countries. By employing New Zealand sample firms, Naiker et al. (2009) reported that the mean of the R&D to sales ratio was 4.1 %; while Bentley et al. (2012) reported that US sample firms had an average of 18 % for similar ratio. However, as explained in Chap. 4, this study used the ratio of intangible assets to total assets (IA) as one of the indicators of business strategy, rather than R&D to total sales ratio. The justifications for this usage were discussed in Sect. 4.6.3.

Nevertheless, as developing countries are characterised as high growth economies, firms in Indonesia enjoyed high sales growth. Table 5.2 shows that on an average, during the period of 2008–2010, the sample firms recorded an average of 11.5 % sales growth.

5.2.3 Corporate Governance Measures

Table 5.3 reports the distribution of corporate governance construct measures. As explained in Sect. 4.6.4, this study used the log size of board instead of the absolute number of board members. However, Table 5.3 reports both numbers.

It can be seen in Table 5.3, the board of directors/commissioners size (SZB) ranged between two and ten members, of which the average size was 4.4 members. This number explicitly showed that the Indonesian sample firms had larger boards compared to Western countries, such as the U.S. Using the U.S firms as samples, Eisenberg, Sundgren, and Wells (1998) found that the average size of boards was only 3.7 members. Meanwhile, the mean percentage of independent commissioners (INB) was 38.1 %, with a minimum of 16.7 % and a maximum of 75 %. However, other studies conducted in the US showed a higher percentage of independent boards. Using firms listed in the U.S. S&P 500, Gani and Jermias (2006) reported that the mean ratio of outside directors to total directors was 70.3 %. It can also be seen that the majority of audit committee members had accounting or finance experience and background, as the mean of this variable (PCAFB) was 0.666, which means that on average 66.67 % of audit committee members had either accounting or finance experience or background.

Supporting the report of the World Bank (2010), this study showed that the ownership of Indonesian firms was relatively concentrated. From Table 5.3, it can be seen that the average of public ownership or non-controlling ownership (POWN) was only 22.5 %. This public ownership was reported in the financial reports of sample firms. However, the managerial ownership of sample firms was also low, with a mean of only 1.9 %. It can also be seen that the managerial ownership ranged between 0 and 70.9 %, indicating that some sample firms were controlled by managers.

Internal control and risk management score (ICRM) showed relatively high quality of internal control and risk management practises of Indonesian sample

Table 5.3 Data distribution of corporate governance measures

Measures	N	Minimum	Maximum	Mean	Std. deviation
SZB	198	2.000	10.000	4.399	1.694
Log SZB	198	0.301	1.000	0.615	0.153
INB	198	0.167	0.750	0.381	0.090
MOWN	198	0.000	0.709	0.019	0.075
POWN	198	0.008	0.948	0.225	0.169
PCAFB	198	0.000	1.000	0.666	0.366
ICRM	198	0.200	1.000	0.714	0.198

SZB size of board of commissioners, *Log SZB* logarithm of board commissioners size, *INB* the percentage of independent board of commissioners, *MOWN* the percentage of managerial ownership, *POWN* the percentage of public ownership (non-controlling owners), *PCAFB* the percentage of audit committee members who have accounting/finance background/education, *ICRM* index of internal control and risk management

Table 5.4 Data distribution of internal control and risk management index

Indicators	N	Minimum	Maximum	Mean	Std. deviation
IAU	198	0.000	1.000	0.985	0.122
ICA	198	0.000	1.000	0.864	0.344
EAQ	198	0.000	1.000	0.545	0.499
AOP	198	0.000	1.000	0.298	0.459
PIAC	198	0.000	1.000	0.758	0.430
RMC	198	0.000	1.000	0.702	0.459
BR	198	0.000	1.000	0.879	0.327
ERR	198	0.000	1.000	0.758	0.430
CRR	198	0.000	1.000	0.535	0.500
CSR	198	0.000	1.000	0.818	0.387

IAU internal audit unit, *ICA* internal control assessment, *EAQ* external audit quality, *AOP* auditor opinion, *PIAC* percentage of independent audit committee members, *RMC* risk management committee, *BR* business risk disclosure, *ERR* exchange rate risk disclosure, *CRR* credit risk disclosure, *CSR* corporate social responsibility disclosure

firms, as the mean score was 0.71. The lowest score was 0.20 and the highest score was 1.00. As mentioned in Chap. 4, in developing the score of ICRM, this study employed ten indicators of good practices of internal control and risk management. Therefore, it would be relevant to report the distribution of the ten criteria. Table 5.4 reports the distribution of the indicators of internal control and risk management.

As a score of 0 or 1 was respectively assigned for a company that met or did not meet a criterion, the minimum score for each of the criteria was 0 and the maximum score was 1. Hence, the maximum score for all criteria which a company could achieve was 10. The detail explanation of indexing was presented in Sect. 4.6.4.

From Table 5.4, it can be seen that on average, 98.5 % of the sample firms had a separate internal audit unit (IAU). Moreover, the vast majority of the sample firms (86.7 %) reported the assessment of the quality of internal control (ICA). However, the mean of external audit quality (EAQ) was only 0.545, which means that only 54.5 % of sample firms employed one of the big four accounting firms (EAQ). Only a small number of the sample firms had unqualified audit opinions in their audit reports, as Table 5.4 shows that the mean of the auditor opinion (AOP) variable was only 29.8 %. Most of these sample firms had unqualified audit opinions with explanatory paragraphs or modified wording. It can also be seen that the sample firms had relatively independent audit committee members (PIAC), as 75.8 % of them structured their audit committee by having more than 50 % independent audit committee members.

The majority of 70.2 % of the sample firms already had a risk management audit committee, indicating a high awareness of Indonesian firms regarding the importance of risk management practises. Furthermore, the disclosure quality of certain risks and risk management was also relatively high among the sample firms. A separate section for business risk disclosure (BR) was reported by 87.9 % of the sample firms; whereas, corporate social responsibility (CSR) had also been reported in a separate section by 81.8 % of the sample firms. This indicates that most sample

firms engaged in social and environmental activities endorsed the reporting of such activities in a separate section in their annual reports. A high percentage (75.8 %) of the sample firms reported exchange rate risks (ERR), which indicates that exchange rate risks were perceived to be important risks which motivated firms to report such risks in a separate section. Considering the Asian financial crisis in 1997–1998 which was argued to be caused by improper management of exchange rate and credit risks (Rahman, 1998), this result indicates that the sample firms perceived exchange rate risks as one of the major risks to be managed properly and reported in the annual reports. Only 53.5 % of the sample firms reported credit risks in a separate section, which indicates that 53.5 % of the sample firms perceived credit risks to be major risks, which should be reported in a separate section. As discussed in Chap. 4, separate section for reporting such risk in the annual reports indicate the extent and depth of management deliberation about risks and strategies taken by management in dealing with such risks. Therefore, this result might indicate that many of the sample firms did not consider credit risks as important risks, though shareholders might demand extensive disclosure.

5.2.4 Business Environment or Competition

The other three constructs, which are business environment or business competition, performance, and earnings management were measured using a single indicator for each of them. SEM allows researchers to use a single indicator for a construct in which they are certain about the reliability and validity of the measure. The justifications for each measure and construct has been presented in Chap. 4.

Business environment/competition is the exogenous variable in this study, measured by a dummy variable, as SEM allows employing a dummy for exogenous variable but not for indicator or measure variables of a construct. A dummy of 1 was given for a less-competitive industry and 0 for a competitive industry. To determine the competitive and less-competitive industry category, Herfindahl Index (HI) was used. An industry which had HI below the mean was categorized as a competitive market. Conversely, an industry was categorized as a less-competitive market, if it had HI above the mean. Table 5.5 reports the HI value and dummy of all the sample industries.

The raw figures of Herfindahl Index of sample firms for 3 years ranged between 0.109 (textile and garments industry in 2008) and 0.624 (automotive and components industry in 2010), indicating that several industries were not very competitive, in which few companies dominated the market share while the other industries were relatively competitive. However, the average figure of Herfindahl Index (HI) and dummy categorization was relatively stable from year to year during 2008–2010.

Table 5.5 Herfindahl index

	2010		2009		2008	
	HI	Dummy	HI	Dummy	HI	Dummy
Plantation	0.295	0	0.255	0	0.229	0
Coal mining	0.239	0	0.263	0	0.257	0
Crude petroleum and natural gas	0.381	1	0.515	1	0.537	1
Metal and allied products	0.189	0	0.173	0	0.183	0
Chemicals	0.349	1	0.381	1	0.298	1
Plastics and Packaging	0.215	0	0.213	0	0.182	0
Pulp and paper	0.367	1	0.405	1	0.379	1
Textile and garments	0.167	0	0.127	0	0.109	0
Cable	0.196	0	0.190	0	0.207	0
Pharmaceutical	0.295	0	0.277	0	0.284	0
Food and beverages	0.507	1	0.493	1	0.479	1
Retail trade	0.140	0	0.129	0	0.131	0
Restaurant, hotel and tourisms	0.145	0	0.143	0	0.138	0
Advertising, printing and media	0.235	0	0.243	0	0.230	0
Automotive and components	0.624	1	0.604	1	0.588	1
Telecommunication	0.408	1	0.470	1	0.522	1
Whole sale	0.236	0	0.195	0	0.169	0
Transportation	0.335	1	0.206	0	0.243	0
The mean	0.296		0.304		0.297	

5.2.5 Performance

Table 5.6 presents the distribution of accounting performance of sample firms as measured by return on assets (ROA).

Return on assets of sample firms ranged between -0.439 and 0.508 , indicating high variation of performance during 2008–2010. High variation of performance was also confirmed by the mean and standard deviation, of which standard deviation was higher than the mean. The average ROA of the sample firms was 6 %; while the standard deviation was 9.4 %.

5.2.6 Earnings Management

The distribution of absolute discretionary accruals of the sample firms can be seen in Table 5.7.

The absolute discretionary accrual measures the magnitude of earnings management. The higher the absolute discretionary accruals, the higher the deviation of earnings from normal accruals which shows earnings management practises. In Table 5.7 it can be seen that absolute discretionary accruals (ADA) ranged between 0.001 and 0.495, and the average ADA was 0.093. Compared to other research

Table 5.6 Data distribution of return on assets

Indicators	N	Minimum	Maximum	Mean	Std. deviation
ROA	198	-0.439	0.508	0.060	0.094

Table 5.7 Data distribution of absolute discretionary accruals

Indicators	N	Minimum	Maximum	Mean	Std. deviation
EM (absolute discretionary accruals)	198	0.001	0.495	0.093	0.085

conducted in the U.S., the absolute discretionary accruals of this study do not differ much. Differentiating samples between firms audited by the big six and non-big six accounting firms, Krishnan (2003) found that firms audited by the big six had an average absolute accruals of 0.085; while firms audited by the non-big six accounting firms had a higher mean of ADA of 0.112.

5.3 Measure of Model Fit

As discussed in Chap. 4, one of the most important applications of SEM is to assess whether the hypothesised model fits the sample data, which refers to the goodness-of-fit of the model, as the validity of either measurement or structure is determined by the goodness-of-fit (Hair, Anderson, Tatham, & Black, 2010). Therefore, it is important to review the measures of goodness-of-fit before presenting the results of this study.

There are many fit statistics which can be used to assess the goodness-of-fit of the model. However, these fit statistics can be classified into three types (1) absolute fit indices; (2) incremental (comparative) fit indices; and (3) indices of model parsimony (Hair et al., 2010; Holmes, Cunningham, & Coote, 2006). The discussion of these three types is briefly presented as follows.

5.3.1 Absolute Fit Indices

Absolute fit indices provide the basic assessment of how well a theory or a model developed by a researcher fits the sample data, as they measure directly the degree to which the specified model reproduces the observed data (Hair et al., 2010). There are many measures of absolute fit indices including Chi-square (χ^2), Normed Chi-square $\frac{\chi^2}{(df)}$, Root Mean-square Residual (RMR) and Standardized Root Mean Residual (SRMR), and Root Mean-square Error of Approximation (RMSEA).

Chi-square (χ^2) is the most common and basic measure of goodness-of-fit as χ^2 statistic provides a test of whether the matrix of implied variances and covariances

is significantly different from the matrix of empirical sample variances and covariances (Hair et al., 2010). As mentioned in Chap. 4, in the structural equation modeling the best set of parameter estimates is judged to be the set of parameter estimates that minimizes the discrepancy function to the matrix of empirical sample variance and covariances. A low (χ^2) with a p -value of greater than 0.05 shows that the model fits with the data very well. Therefore, researchers are looking for a low χ^2 value with non-significant p -value.

As a measure of goodness-of-fit, Chi-square has limitations, such as the normality assumptions and sample size issue. Chi-square is sensitive to sample size, as the bigger the size (n) the bigger the value of Chi-square and the more likely that researchers would reject the specified model (Holmes et al., 2006). Therefore, some researchers suggested using the normed Chi-square ($\frac{\chi^2}{df}$) rather than χ^2 . As explained in Sect. 4.5.4, to deal with normality assumption, this study uses Bollen-Stine bootstrap fit measure.

The normed χ^2 is a measure which takes the model complexity into account. The model is determined to be fit if the value of $\frac{\chi^2}{df}$ is greater than 1.0, but smaller than 2.0, as the value of less than 1.0 indicates that the model contains too many parameters or overfit (Holmes et al., 2006). However, Holmes et al. (2006) argued that the value between 2.0 and 3.0 is considered to be reasonable good fit.

RMR is a measure of the average residuals of the observed covariance matrix and the estimated covariance model. Although there is no statistical threshold level for RMR, the smaller the value the better is the model (Hair et al., 2010). As RMR is based on simple variations on χ^2 , it has problems similar to χ^2 . Hair et al. (2010) explained that the standardised root mean square residual (SRMR) is the alternative which is useful to compare fit across models. RMR is formulated as follows:

$$\text{RMR} = \sqrt{\left(s - \hat{\Sigma}\right)^2} \quad (5.1)$$

where $\hat{\Sigma}$ is the matrix of implied variances and covariances, while S is the matrix of empirical sample variances and covariances. Diamantopoulos and Siguaw (2000) as quoted by Nazari (2010) explained that the SRMR value ranges between 0 and 1, of which a value of less than 0.05 would indicate goodness-of-fit. Hu and Bentler (1999) suggested that a cut-off value close to 0.08 is acceptable.

Another fit index which is similar to SRMR is the Root Mean-square Error of Approximation (RMSEA), as both measure “the badness-of-fit”. RMSEA is a measure of the discrepancy per degree of freedom (Holmes et al., 2006). RMSEA is considered to be better than Chi-square in representing the goodness-of-fit, as it tries to correct both model complexity and sample size by including each in its calculation (Hair et al., 2010). The formula of RMSEA could be defined as follows:

$$\text{RMSEA} = \sqrt{\{\text{Max}[\hat{F} - (d/n), 0]\}/d} \quad (5.2)$$

where \hat{F} is the minimum value of the fit function, $n = N - 1$ (where N is the sample size) and d is the degrees of freedom. A model could be categorised as fit if RMSEA is less than 0.05, although a value of between 0.05 and 0.08 indicates a reasonable fit (Holmes et al., 2006).

5.3.2 Incremental Fit Indices

Hair et al. (2010) explained that incremental fit indices assess how well the hypothesised model fits sample data by comparing it with some alternative baseline model. Normed Fit Indices (NFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Goodness-of-fit Index (GFI), and Adjusted Goodness-of-fit Index (AGFI) are among the incremental fit indices. However, some experts also include GFI and AGFI as parsimony-based fit measures as they are conceptually similar to R^2 in regression (Blunch, 2008) and relate model fit to model complexity (Hair et al., 2010).

Normed fit indices (NFI) is a ratio of the difference in the value of χ^2 for the fitted model and the null model divided by the χ^2 value for the null model (Hair et al., 2010). NFI is perceived as the original incremental fit indices with values ranging from 0 to 1. A value approaching one (1) is an indication of goodness-of-fit. Hu and Bentler (1999) argued that the cut-off criteria of NFI should be 0.95. However, the value of 0.90 and above is considered to show a good model (Nazari, 2010).

CFI is perceived to be an alternative to NFI because it is less sensitive to the model complexity, while NFI has a problem with a complex model, as a complex model would inflate the estimate of model fit (Hair et al., 2010). As similar to NFI, the value of CFI ranges between 0 and 1, of which a value above 0.90 is considered to indicate goodness-of-fit. Tucker-Lewis Index (TLI) is also conceptually similar to NFI except that it is actually a comparison of the normed value of χ^2 for the null and specified model. However, TLI is not normed in which its value could fall below 0 or above 1 (Hair et al., 2010). A model which has value close to 1 is considered a fit model. However, any value that exceeds 1 is an indication that the model is over-specified (Holmes et al., 2006).

GFI is one of the most common measures of goodness-of-fit (Nazari, 2010) and it is proposed to be analogous to R^2 in multiple regression (Blunch, 2008). The formula of GFI is expressed as follows:

$$GFI = 1 - \frac{F}{F_i} \quad (5.3)$$

where F is the minimised discrepancy function once the model is fitted and F_i is the discrepancy function for the independence or null model. Holmes et al. (2006) explained that as a goodness-of-fit indicator, GFI should be greater than 0.95 and the value greater than 0.90 is also acceptable as an indicator of reasonable fit. If GFI value is adjusted for the number of degrees of freedom compared to the number of parameters, researchers would get the value of Adjusted Goodness-of-fit (AGFI). As similar to GFI, the value of GFI which is greater than 0.90 is considered as an indicator of goodness-of-fit.

5.3.3 Parsimony Fit Indices

Blunch (2008) explained that the measure of χ^2 could be problematic as researchers might reduce the value of χ^2 by adding more parameters to the model. However, by adding more parameters, researchers might run the risk of profiting from peculiarities in the sample at hand, which might result with a model that would not fit any comparable sample from the same population (Blunch, 2008). Therefore, a simple model is more generalizable.

Parsimony fit indices take parsimony into consideration by providing information about which model among a set of competing models is the best, considering its fit relative to its complexity (Hair et al., 2010). The Akaike Information Criterion (AIC) and Consistent Akaike Information Criterion (CAIC) are among those parsimony-based fit measures. A model that fits with the smallest value of AIC or CAIC is considered as the most parsimonious fitting model (Holmes et al., 2006).

The summary of fit indices is presented in Table 5.8:

As there are many available fit indices, researchers continue to search for the best index to be reported. Blunch (2008) argued that question regarding which indices should be reported for any research is irrelevant. However, it is suggested that Chi-square (χ^2) and p -value as well as RMSE should be reported. Considering the multi-variate non-normality of data, Bollen-Stine p -value is reported in this study. Other measures such as GFI, AGFI, and SRMR are also reported as a comparison.

5.4 Discriminant Validity

One of the important qualities which researchers have to ensure is the validity or the accuracy of the research. Discriminant validity and convergent validity/reliability are two important validity qualities which could be identified and tested using SEM, especially for the measurement model. Discriminant validity refers to the extent that a construct is unique and truly distinct from other constructs employed in a study (Hair et al., 2010). Furthermore, it also means that an individual indicator should only represent one latent construct. As there are two variables which have multi indicators, the convergent validity tests should be presented. Following

Table 5.8 Summary of fit indices

Name	Abbreviation	Acceptable level
Chi-square	χ^2 (df, p)	$P > 0.05$ (at the $\alpha = 0.05$ level)
Normed chi-square	$\frac{\chi^2}{(df)}$	$1.0 < \frac{\chi^2}{(df)} < 3.0$ (Values close to 1 indicate good fit but less than 1 indicate overfit)
Bollen-Stine p-value		$P > 0.05$
Goodness-of-fit and adjusted goodness-of-fit	GFI and AGFI	GFI and AGFI > 0.95 (Values between 0.90 and 0.95 may also indicate satisfactory fit)
Root mean square residual	RMR	SRMR < 0.05 (Large values for SRMR when all other fit indices good fit may indicate outliers in the raw data)
Standardized root mean square residual	SRMR	^a (a cut-off value of 0.08 is also considered to be satisfactory fit 0029)
Root mean-square error of approximation	RMSE	RMSE < 0.05 (Values between 0.05 and 0.08 may also indicate satisfactory fit)
Comparative fit index	CFI	CFI > 0.95 (Values between 0.90 and 0.95 may also indicate satisfactory fit)
Tucker-Lewis index	TLI	TLI > 0.95 (Values between 0.90 and 0.95 may also indicate satisfactory fit)
Akaike information criterion and consistent Akaike information criterion	AIC and CAIC	No defined level (The model that fits with the smallest value of AIC/CAIC is the most parsimonious fitting model)

Source: Holmes et al., 2006, p. 3–13

^asee Hu and Bentler (1999)

Aryani (2009), this study employs two approaches in SEM in analysing discriminant validity, namely (1) examining the single-factor congeneric model or measurement model and (2) conducting confirmatory factor analysis (CFA).

5.4.1 Single-Factor Congeneric Model

Congeneric model refers to the measurement model which depicts the relationship between several constructs and their observed variables representing those constructs. However, to fulfil the good quality of construct validity, it should be assumed that all cross-loadings and between-and within-constructs error covariances appropriately fixed to zero (Hair et al., 2010). It means that it should be hypothesized that there is no covariance between or within construct error variance or no correlated error terms, indicating that each indicator only measures a single construct. No correlated errors assumption also refers to unidimensionality, which means that a set of indicators could only be explained by one underlying construct (Hair et al., 2010). Hair et al. (2010) also explain that unidimensionality is crucial when a study uses several constructs in which each indicator or measure variable should be hypothesized to relate to only a single construct.

A single-factor congeneric model is the simplest model of congeneric model which refers to the unidimensionality of a single construct. The goodness-of-fit test of a single-factor congeneric model is also perceived as a confirmatory test of the content validity of the construct (Aryani, 2009). As there are two constructs which have multi measures, the single-factor congeneric model test would be conducted for the two constructs, which are business strategy and corporate governance. The discriminant validity test for the other factors which are business environment, earnings management, and performance (ROA) would be included in the confirmatory factor analysis (CFA), since it is impossible to conduct single-factor congeneric model for a construct which have less than three indicators.

5.4.1.1 Single-Factor Congeneric Model of Business Strategy

As explained in Chap. 4, this study employs five indicators to capture the business strategy construct. Figure 5.1 depicts the single-factor congeneric model of business strategy.

It can be seen from Fig. 5.1 that the model fits the data very well, as indicated by the significant Chi-square fit, $\chi^2(5) = 4.965$, p -value = 0.420. The model is perceived to fit the data if the Chi-square p -value is greater than 0.05 at significant level of 0.05. As discussed in Sect. 4.5.4, the existence of non-normal data would inflate the value of χ^2 . Therefore, the assessment of normality should be conducted. The output of AMOS shows that the multivariate data is not distributed normally, as indicated by the Mardia’s coefficient for multivariate kurtosis which shows critical value (C.R) of more than 2.58 which is 70.847. The kurtosis of each indicators and multivariate can be seen in Table 5.9.

Hence, as explained in Sect. 4.5.4, in dealing with non-normal data, the Bollen-Stine bootstrap is employed and p -value of Bollen-Stine is used as an indicator of goodness-of-fit. Using 1000 bootstrap procedure, the p -value of Bollen-Stine shows the value of 0.266, which is greater than 0.05. Hence it can be concluded that the model fits the data very well. The other fit measure indices also confirmed the

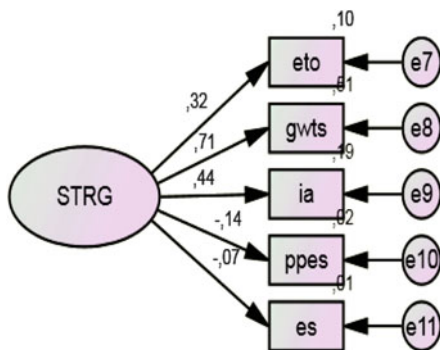


Fig. 5.1 AMOS output for the single-factor congeneric model of business strategy. Standardized estimates, Single-factor congeneric model, Chi-square = 4.965, $df = 5$, p -value = 0.420, Bollen-Stine bootstrap p -value = 0.266

Table 5.9 AMOS output of normality assessment of business strategy

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
Es	0.001	0.084	2.421	13.906	7.515	21.585
Ppes	0.009	6.140	2.995	17.205	10.221	29.358
Ia	0.000	0.547	7.919	45.491	61.979	178.020
Gwts	-0.492	0.796	0.022	0.125	2.360	6.778
Eto	-0.611	0.816	0.879	5.052	4.557	13.088
Multivariate					84.250	70.847

Table 5.10 Summary of the other goodness-of-fit indices for the single-factor congeneric model of business strategy

Fit indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.990	Fit
adjusted goodness-of-fit	agfi	0.970	Fit
Root mean-square error of approximation	RMSE	0.000	Fit
Standardized root mean square residual	SRMR	0.034	Fit

Table 5.11 Standardized regression weights for the single-factor congeneric model of business strategy

Indicators			Estimate
Eto	←	strg	0.319
Gwts	←	strg	0.715
Ia	←	strg	0.439
Ppes	←	strg	-0.137
Es	←	strg	-0.071

goodness-of-fit of the model. Table 5.10 summarizes the value of other fit indices for a comparison.

As the model fitted the data very well, further examinations to re-specify the model are not necessarily required. However, since the reliability of a construct should be assessed, analysis of the standardized regression estimates or factor loadings should be conducted. The standardized regression weights for business strategy indicators are presented in Table 5.11. It can be seen in Table 5.11 that the estimates of the standardized regression weights of the ratio of fixed assets to sales (PPES) and the ratio of employees to sales (ES) are negative, indicating that they are inversely related to other measures and have a low communality. Moreover, as they have very low values of standardized estimates, it can be concluded that these two indicators are poor or weak indicators in representing the business strategy construct. Hence, retaining them in the model would reduce the convergent validity or reliability of the model. Therefore, these indicators would be removed from the further analyses (CFA and structural model).

Table 5.12 Variance for the single-factor congeneric model of business strategy

Indicators	Estimate	S.E.	C.R.	P
Eto	0.024	0.003	8.770	***
Gwts	0.013	0.006	2.088	0.037
Ia	0.003	0.000	6.759	***
Ppes	0.918	0.094	9.781	***
Es	0.000	0.000	9.889	***

*** p-value is statistically significant at the level 0.01 level

Two other indicators, which are sales growth (GWTS) and the ratio of intangible assets to total assets (IA) have coefficients more than 0.4, which shows relatively high convergent validity. The indicator of employee turnover (ETO) has a coefficient 0.319 which shows relatively low reliability. However, Hair et al. (2010) argued that the standardized loadings estimates of more than 0.3–0.4 are perceived to be minimally acceptable. The value of 0.5 is commonly perceived to be the cut-off, and 0.7 is an ideal value. Hair et al. (2010) also explained that a 0.3 loading can be translated into 10 % explanation, and 0.5 loading explains 25 % of the variance; while 0.7 loading denotes that 50 % of the variance is accounted for by the factor. Moreover, since the overall reliability of the construct as measured by average variance extracted (EVA) and construct reliability (CR) is above the standards, ETO is retained. The analysis of convergent validity or reliability of constructs is presented in Sect. 5.5. The deletion of the two constructs of the STRG construct variable results in only three items remaining to measure the construct, which is not sufficient to do a single congeneric factor analysis. Hence, further analysis of the STRG construct would be conducted together with other latent variables in the CFA process.

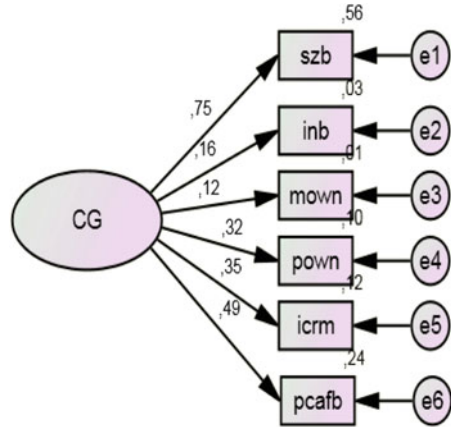
The variance of each indicator is presented in Table 5.12.

The variance of each indicator is useful to measure whether an indicator has high residual or error, which would influence the reliability of a construct. From Table 5.12, it can be seen that the indicator of PPES has the highest standardized error estimate which is 0.094. The analysis of the reliability will be presented in Sect. 5.5.

5.4.1.2 Single-Factor Congeneric Model of Corporate Governance

To measure the construct of corporate governance, this study employs six indicators, which are: the size of board directors/commissioners (SZB); independent directors/commissioners (INB); audit committee financial expertise (PCAFB); public ownership (POWN); managerial ownership (MOWN); and internal control and risk management (ICRM). To ensure the discriminant validity of the constructs, the single-factor congeneric model goodness-of-fit test is conducted. Figure 5.2 depicts the single-factor congeneric model of corporate governance.

Fig. 5.2 AMOS output for the single-factor congeneric model of corporate governance. Standardized estimates, Single-factor Congeneric model, Chi-square = 15.666, $df = 9$, p -value = 0.074, Bollen-Stine bootstrap p -value = 0.143



The outputs of AMOS shows that the model does fit the data as indicated by insignificant of Chi-square, $\chi^2(9) = 15.666$; p -value = 0.074. It can be concluded that there is no statistical difference between the model and data. A model is perceived to fit the data, if p -value is greater than 0.05. However, since the AMOS output of normality assessment shows that multivariate data of corporate governance construct is not normal as indicated by the Mardia’s coefficient for multivariate kurtosis which shows critical value of more than 2.58, which is 45.82, Bollen-Stine p -value is employed to measure the goodness-of-fit of the model and the Bollen-Stine p -value should be greater than 0.05. The AMOS output of normality assessment is presented in Table 5.13, while the explanation for the use of Bollen-Stine has been presented in Sect. 4.5.4.

The Bollen-Stine p -value of the model shows the value of 0.143, which is not significant or greater than 0.05, indicating that the model fits the data very well. Other fit indices also confirmed that the model is fit as the value of GFI and AGFI are respectively 0.974 and 0.940, which are above the cut-off value (0.900). The RMR is 0.001 which also indicates goodness-of-fit (RMR should be below 0.05) while RMSE shows a value of 0.061, which is still within the range of goodness-of-fit value. Table 5.14 presents the four fit indices for comparison.

Further analysis includes the coefficient or estimates of standardized regression weights or factor loadings of each indicator. Tables 5.15 and 5.16 present the estimates of the standardized regression weights and variance of the corporate governance construct respectively.

In Table 5.15, it can be seen that independent board of commissioners or directors (INB) and managerial ownership (MOWN) have very low factor loadings, which are only 0.161 and 0.122 respectively (below 0.3). As the model has fitted the data very well and reliability measures (CR and AVE) are above the standards (the reliability measures will be presented in Sect. 5.5), these measures could be either retained or deleted. Theoretically, board independence and managerial ownership as proxies of managerial compensation are two very important measures of

Table 5.13 AMOS output of normality assessment of corporate governance

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
pcafb	0.000	1.000	-0.474	-2.725	-1.291	-3.708
icrm	0.200	1.000	-0.634	-3.640	-0.475	-1.364
pown	0.008	0.948	1.293	7.430	2.259	6.488
mown	0.000	0.709	8.023	46.087	69.918	200.824
inb	0.167	0.750	1.073	6.162	1.833	5.264
szb	0.301	1.000	0.506	2.907	-0.645	-1.854
Multivariate					63.810	45.820

Table 5.14 Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate governance

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.974	Fit
Adjusted goodness-of-fit	AGFI	0.940	Fit
Root mean-square error of approximation	RMSE	0.061	Fit
Standardized root mean square residual	SRMR	0.055	Fit

Table 5.15 Standardized regression weights for the single-factor congeneric model of corporate governance

Indicators			Estimate
Szb	←	cg	0.751
Inb	←	cg	0.161
Mown	←	cg	0.122
Pown	←	cg	0.321
Icrm	←	cg	0.345
Pcafb	←	cg	0.489

Table 5.16 Variance for the single-factor congeneric model of corporate governance

Indicators	Estimate	S.E.	C.R.	P
Szb	0.010	0.004	2.792	0.005
Inb	0.008	0.001	9.781	***
Mown	0.006	0.001	9.844	***
Pown	0.026	0.003	9.221	***
Icrm	0.034	0.004	9.077	***
Pcafb	0.101	0.014	7.478	***

*** p-value is statistically significant at the level 0.01 level

corporate governance. Organizational and environmental factors might cause mechanisms/indicators of corporate governance to have different contributions in controlling managerial behaviours. Therefore, in a particular setting, board independence and managerial ownership might have less contribution compared to other mechanisms/indicators. Further analysis and discussion of possible reasons why board independence and managerial ownership have low loadings will be presented in Chap. 6. As both indicators are perceived to be crucial mechanisms of corporate governance construct, both would be retained in the model.

Retaining indicators which have low loadings could generate a problem, since low factor loadings might increase errors of a model and consequently they might influence the value of parameters and goodness-of-fit indices of structural equation model. It should be ensured that retaining indicators with low loadings would not significantly influence the results of structural model. Therefore, this study employs a model which excludes INB and MOWN to confirm whether the results are consistent with the original model as depicted in Fig. 5.2. The model which excludes INB and MOWN will be named as Model 2 and the original model as depicted in Fig. 5.2 is named as Model 1 for the rest of the study. The graph and the outputs of a model which excludes the INB and MOWN are presented in Fig. 5.3 and Tables 5.17, 5.18, and 5.19.

After deleting INB and MOWN from the model, the goodness-of-fit of the model increases as shown by p -value of Chi-square and Bollen-Stine which show 0.635 and 0.662 respectively. The other fit indices also show increased goodness-of-fit. Table 5.17 shows the value of other fit indices.

The standardized regression weights and variance of a model are presented in Tables 5.18 and 5.19.

AMOS 19 provides information on the modification indices, which could be used to identify every possible relationship which is not estimated in a model. The relationship could be between the loadings or the error terms of indicators of constructs. Either correlation of the loadings and covariance of errors could exist among indicators in a construct (within-construct) or between items of different constructs (between-construct). It should be noted that correlating loadings or errors could increase the goodness-of-fit as the modification index value would show how much the overall χ^2 value would be reduced by correlating items or deleting one of the correlated items shown by the modification index. Nevertheless, the existence of cross-loading (correlation between items of different constructs) would indicate lack of construct validity (Hair et al., 2010).

Theoretically, correlation among items in a single construct (within construct) is acceptable (Holmes et al., 2006). Wolfe and Ethington (1986) as quoted by Reddy (1992) argued that ignoring the correlated error might overestimate the reliability. Furthermore, Fornell (1983) argued that correlated error could be acceptable if it is not just motivated by goodness-of-fit improvement. Researchers should ensure that correlated error has theoretical or methodological grounds and that it does not significantly change the structural parameter estimates (Fornell, 1983). Moreover, the correlated errors do not necessarily show any multi-collinearity as the sample correlation of corporate governance indicators show that there is no item correlations that is greater than 0.8.

Therefore, as it is argued theoretically that a relationship among corporate governance indicators exists and indicators of corporate governance can be categorised into several types of controls (second-order factors), the analysis of the correlation among corporate governance indicators is conducted. The results of the modification index in AMOS could be beneficial for this study to observe whether some indicators of corporate governance have a correlation. The modification index produced by AMOS 19 is presented in Table 5.20. High modification

Fig. 5.3 AMOS output for the single-factor congeneric model of corporate governance: Model 2. Standardized estimates. Single-factor Congeneric model, Chi-square = 0.907, df = 2, p-value = 0.635, Bollen-Stine bootstrap p-value = 0.662

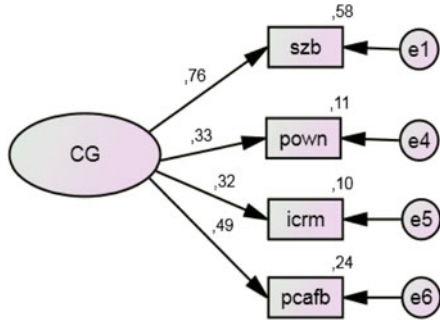


Table 5.17 Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate governance: Model 2

Fit indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.998	Fit
Adjusted goodness-of-fit	AGFI	0.988	Fit
Root mean-square error of approximation	RMSE	0.000	Fit
Standardized root mean square residual	SRMR	0.017	Fit

Table 5.18 Standardized regression weights for the single-factor congeneric model of corporate governance: Model 2

Indicator			Estimate
Szb	←	cg	0.760
Pown	←	cg	0.334
Icrm	←	cg	0.320
Pcafb	←	cg	0.490

Table 5.19 Variance for the single-factor congeneric model of corporate governance: Model 2

Indicators	Estimate	S.E.	C.R.	P
szb	0.010	0.004	2.421	0.015
pown	0.025	0.003	9.106	***
icrm	0.035	0.004	9.198	***
pcafb	0.101	0.014	7.212	***

*** p-value is statistically significant at the level 0.01 level

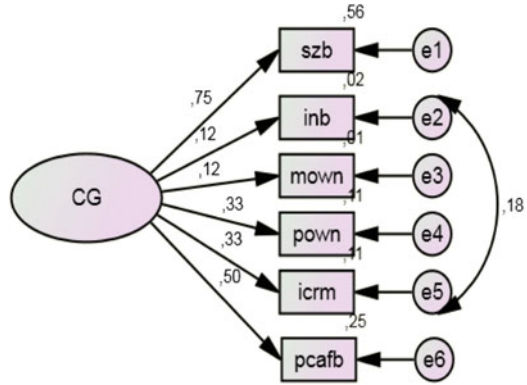
Table 5.20 AMOS output of the modification index

Indicators			M.I.	Par change
icrm	←	Inb	5.485	0.352
inb	←	Icrm	4.773	0.070

index might show that both indicators share something in common which is not observed in the model.

It can be seen that two indicators are correlated which are independent board of directors/commissioners (INB) and internal control and risk management (ICRM). Theoretically, as elaborated in Chap. 2, the literature has recognized that an

Fig. 5.4 AMOS output for the single-factor congeneric model of corporate governance: Model 3. Standardized estimates, Single-factor Congeneric model, Chi-square = 9,746, $df = 8$, p -value = 0.283, Bollen-Stine bootstrap p -value = 0.214



independent board is one mechanism which provides superior monitoring of the firm’s internal control and risk management (Yatim, 2009). Further elaboration will be provided in the chapter on discussion and implications (Chap. 6).

As the correlate errors between INB and ICRM is justified theoretically, an additional analysis is conducted, which includes an additional model which shows a correlated error between both indicators. The model which includes the six indicators (SZB, INB, MOWN, POWN, ICRM, and PCAFB) and correlated errors between INB and ICRM is named as Model 3. The model is depicted in Fig. 5.4. In the structural model which will be presented in Sect. 5.6, the results of each model (Models 1, 2, and 3) will be analysed to determine whether they produce consistent results.

After correlating INB and ICRM, the fit of the model increases compared to Model 1 as depicted in Fig. 5.2. The p -value of χ^2 is 0.283, indicating goodness-of-fit. The p -value of Bollen-Stine also confirms that the model has very well goodness-of-fit as it shows the value of 0.214 which is greater than 0.05. Other fit indices also show that the model is fit. Table 5.21 presents the value of four other indices for comparison.

The standardized regression weights or the loadings of each indicator and variance are presented in Tables 5.22 and Table 5.23.

Another additional analysis which is important in this study is to confirm whether or not internal control and risk management are interrelated. As explained in Chap. 2, theoretically internal control and risks management are interrelated, as COSO through the ERM concept has ruled out that it should ensure the reliability of the reporting system, compliance, and the effectiveness and efficiency of the usage of resources, which are also the objectives of internal control. Spira and Page (2003) argued that internal control is designed to deter risks of frauds and incompetency of management. Hence, internal control and risk management share something in common, which might not be observed by the model developed in this study.

Table 5.21 Summary of the other Goodness-of-fit indices for the single-factor congeneric model of corporate governance: Model 3

Fit indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.984	Fit
Adjusted goodness-of-fit	AGFI	0.958	Fit
Root mean-square error of approximation	RMSE	0.033	Fit
Standardized root mean square residual	SRMR	0.042	Fit

Table 5.22 Standardized regression weights for the single-factor congeneric model of corporate governance: Model 3

Indicators			Estimate
szb	←	cg	0.746
inb	←	cg	0.124
mown	←	cg	0.122
pown	←	cg	0.330
icrm	←	cg	0.330
pcafb	←	cg	0.500

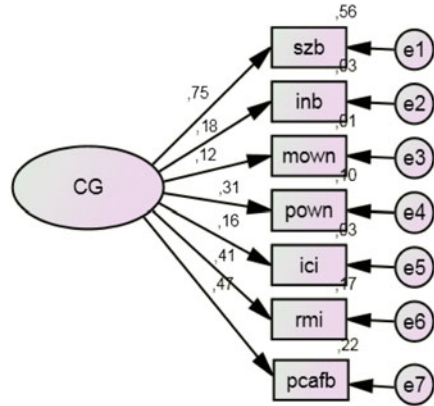
Table 5.23 Variance for the single-factor congeneric model of corporate governance: Model 3

Indicators	Estimate	S.E.	C.R.	P
szb	0.010	0.004	2.755	0.006
inb	0.008	0.001	9.834	***
mown	0.006	0.001	9.841	***
pown	0.025	0.003	9.148	***
icrm	0.035	0.004	9.148	***
pcafb	0.100	0.014	7.194	***

*** p-value is statistically significant at the level 0.01 level

To confirm whether internal control and risk management are interrelated, the index of ICRM is separated into two indexes, which are the risk management index (RMI) and the internal control index (ICI). Five measures of ICRM which are related to risks management (the availability of risk management committee, disclosure of business risk, exchange rate risks, credit risks, and social responsibility activities) are indexed and named as risk management index (RMI). Five other measures which are related to internal control are indexed and named as internal control risks index (ICI). Detailed indexing factors were presented in Sect. 4.6.4. The modification index of AMOS would show whether both indicators are correlated or not. The model which includes RMI and ICI is depicted in Fig. 5.5 and named Model 4.

Fig. 5.5 AMOS output for the single-factor congeneric model of corporate governance: Model 4. Standardized estimates, Single-factor Congeneric model, Chi-square = 41.652, df = 14, *p*-value = 0.000, Bollen-Stine bootstrap *p*-value = 0.018



From the AMOS outputs, it can be seen that the model does not fit the data as shown by the *p*-value of Chi-square (0.000) and *p*-value Bollen-Stine (0.018) which are less than 0.05. The model suggests well goodness-of-fit if *p*-value of Chi-square is greater than 0.05. As mentioned in Sect. 4.5.4, in dealing with non-normal data *p*-value, Bollen-Stine is employed, as the existence of non-normal data will not produce “true” χ^2 . The AMOS output shows that the Mardia’s coefficient for multivariate kurtosis is 39.153 which is more than 2.58, indicating that the data is not normal. The AMOS output of normality assessment of Model 4 is presented in Table 5.24. Checking the normality assumption is conducted in Model 4 because it employs additional indicators which are RMI and ICI.

Other indices also confirmed that the model does not fit the data (AGFI is 0.884 and RMSE is 0.100). The goodness-of-fit could be increased by checking the availability of error correlation between the indicators, indicating the overlapping or any relationship between the indicators which is not estimated in a model. The modification index outputs are presented in Table 5.25.

After separating the indicator of ICRM into two indicators (internal control and risk management), it can be seen that there are three indicators of corporate governance which have correlation of errors (covariance). The covariance between indicator internal control and risk management has the largest modification index value which is 15.743, indicating that both indicators has a significant correlation. Correlating both error terms might decrease the Chi-square by as much as 15.743.

The other possibility of error correlation is between internal control (ICI) and accounting expertise of audit committee (PCAFB) which has the second largest value of modification index. As this study employs an indicator of independence of audit committee members as one of the internal control index factors, there is a possibility that Indonesian firms are engaged in a trade-off between audit committee members independence and their accounting expertise. Theoretically, as explained in Chap. 2, accounting expertise of audit committee members might have a correlation with internal control, as their accounting expertise could be used to improve the internal control quality of firms (Zhang, Zhou, & Zhou, 2007).

Table 5.24 AMOS output of normality assessment of corporate governance: Model 4

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
pcafb	0.000	1.000	-0.474	-2.725	-1.291	-3.708
rmi	0.000	1.000	-1.198	-6.882	0.515	1.479
ici	0.000	1.000	-1.121	-6.440	1.602	4.600
pown	0.008	0.948	1.293	7.430	2.259	6.488
mown	0.000	0.709	8.023	46.087	69.918	200.824
inb	0.167	0.750	1.073	6.162	1.833	5.264
szb	0.301	1.000	0.506	2.907	-0.645	-1.854
Multivariate					63.041	39.513

Table 5.25 AMOS output of the modification index: Model 4

			M.I.	Par change
ici	↔	pcafb	10.956	-0.014
ici	↔	rmi	15.743	0.011
inb	↔	rmi	6.304	0.004

Hence, correlating both errors is justified theoretically, and would reduce the Chi-square by as much as 10.956. However, Holmes-Smith (2012) suggested that although it is justified to have a correlated error, the value of co-varying error variance must be a positive. He argued that researchers might have correlated errors between variance if it is theoretically justified and have positive values, as negative values of co-varying error is hard to be justified. Hence, the correlation between variance of ICI and PCAFB cannot be conducted.

The last correlated errors exist between independent board members (INB) and risk management (RMI). The literature has recognized the relationship between risk management and independence of board directors, as their independence would enable them to control and advise managers independently and objectively (Gordon, Loeb, & Tseng, 2009). As outsiders, independent board members have experiences and expertise to provide higher awareness regarding the environmental risks and controls. Therefore, correlating the errors between INB and RMI is justified. The model and outputs of AMOS are presented below for the model which has correlated errors as explained earlier. This model is named as Model 4 (Fig. 5.6).

After correlating errors between ICI and IRM, as well as INB and RMI, the model fits the data very well as indicated by the insignificant Chi-square fit, $\chi^2(12) = 18.555$; p -value = 0.100 and Bollen-Stine p -value = 0.147. Other fit indices also confirmed that the model is fit as presented in Table 5.26.

The standardized regression weights and variances of the model are presented in Tables 5.27 and 5.28.

As there are four models of corporate governance construct, further analysis would include these four models. The first model (Model 1) is the original model which includes six indicators of corporate governance and without correlated errors. Model 2 is the model which excludes INB and MOWN in the analysis; while Model 3 is similar to Model 1, but employing the correlated errors between

Fig. 5.6 Single-factor congeneric model of corporate governance Model 4. Standardized estimates, Single-factor Congeneric model, Chi-square = 18.555, df = 12, p-value = 0.100, Bollen-Stine bootstrap p-value = 0.147

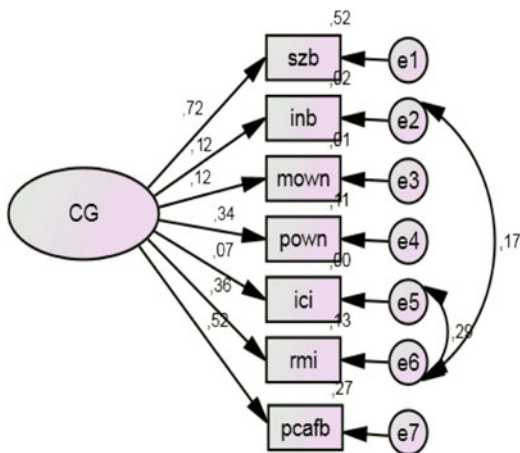


Table 5.26 Summary of the other goodness-of-fit indices for the single-factor congeneric model of corporate Governance: Model 4

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.974	Fit
Adjusted Goodness-of-Fit	AGFI	0.940	Fit
Root Mean-square Error of Approximation	RMSE	0.053	Fit
Standardised Root Mean Square Residual	SRMR	0.051	Fit

INB and ICRM. The last model (Model 4) separates ICRM into internal control index (ICI) and risk management index (RMI) and includes two correlated errors. Table 5.29 summarizes the fit indices of the four Models.

5.4.2 Confirmatory Factor Analysis

The second step to ensure the discriminant validity is the confirmatory factor analysis (CFA). Usually CFA in SEM is also named as the measurement model as it is concerned with the link between measured variables and their factors (Holmes et al., 2006). CFA is used in assessing how well the indicators measure the concept (Hair et al., 2010). Similar to the single-factor congeneric models, in evaluating whether a measurement model is valid or not, fit indices are used as diagnostic cues (Hair et al., 2010). The evaluation of between-construct error covariance or cross-loadings is conducted, as their significant existence might be the cause that the model does not fit the data, and an indication of the lack of

Table 5.27 Standardized regression weights for the single-factor congeneric model of corporate governance: Model 4

Indicators			Estimate
szb	←	cg	0.723
inb	←	cg	0.122
mown	←	cg	0.118
pown	←	cg	0.337
ici	←	cg	0.069
rmi	←	cg	0.364
pcafb	←	cg	0.518

Table 5.28 Variance for the single-factor congeneric model of corporate governance: Model 4

Indicators	Estimate	S.E.	C.R.	P
szb	0.011	.003	3,303	***
inb	0.008	0.001	9.830	***
mown	0.006	0.001	9.844	***
pown	0.025	0.003	9.121	***
ici	0.029	0.003	9.895	***
rmi	0.052	0.006	8.968	***
pcafb	0.098	0.014	7.078	***

*** p-value is statistically significant at the level 0.01 level

Table 5.29 Summary of fit indices of all four Models

Name	Abbreviation	Model 1	Model 2	Model 3	Model 4
Chi-square	χ^2 (df,p)	0.074	0.635	0.283	0.100
Bollen-Stine p-value		0.143	0.662	0.214	0.147
Goodness-of-fit	GFI	0.974	0.998	0.984	0.974
Adjusted goodness-of-fit	AGFI	0.940	0.988	0.958	0.940
Root mean-square error of approximation	RMSE	0.061	0.000	0.033	0.053
Standardized root mean square residual	SRMR	0.055	0.017	0.042	0.051

discriminant validity. The standardized and variance of CFA results are used to assess the reliability of indicators in representing the constructs (Hair et al., 2010), especially business strategy and corporate governance, as both are measured using several indicators. The analysis of reliability will be presented in Sect. 5.5.

Fornell and Bookstein (1982) suggested that if the average variance extracted for two constructs exceeds the square of the correlation between both constructs, discriminant validity holds. The variance extracted estimate (AVE) represents the overall amount of variance in the indicators accounted for by the construct. Hence, AVE is also used to measure reliability. The variance extracted is computed using the following formula:

$$\rho_{\text{vc}\eta} = \frac{(\sum \lambda_i^2)}{(\sum \lambda_i^2) + \sum \varepsilon_i} \quad (5.4)$$

where λ_i = the standardized loading for each observed variable, ε_i = the error variance associated with each variable, $\rho_{\text{vc}\eta}$ = the variance extracted estimate.

The CFA should be employed on the two constructs (factors) which are measured using multi indicators, namely business strategy (STRG) and corporate governance (CG). The average variance extracted for business strategy and corporate governance should exceed the square of the correlations between those two constructs. Although discriminant validity test would be calculated only for those two constructs, the CFA of this study would employ all variables included in the structural model. By including all variables in the structural model, CFA would provide a preliminary check for goodness-of-fit of the model. Moreover, the parameter estimates of CFA models which include only two factors (STRG and CG) and all variables in the structural model are similar. Hence, CFA would include five variables which are business environment/competition (BC), business strategy (STRG), corporate governance (CG), performance (ROA), and earnings quality/earnings management (EM).

The results of the examination of single-factor congeneric model are used in CFA. As there are four models of corporate governance construct, CFA is also employed for the four models. The first model of CFA contains five constructs BC, STRG, CG, ROA, and EM; three indicators of STRG which are ETO, GWTS, IA; and six indicators of CG, namely SZB, INB, MOWN, POWN, ICRM, and PCAFB. The model figure and AMOS outputs are presented below (Fig. 5.7).

The outputs of AMOS show that the model fits the data very well, as indicated by the p -value of Chi-square and Bollen-Stine p -value which are greater than 0.05 (p -value of Chi-square is 0.055 and Bollen-Stine p -value is 0.193). The model is perceived to fit the data, if p -value of Chi-Square is not significant or greater than 0.05. As explained in Sect. 4.5.4, if there are multivariate non-normality data, the p -value of Bollen-Stine is employed as an indication of goodness-of-fit and it should not be significant or greater than 0. Table 5.30 reports the AMOS output of the normality assessment which indicates that the multivariate data of CFA is not normal, as shown by the critical value of Mardia's coefficient for multivariate kurtosis which is 52.992.

Other fit indices also confirmed that the CFA model fits the data very well as presented in Table 5.31.

As the model has fitted the data very well, it is not necessary to conduct further examinations to re-specify the model. The standardized and variance values of the model indicators are presented in Tables 5.32 and 5.33. These values are needed to assess the discriminant and reliability of the constructs measurements. The discussion of reliability will be presented in Sect. 5.5.

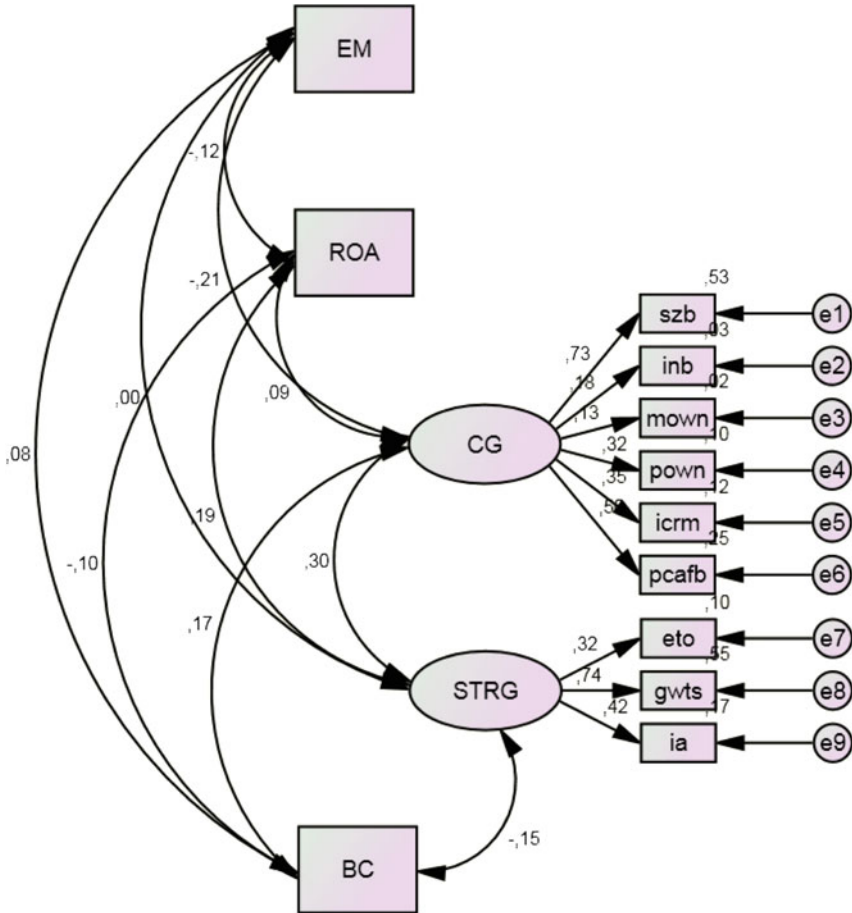


Fig. 5.7 Confirmatory Factor Analysis (CFA): Model 1. Standardized Estimates, Confirmatory Factor Analysis (CFA) of the Model 1, Chi-square = 63.500, df = 47, *p*-value = 0.055, Bollen-Stine bootstrap *p*-value = 0.193

factor loadings or regression weights and variance values as presented in Tables 5.32 and 5.33 are used to calculate AVE as presented in formula (5.4). The AVE of the business strategy (STRG) and corporate governance (CG) of Model 1 respectively are 0.954 and 0.851, of which the average AVE of both constructs is 0.902. From the AMOS outputs, it can be seen that the correlation of the pair (STRG and CG) is 0.302, of which the square of the correlation between both

Table 5.30 AMOS output of normality assessment of CFA: Model 1

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
em	0.001	0.495	1.749	10.048	4.198	12,058
bc	0.000	1.000	1.336	7.676	-0.214	-0.615
roa	-0.439	0.508	-0.299	-1.715	6.746	19.378
ia	0.000	0.547	7.919	45.491	61.979	178.020
gwts	-0.492	0.796	0.022	0.125	2.360	6.778
eto	-0.611	0.816	0.879	5.052	4.557	13.088
pcafb	0.000	1.000	-0.474	-2.725	-1.291	-3.708
icrm	0.200	1.000	-0.634	-3.640	-0.475	-1.364
pown	0.008	0.948	1.293	7.430	2.259	6.488
mown	0.000	0.709	8.023	46.087	69.918	200.824
inb	0.167	0.750	1.073	6.162	1.833	5.264
szb	0.301	1.000	0.506	2.907	-0.645	-1.854
Multivariate					138.063	52.992

Table 5.31 Summary of the other goodness-of-fit indices for CFA: Model 1

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.951	Fit
Adjusted goodness-of-fit	AGFI	0.918	Fit
Root mean-square error of approximation	RMSE	0.042	Fit
Standardised root mean square residual	SRMR	0.056	Fit

Table 5.32 Standardized regression weights for CFA: Model 1

Indicator			Estimate
szb	←	cg	0.728
inb	←	cg	0.178
mown	←	cg	0.134
pown	←	cg	0.318
icrm	←	cg	0.347
pcafb	←	cg	0.505
eto	←	strg	0.319
gwts	←	strg	0.740
ia	←	strg	0.415

constructs is 0.10. Hence, the AVE exceeds the square of the correlation, indicating that both constructs are different constructs and discriminant validity is upheld.

The second model of CFA (Model 2) is similar to Model 1 which includes five constructs, except that for the corporate governance indicators, two indicators (INB and MOWN) were removed. The model and the results are presented below (Fig. 5.8).

Table 5.33 Variance for CFA: Model 1

Indicators	Estimate	S.E.	C.R.	P
szb	0.011	0.003	3.891	***
inb	0.008	0.001	9.755	***
mown	0.006	0.001	9.831	***
pown	0.026	0.003	9.317	***
icrm	0.034	0.004	9.173	***
pcafb	0.099	0.013	7.805	***
eto	0.024	0.003	9.047	***
gwts	0.012	0.005	2.395	0.017
ia	0.003	0.000	7.993	***

*** p-value is statistically significant at the level 0.01 level

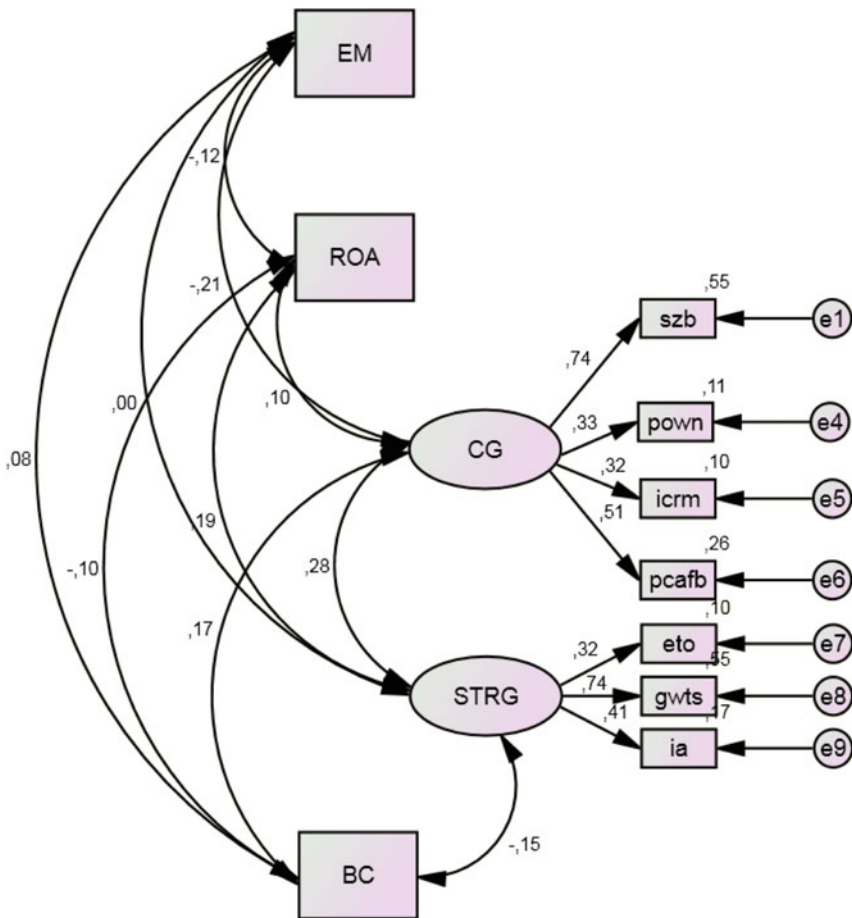


Fig. 5.8 Confirmatory Factor Analysis (CFA): Model 2. Standardized Estimates, Confirmatory Factor Analysis (CFA) of the Model 2, Chi-square = 27.054, df = 28, p-value = 0.515, Bollen-Stine bootstrap p-value = 0.273

Table 5.34 Summary of the other goodness-of-fit indices for CFA: Model 2

Fit indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.973	Fit
Adjusted goodness-of-fit	AGFI	0.947	Fit
Root mean-square error of approximation	RMSE	0.000	Fit
Standardised root mean square residual	SRMR	0.042	Fit

It can be seen from the outputs of AMOS that the model fits the data very well as shown by the insignificant Chi-square fit, $\chi^2(28) = 27.054$; p -value = 0.515. As the normality assumption of the data was violated (see Table 5.30), Bollen-Stine bootstrap is employed. The p -value of Bollen-Stine explains that the model fits the data, as it shows a value of greater than 0.05, which is 0.273. Other fit indices also confirmed that the model fits the data very well, as presented in Table 5.34.

Since the model fits the data very well, further examinations to re-specify the model is not needed. The standardized and variance values of the model indicators are presented in Tables 5.35 and 5.36. These values are needed to assess the discriminant validity and reliability of the constructs measurements. The discussion of the reliability will be presented in Sect. 5.5.

To conclude that the discriminant validity is upheld, the average variance extracted for STRG and CG should exceed the square correlation between both constructs. The factor loadings or regression weights and variance values as presented in Tables 5.35 and 5.36 are used to calculate AVE. The AVE of the business strategy and corporate governance of Model 2 respectively are 0.954 and 0.858, of which the average of AVE of both constructs is 0.906. From the AMOS outputs, it can be seen that the correlation of the pair is 0.276, of which the square of the correlation between both constructs is only 0.08. Hence, the AVE exceeds the square of the correlation, indicating that both constructs are different constructs and discriminant validity is upheld.

As similar to Model 1, the third model of CFA (Model 3) also contains five constructs BC, STRG, CG, ROA, and EM; three indicators of STRG which are ETO, GWTS, IA; and six indicators of CG, namely SZB, INB, MOWN, POWN, ICRM, and PCAFB. However, Model 3 employs the correlated error between INB and ICRM. The model figure and AMOS outputs are presented below (Fig. 5.9).

The AMOS outputs show that the model fits the data as indicated by the value of $\chi^2(46) = 58.002$; p -value = 0.110. As multivariate non-normality data exists (see Table 5.30), the p -value of Bollen-Stine is assessed to evaluate the goodness-of-fit of the model. The p -value of Bollen-Stine shows that the model fits the data very well, as it is greater than 0.05, which is 0.208. Other fit indices also showed and confirmed that the model fits the data. The values of other fit indices are presented in Table 5.37.

As the model has fitted the data very well, further examinations to re-specify the model are not required. The standardized and variance values of the model indicators are presented in Tables 5.38 and 5.39. These values are needed to assess the

Table 5.35 Standardized regression weights for CFA: Model 2

Indicators			Estimate
szb	←	cg	0.745
pown	←	cg	0.332
icrm	←	cg	0.320
pcafb	←	cg	0.505
eto	←	strg	0.320
gwts	←	strg	0.741
ia	←	strg	0.414

Table 5.36 Variance for CFA: Model 2

Indicators	Estimate	S.E.	C.R.	P
szb	0.010	0.003	3.377	***
pown	0.025	0.003	9.240	***
icrm	0.035	0.004	9.299	***
pcafb	0.099	0.013	7.674	***
eto	0.024	0.003	9.018	***
gwts	0.012	0.005	2.319	0.020
ia	0.003	0.000	7.950	***

*** p-value is statistically significant at the level 0.01 level

discriminant validity and reliability of the constructs measurements. The discussion of the reliability will be presented in Sect. 5.5.

Similar to previous models of CFA, in order to conclude that the discriminant validity is upheld, the average variance extracted for STRG and CG should exceed the square correlation between both constructs. The factor loadings or regression weights and variance values as presented in Tables 5.38 and 5.39 are used to calculate AVE. The AVE of the business strategy and corporate governance of Model 2 respectively are 0.954 and 0.851, of which the average of AVE of both constructs is 0.902. From the AMOS outputs, it can be seen that the correlation of the pair is 0.300, and the square of the correlation between both constructs is only 0.09. Hence, the AVE exceeds the square of the correlation, indicating that both constructs are different constructs and discriminant validity is upheld.

The last model of CFA (Model 4) also has five constructs which are BC, STRG, CG, ROA, and EM; three indicators of STRG which are ETO, GWTS, IA; and seven indicators of CG, namely SZB, INB, MOWN, POWN, ICI, RMI and PCAFB. Previous models (Models 1, 2, and 3) combine internal control and risk management into a single measure which is internal control and risk management index (ICRM). Model 4 separates ICRM into two indexes, namely, internal control index (ICI) and risk management index (RMI). As the single-congeneric model shows that there are correlated errors between ICI and RMI, as well as INB and RMI, Model 4 includes these correlated errors. The figure of the model and AMOS outputs are presented below (Fig. 5.10).

Based on the AMOS outputs, the χ^2 (56) is 76.766; and p is 0.034, The model is perceived to be fit if the p -value of χ^2 is not significant or greater than 0.05, and the model shows that the p -value of Chi-square is 0.034, which is below than 0.05. The

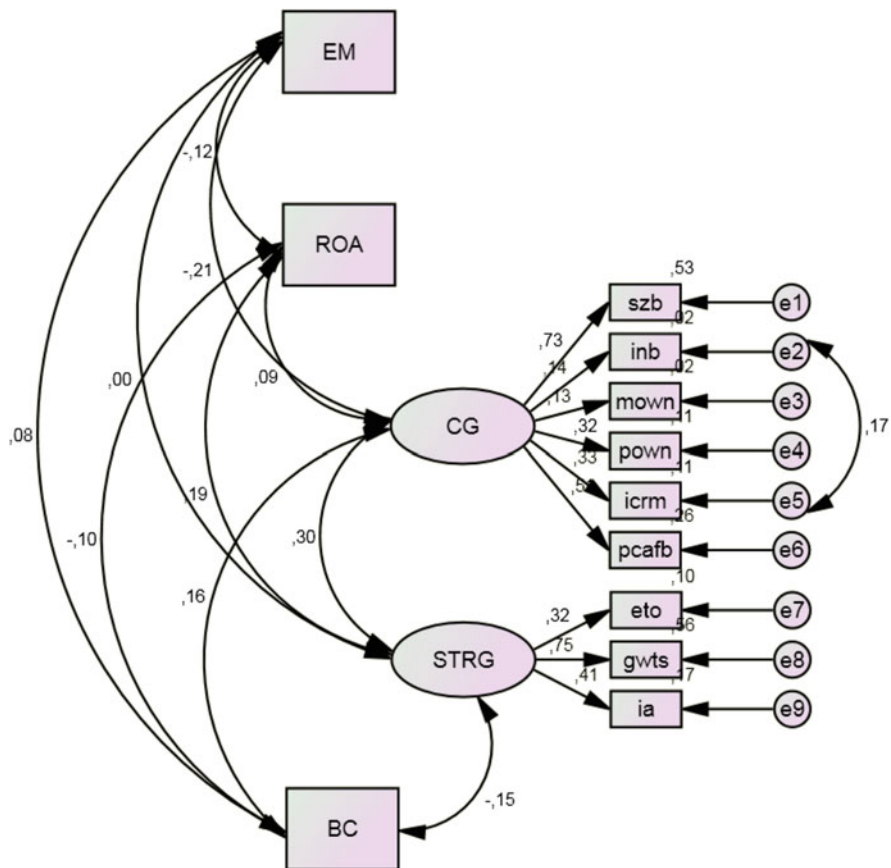


Fig. 5.9 Confirmatory Factor Analysis (CFA): Model 3. Standardized Estimates, Confirmatory Factor Analysis (CFA) of the Model 3, Chi-square = 58.002, df = 46, *p*-value = 0.110, Bollen-Stine bootstrap *p*-value = 0.208

Table 5.37 Summary of the other goodness-of-fit indices for CFA: Model 3

Fit indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.955	Fit
Adjusted goodness-of-fit	AGFI	0.924	Fit
Root mean-square error of approximation	RMSE	0.036	Fit
Standardised root mean square residual	SRMR	0.054	Fit

Bollen-Stine *p*-value of the model is 0.171, which is not significant or greater than 0.05, hence it can be concluded that the model fits the data very well. As explained in Sect. 4.5.4, the Bollen-Stine *p*-value is used as the multivariate normality assumption is violated. Table 5.40 reports the AMOS output of the normality

Table 5.38 Standardized regression weights for CFA: Model 3

Indicators			Estimate
szb	←	cg	0.730
inb	←	cg	0.143
mown	←	cg	0.133
pown	←	cg	0.325
icrm	←	cg	0.329
pcafb	←	cg	0.514
eto	←	strg	0.317
gwts	←	strg	0.745
ia	←	strg	0.412

Table 5.39 Variance for CFA: Model 3

Indicators	Estimate	S.E.	C.R.	P
szb	0.011	0.003	3.761	***
inb	0.008	0.001	9.809	***
mown	0.006	0.001	9.831	***
pown	0.025	0.003	9.276	***
icrm	0.035	0.004	9.251	***
pcafb	0.098	0.013	7.629	***
eto	0.024	0.003	9.060	***
gwts	0.012	0.005	2.304	0.021
ia	0.003	0.000	8.027	***

*** p-value is statistically significant at the level 0.01 level

assessment which shows that the critical value of the Mardia’s coefficient for multivariate kurtosis is above 2.58, which is 47.149. Assessing the normality is conducted for Model 4, as it has different indicators for corporate governance, including RMI and ICI.

Other fit indices also confirmed that the model is fit. The values of other fit indices are presented in Table 5.41.

As Model 4 has fitted the data very well, further examination to re-specify the model is not required. The standardized and variance values of the model indicators are presented in Tables 5.42 and 5.43. These values are needed to assess the discriminant and reliability of the constructs measurements. The discussion of the reliability will be presented in Sect. 5.5.

As similar to previous models of CFA, in order to conclude that the discriminant validity is upheld, the average variance extracted for STRG and CG should exceed the square correlation between both constructs. The factor loadings or regression weights and variance values as presented in Tables 5.42 and 5.43 are used to calculate AVE. The AVE of the business strategy and corporate governance of Model 2 respectively are 0.954 and 0.822, of which the average of AVE of both constructs is 0.888. From the AMOS outputs, it can be seen that the correlation of the pair is 0.341 while the square of the correlation between both constructs is only 0.116. Hence, the AVE exceeds the square of the correlation, indicating that both constructs are different constructs and discriminant validity is upheld.

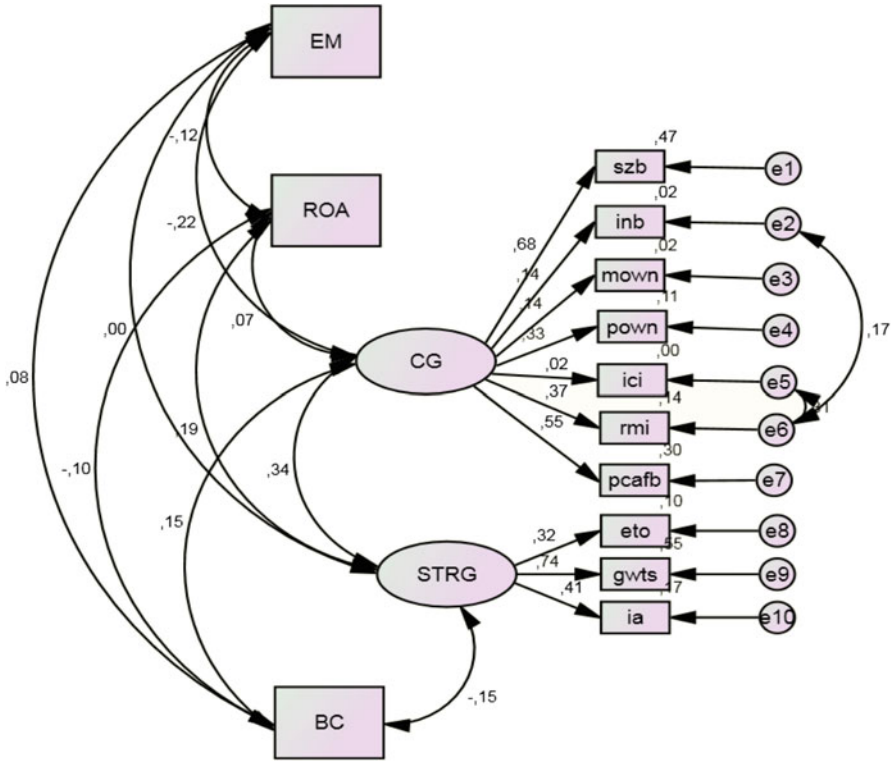


Fig. 5.10 Confirmatory Factor Analysis (CFA): Model 4. Standardized Estimates, Confirmatory Factor Analysis (CFA) of the Model 4, Chi-square = 76.766, df = 56, *p*-value = 0.034, Bollen-Stine bootstrap *p*-value = 0.171

It can be concluded that all the four Models show that business strategy (STRG) and corporate governance (CG) constructs are two distinct constructs, as discriminant validity is upheld. Table 5.44 summarizes the goodness-of-fit of the four CFA models.

5.5 The Convergent Validity or Reliability of the Measurement Models

Another quality of a model which is important and can be tested by SEM is the convergent validity, which is also known as reliability. The convergent validity asserts that items or indicators of a construct should converge or share a high proportion of variance in common (Hair et al., 2010). There are several ways to estimate and assess the convergent validity, and Holmes et al. (2006) argued that a researcher should report at least one of the available model-based estimates of

Table 5.40 AMOS output of normality assessment of CFA: Model 4

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
em	0.001	0.495	1.749	10.048	4.198	12.058
bc	0.000	1.000	1.336	7.676	-0.214	-0.615
roa	-0.439	0.508	-0.299	-1.715	6.746	19.378
pcafb	0.000	1.000	-0.474	-2.725	-1.291	-3.708
ia	0.000	0.547	7.919	45.491	61.979	178.020
gwts	-0.492	0.796	0.022	0.125	2.360	6.778
eto	-0.611	0.816	0.879	5.052	4.557	13.088
rmi	0.000	1.000	-1.198	-6.882	0.515	1.479
ici	0.000	1.000	-1.121	-6.440	1.602	4.600
pown	0.008	0.948	1.293	7.430	2.259	6.488
mown	0.000	0.709	8.023	46.087	69.918	200.824
inb	0.167	0.750	1.073	6.162	1.833	5.264
szb	0.301	1.000	0.506	2.907	-0.645	-1.854
Multivariate					132.343	47.149

Table 5.41 Summary of the other goodness-of-fit indices for CFA: Model 4

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.946	Fit
Adjusted goodness-of-fit	AGFI	0.912	Fit
Root mean-square error of approximation	RMSE	0.043	Fit
Standardised root mean square residual	SRMR	0.058	Fit

Table 5.42 Standardized regression weights for CFA: Model 4

Indicators			Estimate
szb	←	Cg	0.683
inb	←	Cg	0.138
mown	←	Cg	0.136
pown	←	Cg	0.330
ici	←	Cg	0.019
rmi	←	Cg	0.368
eto	←	strg	0.321
gwts	←	strg	0.742
ia	←	strg	0.411
pcafb	←	cg	0.545

reliability. This study reports two of them, which are construct reliability (CR) and average variance extracted (AVE).

Construct reliability (CR) is a measure of a composite reliability which captures the degree to which a set of measures indicate the common latent construct (Holmes et al., 2006). There are several advantages in assessing construct reliability. First, it has been perceived to be superior compared to Cronbach’s alpha as it uses estimates

Table 5.43 Variance for CFA: Model 4

Indicators	Estimate	S.E.	C.R.	P
szb	0.012	0.003	4.830	***
inb	0.008	0.001	9.807	***
mown	0.006	0.001	9.820	***
pown	0.025	0.003	9.227	***
ici	0.029	0.003	9.923	***
rmi	0.052	0.006	9.045	***
eto	0.024	0.003	9.062	***
gwts	0.012	0.005	2.451	***
Ia	0.003	0.001	8.132	***
Pcafb	0.094	0.013	7.265	***

*** p-value is statistically significant at the level 0.01 level

Table 5.44 Summary of the goodness-of-fit of CFA: all four Models

Name	Abbreviation	Model 1	Model 2	Model 3	Model 4
Chi-square	χ^2 (df,p)	0.055	0.515	0.110	0.034
Bollen-Stine p-value		0.193	0.273	0.208	0.171
Goodness-of-fit	GFI	0.951	0.973	0.955	0.946
Adjusted goodness-of-fit	AGFI	0.918	0.947	0.924	0.912
Root mean-square error of approximation	RMSE	0.042	0.000	0.036	0.043
Standardised root mean square residual	SRMR	0.056	0.042	0.054	0.058

of model parameters (loadings obtained within the model) (Holmes et al., 2006). Second, Barclay, Higgins and Thompson (1995) as quoted by Wibowo (2008) explained that it is not influenced by the number of indicators within the construct and is more general. Third, it can be applied for a construct(s) in a model in any step of SEM, as it can be applied for estimating a congeneric measurement model, confirmatory factor analysis or path model. A value of 0.7 is commonly perceived as the threshold which suggests good reliability. However, the value between 0.6 and 0.7 is acceptable in indicating a good construct reliability (Hair et al., 2010). The formula of construct reliability is presented below.

$$\rho_{\eta} = \frac{\left(\sum \lambda_i\right)^2}{\left(\sum \lambda_i\right)^2 + \sum \varepsilon_i} \tag{5.5}$$

where λ_i = the standardized loading for each observed variable, ε_i = the error variance associated with each variable, ρ = the measure of construct reliability.

Another measure of reliability is the variance extracted estimate (AVE) which represents the overall amount of variance in the indicators accounted for by the construct. Hence, a higher value of variance extracted estimate (AVE) suggests that

Table 5.45 Reliability measures

CFA Model	Construct reliability (CR)		Average variance extracted (AVE)	
	Business strategy	Corporate governance	Business strategy	Corporate governance
Model 1	0.982	0.963	0.954	0.851
Model 2	0.982	0.955	0.954	0.858
Model 3	0.982	0.962	0.954	0.851
Model 4	0.982	0.956	0.954	0.822

the indicators are representative of the construct (latent variable). An AVE of 0.5 or higher is perceived to be the threshold, as AVE of less than 0.5 indicates that, on average, more errors remained in the items than the variance explained by the construct factor structure imposed on the measure (Hair et al., 2010). The formula of AVE has been presented in the formula (5.4).

As explained in Chap. 4, two constructs employed in this study are measured using multi indicators, which are business strategy and corporate governance. Moreover, as elaborated in Chaps. 2 and 4, Larcker, Richardson, and Tuna (2007) argued that one of the weaknesses of research in corporate governance is the use of less reliable measures of corporate governance measures which leads to unsatisfactory results. Hence, it is important to assess the reliability of those constructs measures.

AMOS 19 does not provide the value of CR and AVE directly; however, the relevant information are easily obtainable from the outputs. Table 5.45 presents the CR and AVE of business strategy and corporate governance constructs for the four CFA Models.

It can be seen that both business strategy and corporate governance construct have very good reliability for all the models, as indicated by the value of construct reliability which is greater than the threshold (0.7). All average extracted variance estimates are also greater than 0.5 as the minimum requirement, which also shows the high reliability of indicators in measuring the constructs.

5.6 The Structural Model

After examining the measurement model, the next step of structural equation modeling (SEM) is to assess the structural model which allows researchers to examine the relationships between constructs. As similar to the single-congeneric model and confirmatory factor analysis (CFA), the objective of the structural model as part of the covariance-based SEM is to show that the model fits the data, and indicating that there is no difference between the hypothesised model and the data. Gefen, Straub, and Boudreau (2000) stated that the objective of covariance-based SEM is:

to show that the null hypotheses—the assumed research model with all its paths— is insignificant, meaning that the complete set of paths as specified in the model that is being analysed is plausible, given the sample data. Moreover, its goodness of fit tests, such as χ^2 test the restrictions implied by a model. In other words, the objective of covariance-based SEM is to show that the operationalization of the theory being examined is corroborated and not disconfirmed by the data (Gefen et al., 2000).

As discussed in Sect. 5.3, in assessing the goodness-of-fit, many fit indices could be employed, such as insignificant χ^2 with p -value above 0.05, AGFI and GFI (>0.90), RMSE (<0.08), and other criteria. However, the existence of non-normality data might result in invalid statistical tests (Hair et al., 2010), especially it would inflate the Chi-square statistic and underestimate standard errors of parameter estimates (Blunch, 2008). Fortunately, statistics has provided alternatives in dealing with the presence of multi-variate non-normal distribution data, one of which is by using bootstrap procedure (Bollen & Stine, 1992). As elaborated in Sect. 4.5.4, in dealing with non-normal data this study uses p -value of Bollen-Stine as an indicator of goodness-of-fit of the model. However, this study still report other fit indices as comparison.

If a model does not fit the data, researchers may improve the goodness-of-fit by modifying or re-specifying the model. In modifying or re-specifying a model, researchers may co-vary the error terms of indicators or free or delete indicators or parameters in the model (Holmes et al., 2006). The process of modifying or re-specifying should be stopped if a statistical model has been achieved.

The structural model of this study has been specified in Chap. 3. As a single-congeneric model and confirmatory factor analysis (CFA) produced four models (see Sect. 5.4), the structural model test would be applied to those four models, which include different indicators in measuring corporate governance construct. Different measurement models would extend our knowledge about measures and relationships among measures of corporate governance construct. Moreover, the use of different measurement models would be beneficial to assess the consistency of structural model results in considering the effect of different measurement models.

In evaluating the relationship between constructs (structural paths) the t -value is evaluated. The statistical significance level in assessing the path might vary. Draghici (2012) explains that significance levels of 1 %, 5 %, 10 %, and 15 % are commonly used. The significance level at 15 % indicates that real phenomenon might exist but it might just be a random effect (Draghici, 2012). Nevertheless, the relationship which is only significant at 15 % indicates weak evidence of the relationship. Hence, this study only uses 1 %, 5 %, and 10 % level of significance to accept the hypothesis.

5.6.1 Results of Structural Model: The Model 1

Figure 5.11 depicts the full model of Model 1 and the standardized estimates.

The AMOS outputs indicate that the model fits the data well as indicated by the Bollen-Stine p -value which is greater than 0.05 (0.143). The Chi-square of the model shows significant value, $\chi^2(49) = 67.827$; p -value = 0.039. Although the Chi-square and its p -value are the basic measures of the goodness-of-fit, they alone should not be used as measures of goodness-of-fit, as the existence of multivariate non-normality data might produce invalid estimates. The existence of non-normality can be seen in the Table 5.30. Therefore, the p -value of Bollen-Stine is used to assess the goodness-of-fit. Other fit indices also confirmed the goodness-of-fit of the model as presented in Table 5.46.

As the model fits the data, modification or re-specification is not needed. The results of the paths show that three hypotheses are accepted at 5 % significance level (H-1, H-2, and H-3), one hypothesis is accepted at 10 % significance level (H-8). Four hypotheses are rejected (H-4, H-5, H-6, and H-7). Table 5.47 presents the regression weights of paths of Model 1.

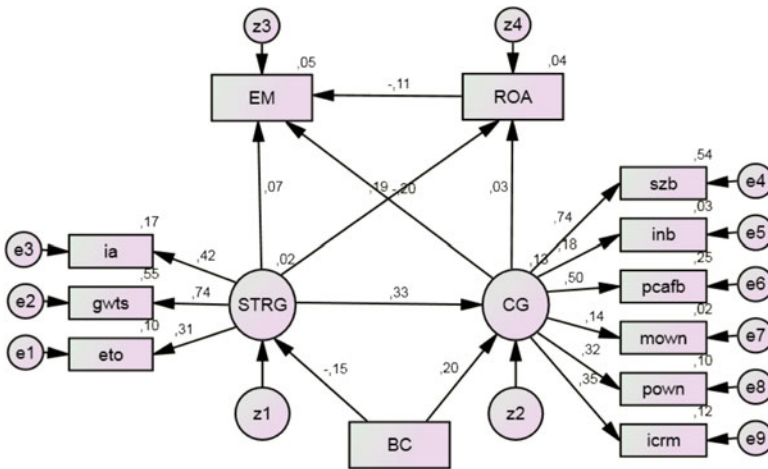


Fig. 5.11 Structural model of Model 1. Structural Model of Model 1, Chi-square = 67.827, $df = 49$, p -value = 0.039, Bollen-Stine bootstrap p -value = 0.143

Table 5.46 Summary of the other goodness-of-fit indices for structural model of Model 1

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.947	Fit
Adjusted goodness-of-fit	AGFI	0.916	Fit
Root mean-square error of approximation	RMSE	0.044	Fit
Standardised root mean square residual	SRMR	0.059	Fit

Table 5.47 Regression weights for structural model of Model 1

			Hypothesis	Estimate	S.E.	C.R.	P-value
strg	←	bc	H-5	-0.019	0.013	-1.485	0.137
cg	←	strg	H-2	0.725	0.323	2.243	0.025*
cg	←	bc	H-1	0.055	0.024	2.250	0.024*
roa	←	strg	H-8	0.352	0.203	1.735	0.083**
roa	←	cg	H-4	0.021	0.080	0.269	0.788
em	←	strg	H-6	0.109	0.168	0.650	0.516
em	←	roa	H-7	-0.102	0.066	-1.551	0.121
em	←	cg	H-3	-0.151	0.075	-2.003	0.045**

**p*-value is statistically significant at the level 0.05 level

***p*-value is statistically significant at the level 0.10 level

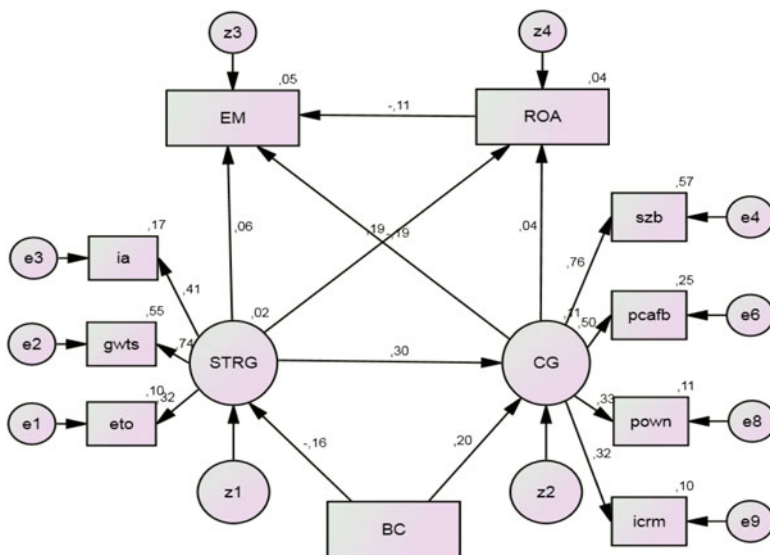


Fig. 5.12 Structural model of Model 2. Structural Model of Model 2, Chi-square = 31.32, df = 30, *p*-value = 0.398, Bollen-Stine bootstrap *p*-value = 0.232

5.6.2 Results of Structural Model: The Model 2

Figure 5.12 depicts the full model of Model 2 and the standardized estimates of structural model.

Based on AMOS outputs, the model is acceptable as it fits the data very well as indicated by $\chi^2(30) = 31.32$, *p*-value = 0.398 and Bollen-Stine *p*-value is 0.232, which are greater than 0.05 or not significant at the level of 5%. It can be said that there is no statistical difference between the model and the data. Other fit indices also confirmed that the model fits the data very well. The value of other fit indices is presented in Table 5.48.

Table 5.48 Summary of the other goodness-of-fit indices for structural model of Model 2

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.968	Fit
Adjusted goodness-of-fit	AGFI	0.942	Fit
Root mean-square error of approximation	RMSE	0.015	Fit
Standardised root mean square residual	SRMR	0.047	Fit

Table 5.49 Regression weights for structural model of Model 2

				Estimate	S.E.	C.R.	P-value
strg	←	bc	H-5	-0.019	0.013	-1.486	0.137
cg	←	strg	H-2	0.684	0.319	2.146	0.032*
cg	←	bc	H-1	0.056	0.025	2.245	0.025*
roa	←	strg	H-8	0.346	0.199	1.736	0.083**
roa	←	cg	H-4	0.031	0.076	0.412	0.680
em	←	strg	H-6	0.097	0.164	0.593	0.553
em	←	roa	H-7	-0.100	0.066	-1.523	0.128
em	←	cg	H-3	-0.141	0.072	-1.951	0.051**

**p*-value is statistically significant at the level 0.05 level

***p*-value is statistically significant at the level 0.10 level

As the model fits the data, further analysis to re-specify or modify the model is not conducted. The results of the paths are shown by the regression weights as presented in Table 5.49.

It can be seen that the results of Model 2 is similar to those of Model 1, except that H-3 in the Model 2 is accepted at the significance level of 10 %, rather than at 5 %. Four hypotheses are accepted at the different levels of significance. Two hypotheses (H-1 and H-2) are accepted at 5 % significance level; two hypotheses (H-3 and H-8) are accepted at 10 % significance level; while H-4, H-5, H-6, and H-7 are rejected.

5.6.3 Results of Structural Model: The Model 3

Figure 5.13 depicts the full model of Model 3 and the standardized estimates of paths.

The outputs of AMOS show that the model fits the data very well or there is no statistical difference between the model and the data as indicated by $\chi^2 (48) = 62.263$, *p*-value = 0.081 and Bollen-Stine *p*-value is 0.166, of which both *p*-values are greater than 0.05 or not significant at the level of 5 %. To accept the model, the *p*-value of Chi-square and Bollen-Stine should be greater than 0.05. Other fit indices also confirmed that the model fits the data very well. The value of other fit indices is presented in Table 5.50.

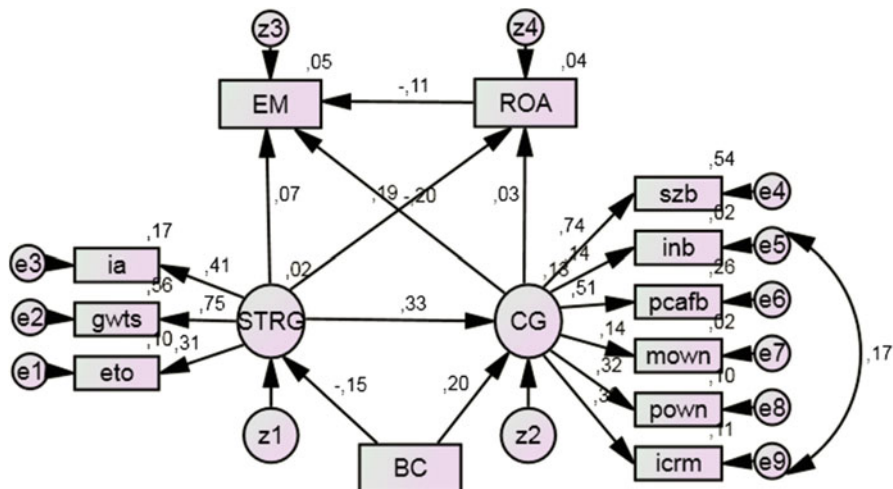


Fig. 5.13 Structural model of Model 3. Structural Model of Model 3, Chi-square = 62.263, df = 48, p -value = 0.081, Bollen-Stine bootstrap p -value = 0.166

Table 5.50 Summary of the other goodness-of-fit indices for structural model of Model 3

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.952	Fit
Adjusted goodness-of-fit	AGFI	0.921	Fit
Root mean-square error of approximation	RMSE	0.039	Fit
Standardised root mean square residual	SRMR	0.056	Fit

As the model fits the data, further analysis to re-specify or modify the model is not conducted. The results of the paths are shown by the regression weights as presented in Table 5.51.

The results of the paths of the Model 3 are identical with those of the Model 1 with regards to the acceptance of the hypotheses. Three hypotheses are accepted at 5 % significance level (H-1, H-2, and H-3), one hypothesis is accepted at 10 % significance level, that is (H-8), and four other hypotheses are rejected (H-4, H-5, H-6, and H-7). The values of estimates and variances of Model 3 are almost identical with those of Model 1.

5.6.4 Results of Structural Model: The Model 4

Figure 5.14 depicts the full model of Model 4 and the standardized estimates of structural model.

Table 5.51 Regression weights for Model 3

				Estimate	S.E.	C.R.	P-value
strg	←	bc	H-5	-0.019	0.013	-1.479	0.139
cg	←	strg	H-2	0.723	0.324	2.233	0.026*
cg	←	bc	H-1	0.054	0.024	2.191	0.028*
roa	←	strg	H-8	0.353	0.203	1.738	0.082**
roa	←	cg	H-4	0.022	0.080	0.275	0.783
em	←	strg	H-6	0.110	0.168	0.656	0.512
em	←	roa	H-7	-0.102	0.066	-1.552	0.121
em	←	cg	H-3	-0.151	0.076	-1.994	0.046*

**p*-value is statistically significant at the level 0.05 level

***p*-value is statistically significant at the level 0.10 level

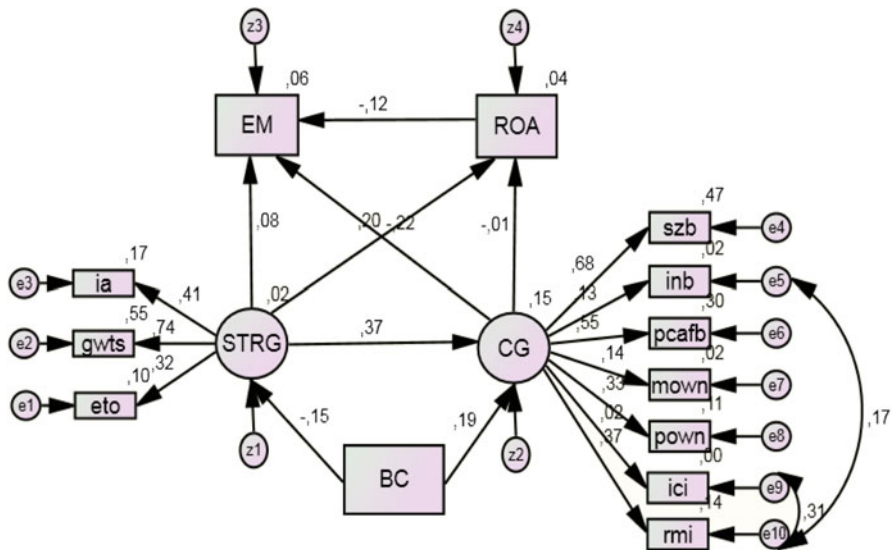


Fig. 5.14 Structural model of Model 4. Structural Model of Model 4, Chi-square = 80.932, df = 58, *p*-value = 0.025, Bollen-Stine bootstrap *p*-value = 0.109

The outputs of AMOS show that $\chi^2(58) = 80.932$, *p*-value = 0.025. As the existence of multivariate non-normality data might produce invalid estimates of Chi-square (see Table 5.40), Bollen-Stine *p*-value is employed. In order to accept the model, the *p*-value of Bollen-Stine should not be significant or greater than 0.05. The resulting output shows that the Bollen-Stine *p*-value of the model is 0.109, which is greater than 0.05, indicating that the model fits the data very well. Other fit indices also confirmed that the model fits the data very well. The value of other fit indices is presented in Table 5.52.

Table 5.52 Summary of the other Goodness-of-fit indices for structural Model 4

Fit Indices	Abbreviation	Value	Comment
Goodness-of-fit	GFI	0.943	Fit
Adjusted goodness-of-fit	AGFI	0.911	Fit
Root mean-square error of approximation	RMSE	0.045	Fit
Standardised root mean square residual	SRMR	0.060	Fit

Table 5.53 Regression weights for Model 4

				Estimate	S.E.	C.R.	P-value
strg	←	bc	H-5	-0.019	0.013	-1.478	0.139
cg	←	strg	H-2	0.744	0.317	2.351	0.019*
cg	←	bc	H-1	0.048	0.023	2.058	0.040*
roa	←	strg	H-8	0.367	0.208	1.770	0.077**
roa	←	cg	H-4	-0.007	0.090	-0.076	0.939
em	←	strg	H-6	0.136	0.173	0.785	0.432
em	←	roa	H-7	-0.108	0.066	-1.637	0.102
em	←	cg	H-3	-0.180	0.085	-2.114	0.035*

**p*-value is statistically significant at the level 0.10 level

***p*-value is statistically significant at the level 0.15 level

As the model fits the data, further analysis to re-specify or modify the model is not conducted. The results of the paths are shown by the regression weights as presented in Table 5.53.

The results of the paths of Model 4 are identical to those of Model 1 with regards to the acceptance of the hypotheses. Three hypotheses are accepted at 5 % significance level (H-1, H-2, and H-3), one hypothesis is accepted at 10 % significance level (H-8), and four other hypotheses are rejected (H-4, H-5, H-6, and H7).

5.7 Hypothesis Testing

After analysing the measurement model through single-congeneric factor analysis, confirmatory factor analysis (CFA) and structural part of SEM, it is possible to evaluate the hypotheses of this study as developed in Chap. 3. As all the four Models have produced consistent results, the hypothesis testing could be presented as follows:

Hypothesis 1 Hypothesis 1 stated that business competition influences corporate governance where in a competitive market, a firm will have strong corporate governance. The sign of regression weight showed a positive sign, indicating that in a less-competitive market a firm has a tendency to have stronger corporate governance, as a less-competitive market was valued at 1 and competitive market

was valued at 0 (dummy). All models showed that the path between BC and CG was statistically significant at the 5 % level, of which the t-values or critical ratios of Models 1, 2, 3 and 4 were respectively 2.250, 2.245, 2.191, and 2.058, indicating that this study provides strong evidence that corporate governance is influenced by business competition, of which a firm tends to have stronger corporate governance if it operates in a less-competitive industry or market. Conversely, in a competitive market, firms have weaker corporate governance.

Hypothesis 2 Hypothesis 2 stated that business strategy influences corporate governance, which prospectors are more likely to have strong governance. All models showed that the path between STRG and CG was statistically significant at the 5 % level, of which the t-values or critical ratios of Models 1, 2, 3 and 4 were respectively 2.243, 2.146, 2.233, and 2.351, indicating that this study has provided strong evidence that strategy influenced the corporate governance structure. It shows that prospectors tend to select stronger control through corporate governance. Conversely, defenders have weaker corporate governance.

Hypothesis 3 Hypothesis 3 stated that corporate governance has a positive influence on earnings quality by reducing the likelihood of earnings management. All the models showed negative signs on the relationship between corporate governance and earnings management, indicating that there is a negative relationship between corporate governance and earnings management. All the models showed that the path between CG and EM was statistically significant at the 5 % level, except for Model 2 which showed significance level of 10 %, indicating that this study has provided strong evidence that corporate governance has a positive influence on earnings quality by reducing the likelihood of earnings management or corporate governance has a negative relationship with earnings management. The t-values or critical ratios of Models 1, 2, 3 and 4 were respectively -2.003 , -1.951 , -1.994 , and -2.114 .

Hypothesis 4 Hypothesis 4 stated that corporate governance has a positive effect on performance. All the models showed that the path between CG and ROA was statistically not significant. The t-values or critical ratios of Models 1, 2, 3 and 4 respectively showed values of 0.269; 0.412; 0.275; and -0.076 . Hence, this study is not able to provide any evidence on the relationship between corporate governance and performance.

Hypothesis 5 In Chap. 3, it was hypothesised that business competition influences the selection of business strategy, where in a competitive market, a firm will tend to select a prospector type of strategy. The estimate of regression weight showed a negative sign, indicating that in a competitive market, a firm tends to be a prospector. A less-competitive market was valued at 1 and competitive market was valued at 0 (dummy). However, all the models showed that the path between BC and STRG was statistically not significant, of which the t-values or critical ratios of Models 1, 2, 3 and 4 were respectively -1.485 , -1.486 , -1.479 , and -1.478 . It can be concluded that this study does not provide strong evidence on the relationship between business environment and business strategy.

Hypothesis 6 Hypothesis 6 stated that business strategy influences the earnings quality which prospector firms are more likely to engage in earnings management practises. The regression weight of the path between STRG and EM presented a positive sign, indicating that there is a positive relationship between prospectors and earnings management. However, all the models showed an insignificant relationship between these variables, of which the t-values or critical ratios of Models 1, 2, 3 and 4 were respectively 0.650, 0.593, 0.656, and 0.785. Hence, this study is not able to provide any evidence on the relationship between business strategy and earning quality/earnings management.

Hypothesis 7 Hypothesis 7 stated that accounting performance has a negative relationship with earnings management. Although the relationship was in the right direction as shown by a negative sign of the estimate, all the models showed that the path between ROA and EM was statistically not significant, indicating a very weak relationship between these two variables. It can be concluded that this study does not provide strong evidence on the relationship between accounting performance and earnings management. The t-values or critical ratios of Models 1, 2, 3 and 4 were respectively -1.551 , -1.523 , -1.552 , and -1.637 .

Hypothesis 8 Hypothesis 8 stated that prospector strategy firms have better accounting performance. The relationship was in the right direction as shown by a positive sign of the estimate. All the models showed that the path between STRG and ROA was statistically significant at 10 % significance level, indicating that prospector firms have a higher accounting performance as measured by ROA. The t-values or critical ratios of Models 1, 2, 3 and 4 were respectively 1.735, 1.736, 1.738, and 1.770.

5.8 Model Evaluation

This study employed four models which reflect the differences in the measurement of corporate governance. The objectives of the inclusion of difference models are (1) to confirm whether risk management and internal control are interrelated concepts; (2) to check whether including indicators which had low loadings are acceptable and whether the consistency of structural model results are affected or not; (3) to observe the relationship among indicators of corporate governance; and (4) to confirm the consistency of the results with regards to the different measures of corporate governance, as correlated errors among indicators are allowed as long as they do not produce significantly different results.

Although this study employs different models, it considers Model 1 as the main model (the structural model of Model 1 is depicted in Fig. 5.11). Model 1 has lower goodness-of-fit criteria compared to Model 2, because it contains two low loading indicators, which are INB and MOWN. Nevertheless, excluding INB and MOWN would reduce explanatory power of corporate governance, as theoretically INB and MOWN are considered to be the two most important indicators of corporate

governance. The explanation for the possible reasons of low loadings will be presented in Chap. 6. Hence Model 2 is used as a confirmation model, that including low loading indicators does not have an impact on the structural model results. Model 4 is considered as an additional model to assess whether or not internal control and risk management are interrelated, as argued by the theory and explained in Chap. 2. Moreover, as Model 1 measures internal control and risk management in a single index, it is better to confirm whether it is acceptable or not. Model 4 has confirmed that measuring internal control and risk management in a single index is acceptable because it is theoretically justified and AMOS has shown that both the indicators have a correlated error. The AMOS output of the structural of Model 4 has shown that internal control (ICI) and risk management (RMI) have a significant correlation (0.31). Model 3 is also considered as an additional model to confirm whether there is any correlation among corporate governance indicators as used in Model 1. Model 3 revealed that INB and ICRM are correlated.

5.9 Summary

This chapter described the statistical descriptive analysis of data and data analysis using SEM—AMOS software. This chapter also presented the model assessment, including single-factor congeneric model, confirmatory factor analysis (CFA), the assessment of construct reliability, and the assessment of the structural model. In doing so, several goodness-of-fit benchmarks were applied, including p -value of Bollen-Stine bootstrap, Chi-square, degree of freedom, p -value of Chi-square, RMSEA, GFI, AGFI, and RMR. Overall, it was concluded that most of the fit indices satisfied the threshold applicable for all assessments. The reliability measures used in this study were construct reliability (CR) and average variance extracted (AVE). As two constructs were measured using several indicators, namely business strategy and corporate governance, both should fulfil the requirements of good reliability. It was found that the CR and AVE of both constructs were satisfied.

The last part of this chapter presented the testing of the hypothesis. It was established that all the models produced similar results. The relationships among constructs were in the right direction as hypothesized. However, four hypotheses, namely H-4, H-5, H-6 and H-7 were not statistically significant. Four other hypotheses, (H-1, H-2, H-3 and H-8) were accepted.

Chapter 6

Discussion and Implications

6.1 Introduction

This chapter presents the interpretations and implications of the results of the structural equation modeling (SEM) as described in Chap. 5. This chapter also analyses the model or the results of the measurement models, including the validity and reliability of constructs. A detailed discussion relating to the eight hypotheses developed in Chap. 3 is presented, followed by the research implications and ending with a general summary.

The next section of this chapter is organized as follows. First, in Sect. 6.2 the discussion regarding the measurement models is presented. Second, the results of test of each hypothesis will be discussed and elaborated in Sect. 6.3. Third, the research implications are presented in Sect. 6.4. Fourth, Sect. 6.5 summarizes the content of this chapter.

6.2 Measurement Model Analysis

With regards to the corporate governance construct, this study has demonstrated that the measurement of this construct is reliable and valid. All the models showed high discriminant validity, indicating that individual observed variables represent only one latent construct. Confirmatory factor analysis and structural model of all models does not include any correlated errors between indicators among different constructs. Correlated errors were applied only within a construct (corporate governance) which was applied in Models 3 and 4. Nevertheless, the existence of correlated errors was theoretically justified and did not change the results of the structural model as required by Fornell (1983). The reliability of the construct was also acceptable as measured by the construct reliability value (CR) which was more than 0.7 and average variance extracted (AVE) >0.5.

This study employed different models of measurement and structure in order to confirm the consistency of the results, the reliability of corporate governance indicators developed in this study, as well as the theory regarding the relationships of corporate governance indicators. This study has employed correlated errors between several indicators of corporate governance in Model 3 and Model 4, which implies a relationship among these indicators. In SEM, correlated errors of indicators in a single index are acceptable as long as it is theoretically justified. The arguments and justifications to include correlated errors in Models 3 and 4 have been presented in Sect. 5.4.1.2. As mentioned earlier and shown in Chap. 5, the results of the structural model for all the models have produced similar results.

The consistent results of the four models imply that (1) it is justified to retain the indicators of board independence and managerial ownership (MOWN), although they have low factor loadings, as the models which include these indicators fit the data and the results of the model which excludes and includes both indicators respectively produce consistent results; (2) risk management and internal control are interrelated. Hence it is acceptable to measure risk management and internal control in a single index; and (3) it is justified to employ correlated errors between internal control and risk management index (ICRM) and board independence (INB).

The results of this study revealed that the relationship between risk management and internal control concept is consistent with the theory argued by Spira and Page (2003) and Ashbaugh-Skaife, Collins, Kinney, & Lafond, (2009). The concept of risk management in corporate governance has focused on financial risk, which is generally perceived as the potential of financial loss due to frauds and incompetency (Spira, Laura & Page 2003), and internal control is argued to be effective to combat both frauds and incompetency.

Internal control might serve as effective risk management with regards to the risks of frauds and incompetency through monitoring and disclosure or transparency mechanisms. Rezaee (2005) argued that financial statement frauds could be minimized through direct and indirect oversights. Direct oversights could be undertaken by internal control mechanisms such as audit committee, external auditors, and internal control unit established within a firm; while indirect oversights could be established by analysts and institutional investors. Additionally, Rezaee (2005) also emphasised the importance of disclosure controls and procedures.

From the accounting point of view, transparency is one of the important concepts of risk management, which leads to the need for independent audits (Van de Ven, 2010). The transparency mechanisms might improve risk management by playing several important roles. Firstly, an effective independent audit could be achieved as long as a firm practices financial transparency by giving access to any financial information as regulated by available regulations (Wells, 2004). Secondly, transparency might provide a positive sign to investors regarding managerial ability to anticipate economic environmental changes and to adjust production plans accordingly (Trueman, 1986). Thirdly, it might improve a firm's access to external funds as it would improve a firm's reputation (Frankel, McNichols, & Wilson, 1995).

Fourthly, a firm might disclose information to avoid legal liability (Healy & Palepu, 2001).

With regards to disclosure and transparency as risk management factors, previous research has provided evidence on the direct relationship between risk management and internal control variables. Ho and Shun Wong (2001) provided evidence that the existence of audit committee has a positive and significant relationship with the extent of voluntary disclosure. The existence of an audit committee not only has a positive relationship with the level of disclosure, but the percentage of independent audit committee members is also reported to have improved the level of disclosure in the management discussion and analysis of financial reports (MD&A) (Carcello & Neal, 2003). The quality of external auditors is also recorded by Wang and Claiborne (2008) as one of the determinants of disclosure quality, as highly qualified independent auditors would demand higher quality disclosures.

This study has developed an index consisting of ten internal control and risk management indicators, of which five are related to internal control and the other five to risk management. Risk management indicators included in this study focused mainly on risk management disclosure, as four indicators reflect the disclosure of four items of risks, which are disclosure of business risks, credit risks, exchange rate risks, and corporate social responsibility risks. Internal control measures used in this study are mainly related to internal and external audit quality. As the theory recognizes the relationship between disclosure and internal control, the results of this study which identified the existence of the relationship between both these concepts as demonstrated in Model 4 is justified.

From the modification index of Model 3, it can be seen that ICRM and independent boards are correlated. The presence of correlations between board independence and internal control and risk management is consistent with the theory argued by Jensen and Fama (1983), which asserted that the inclusion of independent boards would improve an internal control mechanism, as independent boards have incentives to develop reputations by which their performances are assessed and priced. Hence, independent boards would use their directorships to signal to external markets that they are the decision experts, that they understand the importance of decision control and are able to work with such a decision control system (Beasley, 1996).

Another interesting result of this study is the finding that all models showed that the indicators of independent boards and managerial ownership have the lowest loadings. The very low loading should be reviewed carefully as it adds little explanatory power to the models. The low loading could be the result of: (1) a poorly worded item which led to low reliability, (2) an inappropriate item in measuring a construct which led to poor content validity, and (3) - non-generalizability of the item across contexts or settings (Hulland, 1999). As this study does not employ survey research, any poorly worded item is unacceptable in explaining the low loading. It is also appropriate to use the board independence variable in measuring corporate governance construct, as it has been perceived to be one of the most important indicators of corporate governance. The possible

explanation of the low loading factor of board independence variables is the context or setting differences. It seems that in the Indonesian context, where shares are concentrated in families and institutional investors, the independence of board of directors or commissioners is mitigated by the large size of boards. The same phenomenon was also found in Japan, where Japanese firms have relatively bigger board size but lower independence (Allen & Gale, 2000).

With regards to this phenomenon, it can be concluded that the structure of boards is different across countries, depending on the environmental and organizational factors. Several theoretical explanations could be used to understand why Indonesian firms have lower boards of commissioners or directors independence (see also Sect. 5.2.3): (1) as shares are concentrated, the block-holders might have an access of control directly to a firm. Concentrated ownerships can also be seen from the descriptive analysis, which shows that the mean of public ownership is only 22.5 %. Ownership concentration is commonly used as a governance strategy, especially in a country where legal protection is relatively weak (Heugens, Essen, & Oosterhout, 2008). Therefore, boards of directors independence could be neglected as a control, since block-holders have protected themselves from managerial opportunisms by increasing their shares. From the descriptive statistics presented earlier, it can be found that the mean of independent boards is relatively low (38.1 %), which might be an indication of low attention paid to the importance of independent boards' control. (2) Insider board members could also be beneficial for strategy review of firms which have been formulated by management. The stewardship theory asserts that insider directors are more beneficial, as they are more knowledgeable about a firm and, hence would contribute more towards the firm's performance (Hung, 1998). (3) Despite depending on ownership concentration in controlling or monitoring managers, Indonesian firms also depend on internal control variables such as audit committee and accounting or finance expertise of audit committee members, rather than on board of commissioners independence. As a two-tier system is applicable, it seems that Indonesian firms perceived non-audit committee board members mainly as business consultants who are needed to advise managers regarding business matters and to review business strategy. The financial control mechanism in minimizing misbehaviour of managers is mainly operated through the internal control system, which focuses on the role of internal audit and audit committee structures.

There are several reasons that might explain why managerial ownership has low loading. Firstly, this study found that corporate governance is effective in reducing the likelihood of earnings management (H-3), indicating that Indonesian corporate governance focuses on the control or monitoring role. When control mechanisms are preferred, the incentive mechanisms, such as managerial ownership and compensation are less likely to be dominant, as the control mechanisms could be substituted by the incentive mechanisms (Ward, Brown, & Rodrigues, 2009). The descriptive statistics show that managerial ownership is very low, at only 1.9 %, indicating that the sample firms did not consider it as a relatively important control mechanism. Secondly, the literature has recognized that firms which have high risky investments such as R&D would structure high incentive mechanisms (Cui &

Mak, 2002). From the descriptive analysis, it can be seen that sample firms have very low investments in intangible assets. The data on R&D also confirmed that the sample firms have very low investments in R&D, indicating low investments in risky projects compared to other countries, as explained in Chap. 5. Hence, in such an environmental context, incentive mechanisms such as managerial ownership is less likely to be an important mechanism of corporate governance structure.

6.3 Discussions of the Results of Structural Model

Chapter 5 has demonstrated that the overall model fit is satisfactory. Nevertheless, it is found that several hypotheses are not supported by the data. By examining the t-value or critical ratio, it is revealed that only four hypotheses are significant, which are H-1, H-2, H-3, and H-8. There is no statistical evidence to draw any conclusion on the significance of H-4, H-5, H-6 and H-7.

6.3.1 Hypothesis 1

The strong evidence in support of Hypothesis 1 suggests that business competition as an environmental factor is a determinant of corporate governance structure. It is found that in a competitive industry, a firm tends to have relatively weak corporate governance, indicating that competition is the substitute for corporate governance. This finding is consistent with many previous studies, such as those conducted by Giroud and Mueller (2010), Tian and Twite (2009), Chou et al. (2011), and Schmidt (1997), which recognized that competition substitutes corporate governance as a control mechanism.

Based on the negative significant relationship between business competition and corporate governance in the Indonesian setting, it is possible to conclude that business competition reduces agency problems and in turn causes a firm to have relatively weak corporate governance. That is to say that in a competitive industry, a firm might not need to have tougher control through corporate governance, as market discipline, which is competition, might induce a firm to reduce agency problems which could be exercised by ensuring that managers have interest alignment with shareholders, that is to create more shareholder's wealth.

From the market of corporate control point of view, there are three possible interpretations with regards to factors that might contribute to explain the existence of the negative relationship between competition and corporate governance. Firstly, as risks of liquidation increase as competition gets tougher, without strong control, management is forced to demonstrate efforts in generating performance and creating shareholder's wealth (Schmidt, 1997). Secondly, work force mechanisms might expel under-performing managers from their managerial positions due to competition (Allen & Gale, 2000; Chou et al., 2011). Thirdly, competition intensity might

lead to a high possibility of acquisitions and mergers (Singh, 2003), which could endanger the managerial position of under-performing or mis-behaving managers. Hence theoretically, competition could cause a firm to be less dependent on corporate governance in reducing agency problems.

The existence of a market of corporate control as an explanation of the strong evidence for Hypothesis 1 is also consistent with the ownership control theory. As this study employs six indicators in measuring corporate governance, one of which is public ownership, the results of this study indicate that less competitive industries are generally dominated by several big firms, which have relatively varied or high public ownership. Strategic management and finance theory might explain this phenomenon. From the strategic management theory point of view, firms might minimize competition by creating entry barriers through some means, such as capital requirements, economies of scale, cost advantages, product differentiation, access to channels of distribution, and governmental or legal barriers. However in creating these barriers, a firm needs huge funds which could be generated from the capital markets. Although, the pecking order theory—that asserts that a firm tends to use internal funds, and perceives external funds through issuing shares as the last option—is argued to be dominant in developing countries (Singh, 2003), there are still some factors that might motivate big companies in Indonesia to issue shares. The push by international institutions, such as the World Bank, (which demands less concentrated ownerships and the needs of capital, technology, management skills, and access to international markets) have motivated large Indonesian firms to be more open, especially to foreign investors (Patrick, 2001). Having more firms that are less-concentrated and more that are foreign owned would cause more control consequences, which would force firms to have better corporate governance. As big firms, which are generally dominant in an industry because of their capabilities to create entry barriers, are more attractive to the public and foreign investors, there is a tendency that less-competitive industries are dominated by relatively better governed firms.

Indonesia is a developing country. The Indonesian business setting is generally characterized by a less efficient capital market and a domination of family and state ownership despite several corporate control mechanisms. These facts along with public reputation and costs of corporate governance might contribute to explaining the substitution effect of competition on corporate governance. Although in general, the Indonesian market is perceived to be small, segmented and suffers from a variety of imperfections due to the lack of clarity and inability of the government to enforce anti-trust or anti-monopoly legislation (Wie, 2002), the demand for transparency and public control over dominant firms has increased, which in turn is forcing the firms to show high accountability through corporate governance. Public reputation, through corporate governance could be crucial for monopolistic or dominant firms in retaining their dominance and minimizing public scrutiny. On the other hand, as competitive industries have several firms which share relatively similar market power and as many of them are owned by families, public scrutiny and the risk of a loss of reputation would rarely cause takeover risks. Additionally, the compliance costs of corporate governance would also impose a burden,

especially on smaller firms which might reduce their profits. The combination of less public scrutiny risks and compliance costs might cause firms in competitive industries to have relatively weaker corporate governance compared to dominant firms which commonly operate in less-competitive industries.

Therefore, it can be interpreted that corporate governance as a control is not considered by Indonesian firms as a tool to reduce environmental uncertainties or to anticipate competition intensity. The implied aspects of the business environment or competition, which are the market of corporate control mechanisms through liquidation, take-over, and the risks of the loss of managerial position, public scrutiny, and the costs of corporate governance compliance could be reasons why firms in competitive industries tend to have relatively weak corporate governance structure.

6.3.2 Hypothesis 2

This study has provided strong evidence in supporting H-2, suggesting that business strategy as measured using the Miles & Snow's theory is a determinant of corporate governance. That is to say that sample firms match their strategy type to the corporate governance. It is found that prospector firms which are characterized as aggressive and innovative tend to have relatively strong corporate governance. Overall this finding is consistent with the general theory of contingency which argues that control is structured to support strategy implementation. This finding is also consistent with the research findings undertaken by Wu (2008) and Becker-Blease (2011), who demonstrated that corporate governance has a positive relationship with innovation. It also confirms the findings of Jiraporn, Kim, and Davidson (2006) and Dong and Gou (2010), who found that strong control through governance would benefit firms that implement a diversification strategy and invest in risky projects.

Based on the positive and statistically significant relationship between prospectors and corporate governance, it is possible to interpret that control through corporate governance mechanisms is not perceived as a deterrent to innovation. On the contrary, firms try to take advantage of the corporate governance mechanisms.

The need for stronger corporate governance for prospectors cannot be separated from the higher risks faced by them, which might lead to the loss of reputation and investors' confidence. As prospectors tend to be risk takers and characterized by their aggressiveness in pouring funds on risky projects to ensure their growth, the increased risks of financial damage is clearly possible and higher, which could be caused by projects that are not well managed and less caution in the selection of projects. Good practice of corporate governance is expected to help managers to be more cautious in selecting risky projects which might hinder firms from wasting resources (Jiraporn et al., 2006). Experts who sit as a board of commissioners members could be beneficial for managers by monitoring and providing advice as

inputs and considerations in project selection. As internal control and risk management are used as indicators of corporate governance, this finding is also consistent with the argument that internal control and risk management has been perceived to have abilities to support optimal investments (Lin, Phillips, & Smith, 2008). Internal control and risk management might provide increased confidence to shareholders and investors pertaining to the abilities of managers in managing and controlling risky investments with regards to cash flow stability and internal fund flow, which would lead to reduced shareholders' reluctance to invest funds in risky and long-term investments such as intangible assets and R&D (Andersen, 2008; Dolde, 1995). Léautier (2007) argued that firms which rely on large research and development (R&D) investment to achieve ambitious growth targets would have stricter risk management compared to firms with lower risky investments or lower growth target. Therefore, to increase investors' confidence in the abilities of managers to manage and select risky projects, prospectors should have better or stronger corporate governance.

This finding could also be interpreted to be consistent with the other theory with regards to the benefits of corporate governance, as it is perceived to increase coordination and reduce information asymmetry. Prospectors are also characterized as firms which tend to seize new market opportunities and utilize technological and financial capabilities more efficiently. Unfortunately, these tasks would impose greater costs on a firm due to difficulties relating to coordination, information asymmetry, and incentive misalignment between managers and departments (Chen & Yu, 2011; Denis, Denis, & Yost, 2002). Corporate governance, especially through board characteristics and internal control and risk management is argued to be a good mechanism to coordinate and reduce the conflict of interests among stakeholders. The stakeholder theory of governing boards which adopts a pluralistic approach to organizations asserts that boards are expected to negotiate and compromise with stakeholders in the interest of the firm (Hung, 1998). Hence, a proper level of coordination and information symmetry would be achieved.

Overall, it can be interpreted that prospectors have stronger corporate governance as they need controls that increase their ability to cope with their nature and risks. Such abilities are needed to ensure and maintain investors' confidence on the firms' abilities in executing their strategies.

6.3.3 Hypothesis 3

This study found that corporate governance significantly has a negative association with earnings management. It can be interpreted explicitly that corporate governance is effective in improving earnings quality by minimizing the likelihood of earnings manipulation through earnings management practises. This finding is consistent with the agency theory which asserts that corporate governance has a duty to reduce agency problems, one of which is managerial moral hazards. One of the examples of managerial moral hazard is the tendency of managers to manage

earnings to serve their own interests. As earnings management is perceived to be the reflection of moral hazards, frauds and irregularities, this finding contributes to document the effectiveness of corporate governance in reducing such practises.

With regards to the indicators used in measuring corporate governance construct, it can be interpreted that six indicators—which include the size of boards, board independence, managerial ownership, internal control and risk management, accounting expertise of audit committee members, and public ownerships—have negative associations with earnings management. Larger boards and independent board members could be perceived to offer more control and scrutiny on firms. These tasks are also effectively exercised by audit committee members who have an accounting and finance background. This finding is consistent with that of previous research conducted by Chen, Elder, and Hsieh (2007), Mir and Seboui (2006), and Lo, Wong, and Firth (2010). Public ownership might increase controls on firms, as scrutiny and monitoring would be tighter for firms that have more diverse ownerships. Internal control and risk management is also found to have contributed towards reducing the possibility of earnings management, which is consistent with the objective of internal control and risk management in improving the reliability of financial reporting as formulated by COSO.

This finding also shows that corporate governance in Indonesia is effective in minimizing earnings management practises. Several factors might have contributed to this effectiveness. First, as Indonesia had experienced a severe financial crisis in 1997–1998, which was perceived to be caused by the lack of good corporate governance, it improved its governance practises through the enactment of several regulations. Second, as it was argued that the lack of accountability, transparency and reliability of financial reporting were some of the most severe weaknesses of Indonesian corporate governance, which had caused the financial crisis in 1997–1998 (Mitton, 2002); Indonesia strengthened the regulations relating to accountability, transparency and the reliability of financial reporting. Third, Indonesia has adopted the OECD's governance code of conduct in 2006, which increases the transparency requirements. Although this study does not directly observe the relationship between the OECD's code of conduct and the effectiveness of corporate governance in Indonesia, this finding could be perceived as an indication of the success of the adoption the OECD's governance code of conduct. Fourth, the more opened Indonesian capital market marked by the increased in foreign ownerships and privatization of the stated-owned firms might have increased the need for and improvement in corporate governance practices. Fifth, there is an increased awareness among Indonesian firms that good practises of corporate governance regarding the reliability of financial reporting would improve their reputations which would then create more shareholder value or increases in stock prices. Sixth, corporate governance is an effective tool in mitigating accounting risks which can be used for a risk management.

This finding can also be interpreted as the success of the ethics-based approach of good corporate governance which has been practised in Indonesia after the Asian crisis of 1997–1998. Although this approach is voluntary, it seems that many Indonesia firms are aware of the importance of corporate governance codes, as

more and more companies have introduced such codes. Purmerend (2012) recorded that there had been a dramatic increase in the number of companies that introduced corporate governance codes during 2006–2009. In 2006 only 53 % of the 45 largest blue chip firms had introduced corporate governance codes. Fortunately this number jumped to around 83 % in 2009. He also recorded that there was a direct positive relationship between the numbers of firms which complied with corporate governance codes as promoted by the National Committee on Governance (KNKG) and the performance of a firm's stock price, indicating an increase in investors' confidence due to reduced risks.

In relation with accounting risks, the finding may convey information that accounting risks should be implemented and analyzed within the framework of corporate governance as suggested by Sardar (2013). Sardar (2013) has suggested three principles regarding the interconnection between accounting risks and corporate governance which are:

1. Corporate governance requires risk management (accounting risks, financial risks, and corporate governance risks). Therefore accounting risk management is an essential element of corporate governance.
2. The issues of corporate governance (such as agency cost minimisation, corporate governance instruments, shareholders' interests, trusts, good governance rules, information asymmetry, moral hazard, prisoners' dilemma, corporate social responsibility) have implications for accounting theories and practices and they require accounting risk governance.
3. It is possible to include different corporate governance issues, explicated from interviews, laws, etc. into accounting governance models for risk analysis and management.

The result of this study has provided evidence that accounting risks should be put in the corporate governance framework. As the Indonesian setting is viewed as a weak minority shareholder protection and law enforcement, firms should integrate accounting risks with corporate governance in order to convince investors especially foreign investors that their funds are safe, well managed, and contain low accounting risks.

6.3.4 Hypothesis 4

This study does not provide any empirical evidence on the relationship between corporate governance and accounting organizational performance (H-4), indicating that corporate governance is not effective in generating performance. This finding is not consistent with the findings of Ivashkovskaya and Stepanova (2010), Victoria (2006), and Li, Wang, and Deng (2007). Nevertheless, this study is not alone in providing a non-significant association between corporate governance and performance. Using the US data, Bhagat and Black (1999, 2002) also failed to find any significant relationship between internal corporate governance and firm

performance. In the Indonesian setting, Wibowo (2008) revealed that there was no relationship between corporate governance and performance.

One possible interpretation for such findings has been argued by Wibowo (2008), who claimed that in the Indonesian context, governance compliance is superficial. Although governance structures are established to comply with regulations, there are few associated activities. However, Wibowo's (2008) conclusion seem less convincing as he used a survey method which might have contained biased responses, and he alone observed the effectiveness of corporate governance in terms of improving performance without considering other dimensions such as earnings quality improvement. This study provides strong evidence that in Indonesia, corporate governance has a negative association with earnings management (H-3), indicating that efficient and useful activities have been undertaken by regulators and firms with regards to corporate governance improvement.

Based on this study's findings, several interpretations could be drawn to explain the non-significant relationship between corporate governance and organization performance. First, the Indonesian corporate governance structure is dominated by the point of view of financial control, whose emphasis is on the control and monitoring of a manager's behaviour in order to prevent managers from engaging in earnings management and other irregularities. This argument is supported by the strong evidence provided by this study, which shows a negative association between corporate governance and earnings management. As mentioned earlier, as many Indonesian firms have tried to attract foreign investments and gained more access to international markets, they have to show effective corporate governance and convince investors that there is no management or majority shareholders misappropriation. Additionally, the results of the measurement model show that indicators relating to financial control and monitoring, such as internal control and risk management, and accounting/finance expertise of audit committee members have higher loadings.

With regards to the independent board of commissioners members, Wibowo (2008) hypothesized that as most of them were selected on political and governmental connections, they were ignorant of the operation of the company. Therefore, their capabilities to advice managers regarding business and operational strategies are doubtful, leading to a weak contribution to organizational performance. Moreover, no regulation has been established to prevent them from holding multiple board positions simultaneously, thus imposing high workloads on them (Wibowo, 2008) and triggering off unwillingness to share their expertise that they had gained from other firms in which they serve as commissioner members.

Second, this finding could also be interpreted as indicating that various roles of corporate governance might not function simultaneously. The normative view asserts that corporate governance should improve performance and at the same time prevent misbehaviour by managers. Unfortunately, this ideal situation might not exist. The dominant role of corporate governance might depend on the environmental and organizational factors (Hendry & Kiel, 2004). It seems that in Indonesia, as the corporate governance regime has emphasized on improving the reliability of financial reporting, the performance role of corporate governance is

still limited. As this study has shown that public ownership is relatively low, indicating a high level of information asymmetry, corporate governance is predominantly structured to protect shareholders from the misbehaviour of managers. As explained earlier, Hendry and Kiel (2004) have argued that when information asymmetry is relatively prevalent, the financial control role of corporate governance will be more dominant, as the board and shareholders are generally more concerned with identifying and controlling manager's behavior in order to protect shareholders from misbehavior.

Third, since this study, and as with most corporate governance studies, including Wibowo's study employs accounting numbers such as return on assets (ROA) or other accounting profit measures, the relationship between corporate governance and performance is less certain. It is commonly accepted that accounting numbers are vulnerable to be managed by managers (Mir & Seboui, 2006; Penman, 2010). When accounting numbers are used as performance benchmarks of firm and managers' performance, managers are motivated to be biased and to manipulate these numbers, as they control the reporting mechanisms. Therefore, as corporate governance is argued to minimize the likelihood of earnings management, the association between accounting numbers and corporate governance could be less certain, as accounting numbers could have already been manipulated by managers through earnings management.

6.3.5 Hypothesis 5

This study provides very weak evidence on the relationship between business competition and business strategy. Theoretically, business strategy is a tool for firms to respond to the environmental condition in which they operate (Miles & Snow, 1978, 2003). Hence, it was argued that in competitive industries, firms would select a prospector type strategy or aggressive strategy to survive and defeat competitors. However, all models show that the path between BC and STRG is statistically not significant, indicating that there is no relationship between business competition and strategy.

No relationship might occur between business competition and strategy, considering that the Indonesian economy, as a developing country, is still growing fast, which encourages firms in any industry to take advantage of the growth by employing aggressive strategies. As this study uses sales growth as one of the indicators of strategy, it seems that the growth characteristic has been the quality of both the competitive and less-competitive industries in Indonesia. Additionally, due to their nature, certain industries, such as the pharmaceutical and manufacturing industries would require firms to invest more on intangible assets or R&D. Consequently, based on the Herfindahl Index (HI), only few firms in such industries would be less competitive. Moreover, the lower competitiveness of certain industries would not impede firms to be prospectors or to select aggressive strategies to enable them to achieve high growth and invest in intangible assets, as the

Indonesian economy and industry characteristics have enabled them to enjoy growth. Hence, firms in competitive and less competitive industries might have similar strategies to take advantage of a high growth economy, and to match their strategy with the respective industrial demands.

6.3.6 Hypothesis 6

The lack of evidence to support H-6 indicates that business organization is not a significant determinant of earnings management. It can also be said that the tendency of prospectors to engage in earnings management is not different from that of defenders. This finding is not consistent with that of Bentley, Omer, and Sharp's (2012) study, which found a significant relationship between prospectors and accounting irregularities.

The results of H-2 and H-3 might explain the lack of evidence to support H-6. The strong evidence for H-2 shows that prospector firms have stronger corporate governance, while H-3 indicates that corporate governance is effective in preventing firms from engaging in earnings management practices. Hence, a possible reason to explain the lack evidence for H-6 is that strong corporate governance established by prospectors has prevented them from engaging in earnings management.

Additionally, it seems that corporate governance mechanisms have enabled prospectors to deal with and manage their risks. Studies argued that the nature of prospector type strategy has put firms in greater business risks due to high uncertainties of earnings, complexity and instability of organization, which motivate them to manage earnings. However, as prospector firms might reduce these risks through corporate governance, the motivation to manage earnings would also be lower.

With regards to how corporate governance mechanisms are beneficial for prospectors to minimize their risks, this finding might provide an useful interpretation. The six indicators of corporate governance employed in this study are argued to be useful in reducing risks faced by prospectors, which would then demotivate managers from engaging in earnings management. Greater board size and independence of board members might ensure that prospectors have the skills and capabilities in seizing new market opportunities and utilizing technological and financial capabilities more efficiently. Additionally, they would ensure that firms obtain and integrate resources which are necessarily needed for those purposes. Board members are expected to advise and provide consultancy to managers regarding risky projects as well as to help managers in managing risky projects. They might also contribute towards reducing information asymmetry among diversified units within companies, as well as information asymmetry between firms and their stakeholders. Internal control and risk management, including the accounting expertise of an audit committee could also be useful for coordinating the diversified firms and reducing such information asymmetry. Additionally, internal control and risk

management could be an alarm mechanism which is able to provide signals to managers as to whether they have been over-extending their resources or not. Managerial ownership might also provide an incentive alignment effect which is also beneficial in reducing the motivation of managers in managing earnings.

High performance of prospectors seems to be another possible interpretation of the non-significant relationship between prospectors and earnings management. Considering the high growth Indonesian economy, it is hypothesised that prospectors might generate more profits in such setting, and prospectors might be demotivated to manage earnings. This argument is confirmed by the strong evidence for H-8, which indicates that prospectors have higher return on assets, hence, their motivations to manage earnings are low, as they had already shown good financial performance.

6.3.7 Hypothesis 7

This study provides evidence that there is no association between performance and earnings management. However, the negative direction of the coefficient indicates that high performance firms tend to have a low tendency to engage in earnings management. It should be noted that this study uses absolute discretionary accrual in measuring earnings management, thus it only shows the magnitude of earnings management. Higher absolute discretionary accrual value shows greater earnings management practises. Hence, the negative relationship between performance and earnings management as revealed in this study indicates that high performing firms have low discretionary accrual or lower possibility to manage earnings. On the contrary, poor performing firms have higher discretionary accruals which indicates a higher tendency to engage in earnings management practises. The direction of the relationship is consistent with that of the studies conducted by Kinney and McDaniel (1989) and Latridis and Kadorinis (2009). Poor performing firms might use earnings management to meet or exceed financial analysts' forecasts, as well as to conceal their poor performance.

One of the possible reasons for non-relationship between performance and earnings management could be the high leverage and continued efforts of firms to increase debt capacity, and hence might cause well performing firms to continue to manage earnings in order to meet debt covenants or to obtain more debts. As Indonesia has high economic growth, firms might need more debts to increase their operational capacities to take advantage of the high economic growth. According to the pecking order theory, developing countries might depend on debts to increase their capacities (Singh, 2003). However, in order to obtain more debt, they have to show superior performance, which could be achieved by managing earnings.

Another reason might be explained by the income smoothing theory. As uncertainties could be one of the characteristics of a developing country's economy, including that of Indonesia's, earnings of Indonesian firms are vulnerable to high

fluctuation. High fluctuation of earnings is perceived to be not beneficial for share price which might motivate firms to deliberately reduce the earnings fluctuation using discretionary accruals (Ashari, Hian, & Wei, 1994). Thus, it is possible that some of the high performance firms might have high discretionary accruals to reduce their earnings fluctuation.

6.3.8 Hypothesis 8

The strong evidence for H-8 as shown by the path between STRG and ROA of all the models indicates that prospectors which are characterised as innovative, entrepreneurship-oriented, and risk takers have a relatively high performance as measured by return on assets (ROA). This finding is consistent with the findings of studies conducted by Tang and Tang (2012) and Wiklund and Shepherd (2003), who found that innovativeness, entrepreneurship orientation, and risks taking are essentials for better performance.

It can also be interpreted that as the Indonesian economy has grown, prospector type strategy firms might be taking advantage of the growth by investing more in risky projects or investments such as intangible assets or R&D, and seizing new markets to ensure their sales growth, which could lead to a high return on assets. Although prospectors are less efficient in their operations since they put emphasis on sales growth rather than on minimizing costs, their ROA could still be relatively higher if their marginal sales are higher compared to their marginal costs. A high growth economy might enable firms to cover their fixed costs quicker as their sales improve by taking advantage of the new markets or product innovation or investing more on marketing and advertising activities.

With regards to the other results in the model, the high performance of prospector firms could also be caused by their strategy-control fitness as indicated by H-2. Fit or alignment refers to the proper combination of contingent factors, as a certain type of strategy typology might not be suitable to creating a superior performance if it is not combined with a proper degree of control. Therefore strategy typologies should be properly matched or aligned with the degree of control in order to generate high performance. The fit between strategy and corporate governance is indicated by H-2, which argues that prospectors select strong control through corporate governance as strong corporate governance might enable them to manage risky investments and diversified organization, which might lead to low possibility of loss.

6.4 Research Implications

This study has several implications, including theoretical, methodological and practical implications.

6.4.1 Theoretical Implications

From the theoretical perspective, this study provides an extended understanding of the determinants and effects of corporate governance and business strategy based on the contingency theory. Specifically, it provides an understanding of how firms structure their corporate governance. It is found that firms consider their business environment and strategy in structuring corporate governance. If firms have relatively weak governance, competition might function as a substitution of corporate governance. Competition might force managers to demonstrate improved performance and reduce agency problems, or else they might lose their jobs or face merger and acquisition threats or even liquidation (Allen & Gale, 2000; Tian & Twite, 2009). As competition is argued to be effective in reducing agency problems and as the costs of corporate governance compliance are getting higher, firms in a competitive market might have relatively weak corporate governance.

It is found that corporate governance is not only affected by business competition, but it is also influenced by business strategy. Previous studies showed that corporate governance is beneficial for innovative and aggressive firms, as corporate governance might help managers to manage risky projects and enhance innovativeness. Hence, overall it can be concluded that corporate governance is not merely about complying with regulations. Firms might consider contingency factors such as competition and strategy in structuring their corporate governance.

Furthermore, it is found that corporate governance has a positive effect on earnings quality as it has a negative association with earnings management. That also showed that corporate governance could be used as a risk management mechanism especially in mitigating accounting risks. However, there is no evidence of corporate governance having any positive relationship with accounting performance.

These findings have three important implications. Firstly, with regards to the corporate governance compliance, firms might not consider only regulations in structuring their corporate governance as the environmental and organizational factors might have an effect on corporate governance. The existence of corporate governance cannot by and of itself produce significant performance improvements. This study has provided strong evidence that competition and strategy have a relationship with corporate governance. Secondly, in Indonesia, the financial control role rather than the performance role of corporate governance is more dominant. Again, theoretically the environmental and organizational context might explain as to which role could be dominant, as corporate governance does not have only a single role, but has several roles. As Indonesia is argued to have low minority shareholder protection, the financial control role, which reflects the importance of corporate governance in minimizing misappropriation by managers is more dominant. Hence, in assessing the effectiveness of corporate governance, a study should not only consider its effectiveness in improving performance, but should use multi measures of the effectiveness.

Thirdly, in regard with the interconnection between corporate governance and accounting risks, this study has provided evidence that accounting risks should be integrated with the corporate governance framework. It can be said that accounting risks are elements of corporate governance which should be analysed within the corporate governance framework. Sample firms of this study showed that they have structured their corporate governance in a such way which ensure them to mitigate accounting risks (creative accounting/earnings management). In measurement models, it can be found that audit committee financial expertise and internal control and risk management indicators have high reliability measures which explicitly convey information that in structuring corporate governance, sample firms have considered and analyzed the accounting risks. Sardar (2013) has proposed that in integrating corporate governance and accounting risks, a new term should be recognized which is “accounting risk governance”. It is also proposed that sound accounting risk management strategies are essential for accounting risk governance which could include proper information management; developing appropriate methods and policies; compliance with industry practices and norms; regulations and laws, corporate governance principles; balance sheet management; proper auditing; understanding establishment of a strong internal control system, accurate and comprehensive reporting; management of market responses and reactions.

Furthermore, as the sample years used in this study covered the years after the adoption of the OECD’s corporate governance code of conduct, this study indicates that the adoption is effective in enhancing the corporate governance practices in Indonesia, as this study shows that corporate governance is effective in reducing earnings management practices. That also showed that corporate governance could be used as a risk management mechanism especially in mitigating accounting risks.

The measurement model indicates the existence of relationships among corporate governance indicators. Internal control and risks management are found to be interrelated. Board independence is also found to have a correlation with internal control and risks management. Hence, these findings might indicate the complementary and substitution effects among the corporate governance indicators. It is also found that board independence and managerial ownership have the lowest loadings, which indicates the existence of setting differences with regards to the complementary and substitution effects. As mentioned earlier, in the Indonesian context, the independence of the board of directors or commissioners could be mitigated by the large size of the boards, as the same phenomenon was also found in Japan, where Japanese firms have relatively bigger board sizes but lower independence (Allen & Gale, 2000).

6.4.2 Methodological Implications

The methodology used in this study provides guidelines for further research in this area, specifically in the use of SEM in corporate governance studies which employs secondary data. The guidelines include:

- The measurement model of SEM could be used to measure the complex construct, such as corporate governance, as it allows researchers to use multiple indicators.
- SEM not only allows researchers to reduce measurement errors, but also ensures the reliability of indicators used to measure corporate governance construct, as using multiple indicators to measure a construct could cause greater measurement errors, and leading to the problem of unsatisfactory results if the indicators are selected arbitrarily.
- The Bollen-Stine Bootstrap procedure is recommended in dealing with a non-normal data distribution.

6.4.3 Practical Implications

The findings of this study provide significant practical implications not only for managers, but also for investors and regulators, specifically for those who conduct business in Indonesia. Several practical implications include:

1. In assessing and structuring corporate governance practises of a firm, shareholders and managers should not only consider compliance with regulations, but also the organizational and environmental factors in which a firm operates, as they could contribute to the effectiveness of corporate governance.
2. Investors should understand that in structuring corporate governance, firms might consider business environment/competition and strategy, as corporate governance is not the only single factor in determining the performance.
3. As corporate governance is found to be effective in minimizing earnings management, investors should be careful in investing funds in firms which have weak corporate governance due to the possibility of earnings management. Moreover, regulators should also strengthen corporate governance regulations to maintain and enhance the earnings quality or financial reports published by firms.
4. This study indicates that the adoption of the OECD's corporate governance code of conduct has improved the effectiveness of corporate governance.

6.5 Summary

This chapter discussed and interpreted the findings of the study which include the results of measurement model and hypotheses testing in accordance with the study's objectives. It also provided the theoretical, methodological and practical implications for those who are interested in investigating the relationship between corporate governance, business environment/competition, and business strategy, as well as the effectiveness of corporate governance in improving performance and earnings quality.

Chapter 7

Summary, Limitations and Conclusions

7.1 Introduction

While the previous chapter discussed and interpreted the results and implications of the study, the objective of this chapter is to summarise the findings. This chapter will also present the limitations of the study and provide suggestions for further research.

7.2 The Model and Research Method of the Study

Although there are many studies on corporate governance, these studies have several major weaknesses, namely: (1) in general they have paid little attention to the determinants of poorly governed firms, especially the influence of business competition and strategy on corporate governance structure; (2) commonly they only observe the effectiveness of corporate governance using a single dimension; (3) they have been largely undertaken in western countries; and (4) they have a methodological limitation in ensuring the reliability of complex construct such as corporate governance; (5) they discuss the determinants and effectiveness of corporate governance separately; (6) they seldom observe the importance of internal control and risk management mechanisms. As a result, the research on the effectiveness of corporate governance has produced mixed results, thus limiting understanding of the effectiveness of corporate governance, as well as the determinants of corporate governance.

To fill these research gaps, the main objective of this study was to analyse factors (business environment and strategy) which influence or determine corporate governance structure and the effectiveness of corporate governance in an integrated framework, formalized by a structural equation model, using Indonesian firms as samples. The general objectives could be broken down into two, which are the main

and the additional objectives. The main objectives reflect the main arguments of the study, while the additional objectives present any other relationships among constructs in a model which are important to be included. Eliminating any important relationships in a model might affect negatively on the goodness-of-fit of a model. The main objectives were to observe whether business competition and strategy determine or influence corporate governance structure and whether corporate governance is effective in increasing performance and earnings quality by minimizing earnings management practices. The additional objectives include observing the effect of business competition on business strategy, the influence of business strategy on performance and earning quality, and the impact of performance on earnings quality.

To achieve the research objectives, a model was developed to guide the study. The model was discussed in Chap. 3. The re-presentation of the model is illustrated again in Fig. 7.1.

This study employed 66 Indonesian firms as samples for the period from 2008 to 2010. Indonesian firms were selected as they were perceived to be representative of firms in developing countries that have adopted regulatory and voluntary based corporate governance. Hence, the effects of non-regulatory factors, such as business competition and strategy were obviously expected to be influencing the corporate governance structure. Moreover, as Indonesia had adopted the OECD's corporate

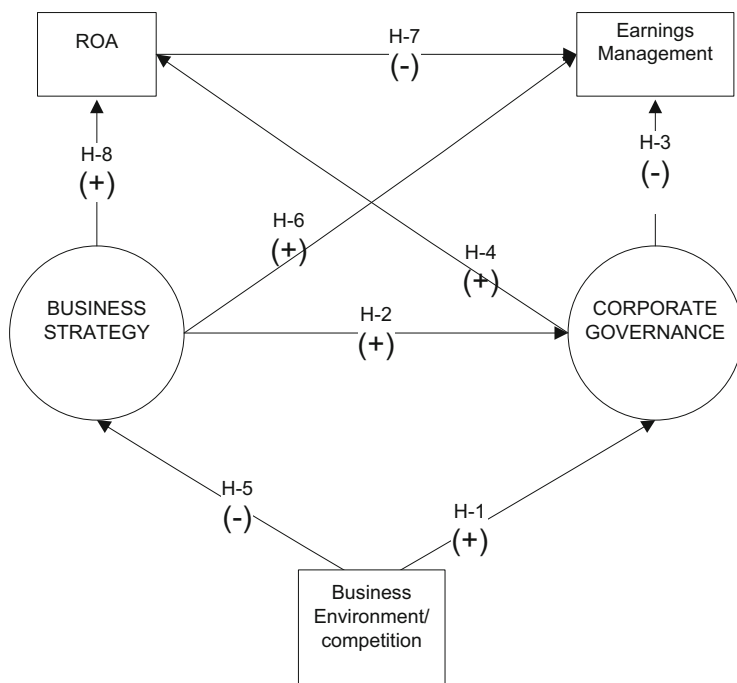


Fig. 7.1 Representation of conceptual framework

governance code of conduct in 2006, the results of this study could be expected to provide indications of the effectiveness of this adoption.

7.3 The Summary of the Results

The results of this study could be separated into three parts, which are (1) findings from the descriptive analysis, (2) findings from the measurement model, and (3) findings from the structural models.

7.3.1 The Key Findings of the Statistic Descriptive Analysis

The data indicated that the wholesale industry had the largest proportion of sample (18.18 %), followed by the retail trade industry (12.12 %) and the coal mining and restaurant, hotel and tourism industry, with each accounting for 7.58 % of the total sample. Three industries, namely the chemical, pharmaceuticals and transportation industry each accounted for the same proportion of 6.06 %. Meanwhile six other industries, the plantation, plastics and packaging, pulp and paper, automotive and components, textile and garments, and telecommunication each had a proportion of 4.55 % of the total sample. Cable, crude petroleum and natural gas, metal and allied packaging, and advertising have the smallest proportion, consisting 1.52 % each.

From the indicators of the business strategy data, it can be seen that the sample firms had very low investment in intangible assets, with an average of intangible assets to total assets of only 0.9 %. This was consistent with the R&D data which showed an average of 0.05 %. In terms of organizational stability as shown by employee turnover, the sample data revealed an average of 0.063, much lower than that of the U.S. data employed in Bentley, Omer and Sharp (2012)'s study, which was 1.38. As for asset efficiency as shown by the ratio of fixed assets to sales, the average was 0.638 or 63.8 %, which was slightly lower compared to Naiker, Navissi, and Sridharan's (2009) study which showed an average of 76 %. Another measure of efficiency (the ratio of employee to sales) showed the figure of 0.014 or 1.4 %. This figure was similar to the finding of Bentley, Omer and Sharp (2012) which showed 0.01 or 1 %. However, for the 3 years observation period, the sales growth data revealed relatively high growth, with an average of 0.115 or 11.5 %.

Data of corporate governance indicators showed that the average size of board of commissioners members was 4.4. The average percentage of independent board members was 38.1 %. With regards to the share ownerships data, public ownership and managerial ownership were relatively low, with only 22.5 % shares owned by the public and 1.9 % by managers. The percentage of audit committee members who have an accounting or finance background was relatively high (66.7 %). The average index of internal control and risk management showed a figure of 0.714, indicating a relatively high quality of internal control and risk management.

The return on assets (ROA) of sample firms showed an average of 0.06 or 6 % for the 3 years observations, with an average of discretionary accruals of 0.093. The mean of Herfindahl Index of the sample industries was used to classify an industry as either competitive or less competitive. The data revealed that 22.2 % of sample firms belonged to the less competitive industries while the remaining firms (77.8 %) operated in competitive industries.

7.3.2 The Key Findings of Measurement Models

The measurement models of this study indicated several important findings. First, this study employs valid and reliable indicators to measure constructs, especially business strategy and corporate governance which are measured using multiple indicators. Second, internal control and risk management indicators are interrelated as the modification index of the Model 4 shows that they are correlated. Third, the indicator of commissioners independence has a correlation with internal control and risk management as shown by Model 3. Fourth, although the indicators of board independence and managerial ownership are perceived to be the most important mechanisms of corporate governance, it is found that these indicators have the lowest loadings compared to the other corporate governance measures. It seems that high concentration of ownerships of Indonesian firms is the main reason for this phenomena.

7.3.3 The Key Findings of Hypothesis Testing

Although this model includes four models of structural models which have different measures, all models produced similar results with regards to the hypothesis testing and hypothesis acceptance. The findings of the hypothesis testing can be summarised as follows.

7.3.3.1 The Relationship Between Business Environment and Corporate Governance (H-1)

It was found that business environment influences corporate governance, where in a competitive industry, firms tend to have weak corporate governance, as the direction of the path showed a positive relationship between business competition and corporate governance. This finding indicates that competition is a substitution of corporate governance. The implied aspects of business environment or competition which are the market of corporate control mechanisms through liquidation, takeover, and managerial position loss risks, public scrutiny risks, and costs of corporate

governance compliance could be reasons why firms in competitive industries tend to have relatively weak corporate governance structure.

7.3.3.2 The Relationship Between Business Strategy and Corporate Governance (H-2)

The strong evidence of the relationship between business strategy and corporate governance found in this study indicates that prospector firms have relatively strong corporate governance, as the direction of the path showed a positive relationship between business strategy and corporate governance construct. It can be interpreted that prospectors have stronger corporate governance as they need controls which increase their abilities to cope with their nature and risks. Such abilities are needed to ensure and maintain investor's confidence in the firms' abilities in executing their strategies.

7.3.3.3 The Relationship Between Corporate Governance and Earnings Quality/Earnings Management (H-3)

This study provides strong evidence of the negative relationship between corporate governance and earnings management which indicates that corporate governance is efficient in improving earnings quality. That also showed that corporate governance could be used as a risk management mechanism especially in mitigating accounting risks. Regulation improvement pertaining to corporate governance such as the adoption of the OECD's corporate governance code of conduct, the interests to attract foreign investments, and the needs to improve reputation could be the major forces that might have increased the effectiveness of corporate governance to reduce the likelihood of earnings management practises in Indonesia.

7.3.3.4 The Relationship Between Corporate Governance and Performance (H-4)

In this study, the findings revealed that corporate governance does not have any relationship with accounting organizational performance. However, the direction of the relationship shows a positive relation as hypothesized, but it is not significant. It seems that in Indonesia, although the corporate governance regime has emphasized on improving the reliability of financial reporting, the performance role of corporate governance is still limited. Moreover, as this study and most other corporate governance studies employ accounting numbers such as return on assets (ROA) or other accounting profit measures, the relationship between corporate governance and performance is less certain, as it is commonly accepted that accounting numbers are prone to be managed by managers (Mir & Seboui, 2006; Penman, 2010). Therefore, as corporate governance is argued to minimize the likelihood of

earnings management, the association between accounting numbers and corporate governance could be less-certain.

7.3.3.5 The Relationship Between Business Environment/Competition and Strategy (H-5)

This study does not provide any strong evidence on the relationship between the business environment and strategy. However, the negative direction of the relationship indicates that in a competitive market, firms tend to select prospector strategy type which is consistent with the hypotheses. The Indonesian high economic growth could be the reason for the weak evidence, as it might encourage firms in any industry (competitive and non-competitive) to invest in risky assets and experience high sales growth. Moreover, certain less competitive industries, such as the pharmaceutical industry might force firms to invest in risky assets to survive. Hence, firms in competitive and less competitive industries might have similar strategies to take advantage of the high economic growth and to match their strategy with their respective industrial demands.

7.3.3.6 The Relationship Between Business Strategy and Earnings Quality/Earnings Management (H-6)

This study does not provide any evidence on the relationship between business strategy and earnings quality. However, the positive sign of the path between business strategy and earnings management indicates that prospectors tend to engage in earnings management, but it is not significant. As it is found that prospector firms have stronger corporate governance (H-2) and higher performance (H-8), prospector firms might have less motivation to engage in earnings management practises.

7.3.3.7 The Relationship Between Performance and Earnings Quality/Earnings Management (H-7)

The relationship between performance and earnings management is not found to be statistically significant in this study. However, the negative sign of the relationship indicates that poor performance firms have a higher possibility of managing earnings. The weak evidence for H-7 could be caused by the need to increase debt capacities and income smoothing motivation. As the pecking order theory is theoretically perceived to operate in developing countries such as Indonesia where firms prefer to use internal fund and debts as sources of funding rather than issuing shares. Hence, high performance firms might still be engaged in earnings management in order to increase their debt capacities, as they need huge funding to take advantage of the high economic growth. Moreover, as uncertainties could be one of

the qualities of a developing country' economy, including Indonesia's, earnings of Indonesian firms are vulnerable to high fluctuation. Thus, randomly, it is possible that some of the high performance firms might have high discretionary accruals to reduce their earnings fluctuation.

7.3.3.8 The Relationship Between Business Strategy and Performance (H-8)

This study provides strong evidence regarding the positive relationship between business strategy and organizational accounting performance, indicating that prospector firms have better performance compared to defender firms. Innovativeness, entrepreneurship orientation, and risks taking characteristics of prospectors could be the essential factors for high performance. Additionally, the high performance of prospector firms could also be caused by their strategy-control fitness as indicated by H-3. It is argued that the prospector strategy type should be matched with strong control to generate high performance. The hypothesis H-2 of this study provides evidence that prospector firms in Indonesia have relatively strong control through corporate governance.

The summary of the hypothesis testing results are presented in Table 7.1.

Table 7.1 Summary of hypothesis testing results

H0 Number	Hypotheses	Hypothesis results
H-1	Since business environment, as measured by the degree of competition, is argued to be the substitution of corporate governance, it will influence the degree of corporate governance. If the business environment is relatively competitive, a firm will tend to have weak corporate governance. Conversely, if the business environment is relatively less competitive, a firm will tend to have strong corporate governance	Accepted
H-2	Since each business strategy type needs different degree of control, business strategy influences corporate governance. A prospector will tend to have strong corporate governance, while a defender will tend to have weak corporate governance	Accepted
H-3	Corporate governance has a positive influence on earnings quality by reducing the likelihood of earnings management	Accepted
H-4	Corporate governance has a positive influence on performance	Rejected
H-5	Since business environment shapes the strategy of a firm, it will influence the selection of the strategy typology choices of a firm. If the business environment is relatively competitive, a firm will select a prospector-strategy type. Conversely, if the business environment is relatively less competitive, a firm will select a defender-strategy type	Rejected
H-6	Business strategy influences the earnings quality which prospector firms are more likely to engage in earnings management practises	Rejected
H-7	Performance has a negative relationship with earnings management	Rejected
H-8	Prospector strategy firms have better accounting performance	Accepted

7.4 Limitations of the Study

As with any other empirical studies, this study also has several limitations. The limitations associated with this study are as follows.

1. This study excludes all financial and property related firms. Hence, the results of this study cannot be generalised for firms in these industries.
2. Oligopolistic industries and monopolistic firms are also excluded from the sample. Including oligopolistic industries and monopolistic firms might affect the results.
3. This study employs five constructs. From the five constructs only two, which are corporate governance and business strategy are measured using multi measures. Although, it is argued that a single measure is reliable in measuring other constructs, the use of multi measures for the other three constructs might result in different outcomes.
4. This study only observes the impact of the business environment and strategy on corporate governance without observing whether the fit between strategy and corporate governance or business environment and corporate governance would result in better performance due to the very limited samples.
5. In measuring the corporate governance construct, this study uses secondary data which is perceived to be biased, since firms tend to report good practises of corporate governance subjectively in order to generate a positive public image.
6. As there are many indicators of corporate governance, this study employs six indicators which are perceived to be important and related to accounting-based corporate governance. The use of different indicators might have an effect on the results.
7. This study uses an index or aggregate to measure internal control and risk management, while many previous studies used different indicators in a dummy measure. Using an index or composite score has several weaknesses, such as it ignores the possibility that some items might not be equally good in measuring constructs or it could be that some measures might contribute more to the measurement of constructs and it assumes that each indicator is either measured without error or the error variance are equal.
8. In measuring the quality of risk disclosure, this study only assesses whether a particular risk is presented in a separate section or not, without developing comprehensive criteria of risk disclosure quality for each risk.
9. This study does not look at the maximum size of board members and managerial ownership which might improve performance. It assumes the existence of proportional relationship between size of board/commissioner members and or managerial ownership and performance.
10. As this study employs panel data and assumes that there is no heterogeneity due to the lack of sample size for each year observations, the effect of time cannot be revealed.

11. This study does not observe the effect of the financial crisis of 2008 on the results. Indonesia was one of the countries which was not severely affected by the financial crisis of 2008. However, the financial crisis may still have effects on results of the study.
12. This study only observes the effect of two important contingency factors which are business competition and business strategy on corporate governance. However, there are many other factors that might influence corporate governance which are not observed by this study.

7.5 Future Research

Apart from the limitations, extensions to this study is possible as follows.

1. This study provides evidence on the relationship between contingency factors, which are business environment/competition, strategy, and control through corporate governance. However, it does not observe whether the proper combination or the fit of these factors might result in better performance. Research regarding the fit between those factors is required. The question of whether prospector firms which have strong corporate governance would generate better performance or not is a very interesting area for further researched.
2. Future research might separate samples into two different business environment/competition, namely competitive and less-competitive industries and explore the effect of corporate governance on performance and earnings quality/earnings management. It could be that in a competitive industry, firms might derived more benefits from corporate governance by improving performance, as it would assist managers on how to deal with competition.
3. Future research could also look at the longitudinal effect of the relationship of the constructs.

Conclusion

This study found that business competition and business strategy determined corporate governance structure. Firms operating in competitive industries were found to have relatively weak corporate governance. Conversely, in less competitive industries firms have stronger corporate governance. This result indicates that business competition is a substitution of corporate governance, as it might reduce agency costs. Business strategy was also found to determine corporate governance structure, of which prospectors have stronger governance compared to defenders. As prospectors were characterised as innovative, aggressive, and high growth firms, they needed stronger governance to assist them in selecting and managing risky projects, as well as

(continued)

managing diversified and complex organizations. These findings indicate that in structuring corporate governance, firms should not only consider regulations, but also the environmental and organizational factors.

With regards to corporate governance effectiveness, this study revealed that corporate governance had a positive influence on earnings quality, as it has a negative correlation with earnings management. However, this study could not find any impact of corporate governance on performance. This finding indicates that the control or financial role is more dominant than the performance role. However, as performance was measured by an accounting number (ROA) which is argued to be vulnerable to being managed, the non-association between corporate governance and ROA could be caused by the possibility that ROA had been manipulated through earnings management.

Additional findings showed that business strategy was not influenced by business competition. This study also found that prospectors had a superior performance compared to defenders. However, the relationship between business strategy and earnings management could not be revealed. It also found that ROA has a negative relationship with earnings management, although the relationship was found to be statistically insignificant. This result indicates that corporate governance mechanisms could be used as risk management tools in mitigating accounting risks.

Methodologically, this study has discussed the appropriateness and benefits of SEM used in this study. SEM has allowed the researcher to have a model which contains multiple equations involving dependence relationship. It also allowed the researcher to assess the validity and reliability of measures of complex constructs such as corporate governance and business strategy. It has also enabled the researcher to assess the correlation among indicators of corporate governance, as well as the contribution of each indicator in representing the constructs.

From the measurement models, it was revealed that the variances of board independence and internal control and risk management were correlated, indicating that both indicators had a common concept, which was not measured in the model. This study also revealed that internal control and risk management indicators were correlated, as the theory perceived both indicators to be interrelated.

However, as this study has some limitations, it is suggested that future research might need to consider some aspects such as the effect of time, observing the fits between strategy and corporate governance, as well as the business environment and corporate governance and their impact on performance.

References

- Abbott, L. J., Parker, S., & Peters, G. F. (2002). *Audit committee characteristics and financial misstatement: A study of the efficacy of certain blue ribbon committee recommendations*. SSRN eLibrary. Working paper. Retrieved from <http://iranarticles.com/attachments/article/3723/Audit%20Committee%20Characteristics%20and%20the%20Perceived%20Quality.pdf>.
- Adams, K., Grose, R., & Leeson, D. (2004). *Internal controls and corporate governance* (2nd ed.). Frenchs Forest, NSW: Pearson Education Australia.
- Aguilera, R. V., Filatotchev, I., & Jackson, G. (2008). An organizational approach to comparative governance: Costs, contingencies, and complementarities. *Organization Science*, 19(3), 475–492.
- Ahmed, A. S., McAnally, M. L., Rasmussen, S., & Weaver, C. D. (2010). How costly is the Sarbanes Oxley Act? Evidence on the effects of the act on corporate profitability. *Journal of Corporate Finance*, 16, 352–369.
- Allen, F., & Gale, D. (2000). Corporate governance and competition. In X. Vives (Ed.), *Corporate governance theoretical and empirical perspectives*. Cambridge: Cambridge University Press.
- Amran, A., Bin, A. M. R., & Hassan, B. C. H. M. (2008). Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports. *Managerial Auditing Journal*, 24(1), 39–57.
- Andersen, T. J. (2008). The performance relationship of effective risk management: Exploring the firm-specific investment rationale. *Long Range Planning*, 41, 155–176.
- Anthony, R. N., & Govindarajan, V. (2007). *Management control system*. New York: McGraw-Hill Irwin.
- Arens, A. A., Elder, R. J., & Beasley, M. S. (2010). *Auditing and assurance services: An integrated approach* (13th ed.). Upper Saddle River, NJ: Prentice Hall.
- Aryani, Y. A. (2009). *The Effect of fairness perception of performance measurement in the balanced scorecard environment*. Doctor of Philosophy thesis, Victoria University.
- Ashari, N., Hian, C. K., & Wei, J. W. (1994). Factors affecting income smoothing among listed companies in Singapore. *Accounting & Business Research*, 24, 291–301.
- Ashbaugh-Skaife, H., Collins, D. W., Kinney, J. R., William, R., & Lafond, R. (2009). The effect of SOX internal control deficiencies on firm risk and cost of equity. *Journal of Accounting Research*, 47(1), 1–43.
- Asthana, S., Balsam, S., & Kim, S. (2009). The effect of Enron, Anderson, and Sarbanes-Oxley on the market for audit services. *Accounting Research Journal*, 22(1), 4–26.
- Barnhart, S. W., & Rosenstein, S. (1998). Board composition, managerial ownership, and firm performance: An empirical analysis. *Financial Review*, 33(4), 1–16.

- Bathala, C., & Carlson, S. J. (1997). Ownership differences and firms income smoothing behavior. *Journal of Business Finance & Accounting*, 24(2), 179–196.
- Bauwhede, H. V., & Willekens, M. (2008). Disclosure on corporate governance in the European Union. *International Review*, 16(2), 101–115.
- Beasley, M. S. (1996). An empirical analysis of the relation between the Board of Director composition and Financial Statement Fraud. *The Accounting Review*, 71(4), 443–465.
- Becker-Blease, H. R. (2011). Governance and innovation. *Journal of Corporate Finance*, 17, 947–958.
- Bedard, J. C., & Graham, I. (2011). Detection and severity classification of Sarbanes-Oxley section 404 internal control deficiencies. *The Accounting Review*, 86(3), 825–855.
- Bentley, K. A., Omer, T. C., & Sharp, N. Y. (2012). Business strategy, audit effort, and financial reporting irregularities. *Contemporary Accounting Research*, 30, 780–817.
- Bhagat, S., & Black, B. (1999). The uncertain relationship between board composition and firm performance. *Business Lawyer*, 54, 921–963.
- Bhagat, S., & Black, B. (2002). The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law*, 7(2), 231–73.
- Blunch, N. J. (2008). *Introduction to structural equation modeling using SPSS and AMOS* (Vol. 1). London: Sage.
- Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, 110(2), 305.
- Bollen, K. A., & Stine, R. A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods and Research*, 21, 205–229.
- Boonlert-U-Thai, K., Meek, G. K., & Nabar, S. (2006). Earnings attributes and investor-protection: International evidence. *The International Journal of Accounting*, 41(4), 327–357.
- Booth, L. (1998). *What drives shareholder value?* Paper presented to The Federated Press “Creating Shareholder Value” conference, Toronto, Canada, October 28, 1998.
- Bozec, Y., & Bozec, R. (2007). Ownership concentration and corporate governance practices: Substitution or expropriation effects? *Canadian Journal of Administrative Sciences*, 24(3), 182–195.
- Brigham, E., & Houston, J. (2009). *Fundamentals of financial management*. Ohio: South Western Cengage Learning.
- Brown, L. D., & Caylor, M. L. (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy*, 25, 409–434.
- Byrne, B. M. (2006). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Caixing, L., & David, Y. (2011). An analysis of the impact of the Sarbanes-Oxley act on earnings management. *Advances in Management*, 4(6), 25–31.
- Carcello, J. V., & Neal, T. L. (2003). Audit committee independence and disclosure: Choice for financially distressed firms. *Corporate Governance: An International Review*, 11(4), 289–299.
- Chang, J. C., & Sun, H. L. (2009). Crossed-listed foreign firm’s earnings informativeness, earning management and disclosures of corporate governance information under SOX. *The International Journal of Accounting*, 44, 1–32.
- Chen, J. S., Chen, M. C., Liao, W. J., & Chen, T. H. (2009). Influence of capital structure and operational risk on profitability of Life Insurance industry in Taiwan. *Journal of Modelling in Management*, 4(1), 7–18.
- Chen, K., Chen, Z., & Wei, K. C. J. (2009). Legal protection of investors corporate governance, and the cost of equity capital. *Journal of Corporate Finance*, 15, 273–289.
- Chen, K. Y., Elder, R. J., & Hsieh, Y. M. (2007). Corporate governance and earnings management: The implications of corporate governance best-practice principles for Taiwanese listed companies. *Journal of Contemporary Accounting & Economics*, 3(2), 73–105.
- Chen, C. J., & Yu, J. C. M. (2012). Managerial ownership, diversification, and firm performance: Evidence from an emerging market. *International Business Review*, 21(3), 518–534.

- Cheng, Q. (2005). What determines residual income? *The Accounting Review*, 80(1), 85–112.
- Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial Economics*, 87, 157–176.
- Cheng, E. C. M., & Courtenay, S. M. (2006). Board composition, regulatory regime and voluntary disclosure. *The International Journal of Accounting*, 41, 262–289.
- Cheng, S., Evans, J. H., III, & Nagarajan, N. J. (2008). Board size and firm performance: The moderating effects of the market for corporate control. *Review of Quantitative Finance & Accounting*, 31, 121–145.
- Chenhall, R. H., & Morris, D. (1986). The impact of structure, environment and interdependence on the perceived usefulness of management accounting systems. *The Accounting Review*, 61, 16–35.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22, 7–16.
- Chin, C., Kleinman, G., Lee, P., & Lin, M. F., IV. (2006). Corporate ownership structure and accuracy and bias of mandatory earnings forecast: Evidence from Taiwan. *Journal of International Accounting Research*, 5(2), 41–62.
- Chou, J., Ng, L., Sibilkov, V., & Wang, Q. (2011). Product market competition and corporate governance. *Review of Development Finance*, 1, 114–130.
- Committee of Sponsoring Organisations of the Treadway Commission (COSO). (1992). *Internal control-integrated framework*. New York: AICPA.
- COSO. (2004). *Enterprise risk management—Integrated framework*. New York: Committee of Sponsoring Organisations of the Treadway Commission (COSO).
- Cui, H., & Mak, Y. (2002). The relationship between managerial ownership and firm performance in High R&D Firms. *Journal of Corporate Finance*, 8(4), 313–336.
- Dallas, L. L. (2003). The multiple roles of corporate boards of directors. *San Diego Law Review*, 40(3).
- Davidson, W. N., III, Xie, B., & Xu, W. (2004). Market reaction to voluntary announcements of audit committee appointments: The effect of financial expertise. *Journal of Accounting and Public Policy*, 23(4), 279–293.
- Dechow, P. M., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting & Economics*, 50 (2/3), 344–401.
- DeFond, M. L. (2010). Earnings quality research; Advances, challenges and future research. *Journal of Accounting and Economics*, 50, 402–409.
- Demsetz, H. (1982). Barriers to entry. *The American Economic Review*, 72(1), 47–57.
- Denis, D. J., Denis, D. K., & Yost, K. (2002). Global diversification, industrial diversification, and firm value. *Journal of Finance*, 57(5), 1951–1979.
- Denis, D. K., & McConnell, J. J. (2003). International corporate governance. *Journal of Financial and Quantitative Analysis*, 38(1), 1–36.
- Dijkstra, T. K. (2010). Latent variables and indices: Herman world's basic design and partial least squares. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications*. Berlin: Springer.
- Dolde, W. (1995). Hedging, leverage and primitive risk. *Journal of Financial Engineering*, 4, 187–216.
- Donaldson, L. (2001). *The contingency theory of organizations* (2nd ed.). Thousand Oaks, CA: Sage.
- Dong, J., & Gou, Y. (2010). Corporate governance structure, managerial discretion, and the R&D investment in China. *International Review of Economics and Finance*, 19, 180–188.
- Draghici, S. (2012). *Statistics and data analysis for microarrays using R and bioconductor* (2nd ed.). Boca Raton, FL: CRC.
- Drake, M. S., Myers, J. N., & Myers, L. A. (2009). Disclosure quality and the mispricing of accruals and cash flow. *Journal of Accounting, Auditing, & Finance*, 24(3), 357–384.

- Duchin, R., Matsusaka, J. G., & Ozbas, O. (2010). When are outside directors effective? *Journal of Financial Economics*, 96, 195–214.
- Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, 48(1), 35–54.
- Eisenhardt, K. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74.
- Elsayed, K. (2010). A multi-theory perspective of board leadership structure: What does the Egyptian corporate governance contexts tell us? *British Journal of Management*, 21, 80–99.
- Fan, J. P. H., & Wong, T. J. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics*, 33(3), 401–425.
- Fauzi, H., & Idris, K. M. (2009). The performance implications of fit among environment, strategy, structure, control system and social performance. *Issues in Social and Environmental Accounting*, 3(2), 117–142.
- Filatotchev, I., & Toms, S. (2003). Corporate governance, strategy and survival in a declining industry: A study of UK cotton textile companies. *Journal of Management Studies*, 40, 895–920.
- Fillone, A. M., Tiglaio, N. C., Jr., & Montalbo, C. M., Jr. (2005). Assessing urban travel: A structural equations modelling (SEM) approach. *Journal of the Eastern Asia Society for Transportation Studies*, 5, 1050–1064.
- Florackis, C., Kostakis, A., & Ozkan, A. (2009). Managerial ownership and performance. *Journal of Business Research*, 62(12), 1350–1357.
- Fornell, C. (1983). Issues in the application of covariance structure analysis: A comment. *The Journal of Consumer Research*, 9(4), 443–448.
- Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research*, 16(4), 440–452.
- Fox, J. (2008). *An introduction to structural equation modeling*, Programa de Computação Científica – FIOCRUZ Rio de Janeiro, Brazil
- Frankel, R., McNichols, M., & Wilson, G. P. (1995). Discretionary disclosure and external financing. *The Accounting Review*, 70(1), 135–150.
- Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1994). A framework for risk management. *Harvard Business Review*, 72, 91–98.
- Gani, L., & Jermias, J. (2006). Investigating the effect of board Independence on performance across different strategies. *The International Journal of Accounting*, 41, 295–314.
- Gani, L., & Jermias, J. (2009). Performance implications of environment-strategy-governance misfit. *Gadjah Mada International Journal of Business*, 11(1), 1–20.
- Garcia-Meca, E., & Sanchez-Ballesta, J. P. (2010). The association of board Independence and ownership concentration with voluntary disclosure: A meta-analysis. *European Accounting Review*, 19(3), 603–627.
- Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4, 1–77.
- Geiger, S. W., Ritchie, W. J., & Marlin, D. (2006). Strategy/structure fit and firm performance. *Organization Development Journal*, 24(2), 10–22.
- Ghofar, A., & Sardar, S. M. N. (2013) *Analysis of the determinants and effectiveness of corporate governance: A contingency theory approach*. A conference paper: Asian conference on corporate governance and sustainability, Thailand.
- Giroud, X., & Mueller, H. M. (2010). Does corporate governance matter in competitive industries? *Journal of Financial Economics*, 95(3), 312–331.
- Givoly, D., Hayn, C., & Katz, S. P. (2009). Does public ownership of equity improve earnings quality? *Harvard Business School Research Paper No. 09-105*.
- Godfrey, J., Hodgson, A., Holmes, S., & Tarca, A. (2006). *Accounting theory* (6th ed.). Brisbane: John Wiley.

- Godfrey, J. M., & Jones, K. L. (1999). Political influences on income smoothing via extraordinary item classification. *Journal of Accounting and Finance*, 39, 229–254.
- Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal*, 30(4), 425–445.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118(1), 107–156.
- Goodwin, J., & Ahmed, K. (2006). Longitudinal value relevance of earnings and intangible assets: Evidence from Australian firms. *Journal of International Accounting, Auditing and Taxation*, 15, 72–91.
- Gordon, L. A., Loeb, M. P., & Tseng, C. Y. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting & Public Policy*, 28, 301–327.
- Gosh, D., & Lusch, R. F. (2000). Outcome effect, controllability and performance evaluation of managers: Some field evidence from multi-outlet businesses. *Accounting, Organizations and Society*, 25, 411–425.
- Gravetter, F., & Wallnau, L. (2007). *Statistics for the behavioral sciences*. Belmont, CA: Thompson Learning.
- Guay, W. R. (1999). The impact of derivatives on firm risk: An empirical examination of new derivative users. *Journal of Accounting & Economics*, 26, 319–351.
- Guest, P. M. (2009). The impact of board size on firm performance: Evidence from the UK. *The European Journal of Finance*, 15(4), 385–404.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice-Hall International.
- Hamadi, M. (2010). Ownership concentration, family control and performance of firms. *European Management Review*, 7, 116–131.
- Hambrick, D. C. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. *Academy of Management Journal*, 26(1), 5–26.
- Hanson, D. R., & Mowen, M. M. (2007). *Managerial accounting* (8th ed.). Ohio: Thomson.
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7, 85–107.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A Review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1), 405–440.
- Heckman, J. (1978). Dummy endogenous variables in a simultaneous equation system. *Econometrica*, 46(6), 931–959.
- Hendry, K., & Kiel, G. (2004). The role of the board in firm strategy: Integrating agency and organisational control perspectives. *Corporate Governance*, 12(4), 500–520.
- Heugens, P., Essen, M. V., & Oosterhout, J. V. (2008). Meta-analysing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding. *Asia Pacific Journal of Management*, 26, 481–512.
- Himmelberg, C. P., Hubbard, R. G., & Palia, D. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics*, 53(3), 353–384.
- Hirschey, M. (2003). Organization structure and corporate governance: A survey. In M. Hirschey, K. John, & A. K. Makhija (Eds.), *Corporate governance and finance* (Vol. 8). Amsterdam: Emerald Group Publishing.
- Ho, S., & Hutchinson, M. (2010). Internal audit department characteristics/activities and audit fees: Some evidence from Hong Kong firms. *Journal of International Accounting, Auditing and Taxation*, 19, 121–136.
- Ho, S. S. M., & Shun Wong, K. (2001). A study of the relationship between corporate governance structures and the extent of voluntary disclosure. *Journal of International Accounting, Auditing and Taxation*, 10(2), 139–156.

- Holmes, S., Cunningham, E., & Coote, L. (2006). *Structural equation modeling: From the fundamentals to advanced topics*. Melbourne: Sream and Statsline.
- Holmes-Smith, P. (2012). *Structural equation modeling (using AMOS): From the fundamentals to advanced topics*. Melbourne: School Research Evaluation and Measurement Services (SREAMS).
- Hoque, Z. (2004). A contingency model of the association between strategy, environmental uncertainty and performance measurement: Impact on organizational performance. *International Business Review*, 13, 485–502.
- Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43(3), 249–267.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multi-disciplinary Journal*, 6(1), 1–55.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195–204.
- Hung, H. (1998). A typology of the theories of the roles of governing boards. *Corporate Governance: An International Review*, 6(2), 101–111.
- Husted, B. W. (2005). Risk management, real options, corporate social responsibility. *Journal of Business Ethics*, 60(2), 175–183.
- Ittner, D. C., & Larcker, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36, 1–35.
- Ittner, D. C., Larcker, D. F., & Rajan, M. V. (1997). The choice of performance measures in annual bonus contracts. *The Accounting Review*, 72(2), 231–255.
- Ivashkovskaya, I., & Stepanova, A. (2010). Does strategic corporate performance depend on corporate financial architecture? Empirical study of European, Russian and other Emerging market's firms. *Journal of Management and Governance*, 14, 603–616.
- Januszewski, S. I., Koke, J., & Winter, J. (2002). Product market competition, corporate governance and firm performance: An empirical analysis for Germany. *Research in Economics*, 56, 299–332.
- Jennings, M. M., Pany, K., & Reckers, P. M. J. (2008). Internal control audits: Judges' perceptions of the credibility of financial reporting process and likely auditor liability. *Advances in Accounting*, 24, 182–190.
- Jensen, M. (2010). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Applied Corporate Finance*, 22(1), 43–58.
- Jensen, M. C., & Fama, E. F. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301–325.
- Jensen, M. C., & Meckling, W. H. (1976). The theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jeon, S., Kang, I., & Lee, S. (2004). The relationship between persistence of abnormal earnings and usefulness of accounting information in hotel companies. *Tourism Management*, 25(6), 735–740.
- Jiang, W., Lee, P., & Anandarajan, A. (2008). The association between corporate governance and earnings quality: Further evidence using the GOV-Score. *Advances in Accounting*, 24(2), 191–201.
- Jiraporn, P., Kim, Y. S., & Davidson, W. N. (2006). Corporate governance, shareholder rights, and firm diversification: An empirical analysis. *Journal of Banking & Finance*, 30, 947–963.
- Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193–228.
- Kaen, F. R. (2005). Risk management, corporate governance and the public corporation. In M. Rudolf, M. Frenkel, & U. Hommel (Eds.), *Risk management: Challenge and opportunity* (2nd ed.). Heidelberg: Springer.
- Kald, M., Nilsson, F., & Rapp, B. (2000). On strategy and management control: The importance of classifying the strategy of the business. *British Journal of Management*, 11, 197–212.

- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard—measures that drive performance. *Harvard Business Review*, 70, 71–79.
- Karuna, C. (2007). Industry product market competition and managerial incentives. *Journal of Accounting and Economics*, 43, 275–297.
- Karuna, C. (2010). *Industry product market competition and internal corporate governance*. Houston, TX: University of Houston.
- Katz, S. P. (2009). Earnings quality and ownership structure: The role of private equity sponsors. *The Accounting Review*, 84(5), 623–658.
- Keasey, K., Short, H., & Wright, M. (2005). The development of corporate governance codes in the UK. In K. Keasey, S. Thompon, & M. Wright (Eds.), *Corporate governance: Accountantability, enterprise, and international comparisons*. West Sussex: John Wiley.
- Keong, L. C. (2002). Introduction—The corporate governance debate. In L.-C. Keong (Ed.), *Corporate governance: An Asia-Pacific critique*. Hong Kong: Sweet & Maxell Asia.
- Kiel, G. C., & Nicholson, G. J. (2003). Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance. *Corporate Governance: An International Review*, 11(3), 189–205.
- Kim, H., & Lim, C. (2010). Diversity, outside directors and firm valuation: Korean evidence. *Journal of Business Research*, 63, 284–291.
- Kinney, W., & McDaniel, L. (1989). Characteristics of firms correcting previously reported quarterly earnings. *Journal of Accounting & Economics*, 11, 71–93.
- Kothari, S. P., Xu, L., & Short, J. (2009). The effect of disclosure by management, analysts, and business press on cost of capital, return volatility, and analyst forecast: A study using content analysis. *The Accounting Review*, 84(5), 1639–1670.
- Krishnan, G. (2003). Audit quality and the pricing of discretionary accruals. *Auditing: A Journal of Practice & Theory*, 22(1), 109–126.
- Krishnan, J. (2005). Audit committee quality and internal control: An empirical analysis. *The Accounting Review*, 80(2), 649–675.
- Lajili, K., & Zeghal, D. (2005). A content analysis of risk management disclosures in Canadian annual reports. *Canadian Journal of Administrative Sciences*, 22(2), 125–142.
- Lanfranconi, C. P., & Robertson, D. A. (2002). Corporate financial reporting: The role of the board of directors. *Ivey Business Journal*, 67(1), 1–3.
- Lang, W., & Jagtiani, J. (2010). The mortgage and financial crises: The role of credit risk management and corporate governance. *Atlantic Economic Journal*, 38(3), 295–316.
- Langfield-Smith, K. (1997). Management control system and strategy: A critical review. *Accounting, Organizations and Society*, 22(2), 207–232.
- Langfield-Smith, K. (2007). A review of quantitative research in management control systems and strategy. In C. S. Chapman, A. G. Hopwood, & M. D. Shileds (Eds.), *Handbook of management accounting research* (Vol. 2, pp. 753–783). Oxford: Elsevier.
- Larcker, D. F., Richardson, S. A., & Tuna, I. (2007). Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review*, 82(4), 963–1008.
- Larmou, S., & Vafeas, N. (2010). The relationship between board size and firm performance in firms with a history of poor operating performance. *Journal of Management & Governance*, 14, 61–85.
- Latridis, G., & Kadorinis, G. (2009). Earnings management and firm financial motives: A financial investigation of UK listed firms. *International Review of Financial Analyst*, 18, 164–173.
- Lazonick, W., & O'Sullivan, M. (2000). Maximizing shareholder value: A new ideology for corporate governance. *Economy and Society*, 29(1), 13–35.
- Léauté, T. O. (2007). *Corporate risk management for value creation: A guide to real-life applications*. London: Risk Books.
- Lee, C. W., Li, L., & Yue, H. (2006). Performance, growth and earnings management. *Review of Accounting Studies*, 11(2/3), 305–334.
- Lefort, F., & Urzua, F. (2008). Board independence, firm performance and ownership concentration: Evidence from Chile. *Journal of Business Research*, 61(6), 615–622.

- Legenzova, R. (2008). An assessment of interaction between ownership structure and voluntary financial disclosure of Lithuanian corporation. *Economics and Management*, 1, 48–55.
- Li, F. (2008). Annual report readability, current earnings, and earnings persistence. *Journal of Accounting & Economics*, 45(2–3), 221–247.
- Li, H. X., Wang, Z. J., & Deng, X. L. (2007). Ownership, independent directors, agency costs, and financial distress: Evidence from Chinese listed companies. *Corporate Governance*, 8(5), 622–636.
- Lim, S. S., & Wang, H. (2007). The effect of financial hedging on the incentives for corporate diversification: The role of stakeholder firm-specific investments. *Journal of Economic Behavior & Organization*, 62, 640–656.
- Lin, C. J. (2011). An examination of board and firm performance: Evidence from Taiwan. *The International Journal of Business and Finance Research*, 5(4), 17–34.
- Lin, C. M., Phillips, R. D., & Smith, S. D. (2008). Hedging, financing, and investment decisions: Theory and empirical tests. *Journal of Banking & Finance*, 32, 1566–1582.
- Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *Business Lawyer*, 48, 59–77.
- Ljubojevic, C., & Ljubojevic, G. (2008). Building corporate reputation through corporate governance. *Journal of Management*, 3(3), 221–233.
- Lo, K. (2007). Earnings management and earnings quality. *Journal of Accounting & Economics*, 45, 350–357.
- Lo, A. W. Y., Wong, R. M. K., & Firth, M. (2010). Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. *Journal of Corporate Finance*, 16(2), 225–235.
- Maher, M., & Andersson, T. (2000). *Corporate governance: Effects on firm performance and economic growth*. http://papers.ssm.com/sol3/papers.cfm?abstract_id=218490#
- Mak, Y. T., & Kusnadi, Y. (2005). Size really matter: Further evidence on the negative relationship between board of size and firm Value. *Pacific-Basin Finance Journal*, 13, 301–318.
- Marra, A., Mazzola, P., & Prencipe, A. (2011). Board monitoring and earnings management pre-and post-IFRS. *The International Journal of Accounting*, 46, 205–230.
- Martins, J., & Alves, S. (2010). The impact of intangible assets on financial and governance policies: A literature review. *Portuguese Journal of Management Studies*, 15(1), 87–107.
- McKee, D. O., Varadarajan, P. R., & Pride, W. M. (1989). Strategic adaptability and firm performance: A market contingent perspective. *Journal of Marketing*, 53, 21–35.
- McMullen, D., & Raghunandan, K. (1996). Enhancing audit committee effectiveness. *Journal of Accountancy*, 182(2), 79–81.
- Miles, R. E., & Snow, C. C. (1978). *Organizational strategy, structure, and process*. New York: McGraw-Hill.
- Miles, R. E., & Snow, C. C. (2003). *Organizational strategy, structure, and process*. Stanford, CA: Stanford University Press.
- Mir, E. A., & Seboui, S. (2006). Corporate governance and earnings management, and the relationship between economic value added and created shareholder value. *Journal of Asset Management*, 7(3/4), 242–254.
- Mitton, T. (2002). A cross firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics*, 64, 215–241.
- Mu, J., Peng, G., & MacLachlan, D. L. (2009). Effect of risk management strategy on NPD performance. *Technovation*, 29(3), 170–180.
- Mueller, D. C. (2006). Corporate governance and economic performance. *International Review of Applied Economics*, 20(5), 623–643.
- Naiker, V., Navissi, F., & Sridharan, V. (2009). The agency cost effects of unionization on firm value. *Journal of Management Accounting Research*, 20, 133–152.
- Nazari, J. A. (2010). *An investigation of the relationship between the intellectual capital components and firm's financial performance*. Doctor of Philosophy thesis, University of Calgary.

- Neely, A., Gregory, M., & Platts, K. (2005). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 25(12), 1228–1263.
- Niu, F. F. (2006). Corporate governance and the quality of accounting earnings: A Canadian perspective. *International Journal of Managerial Finance*, 2(4), 302–327.
- OECD. (2004). *OECD Principles of corporate governance*. Organization for Economic Co-operation and Development (OECD), retrieved from <http://www.oecd.org/corporate/oecdprinciplesofcorporategovernance.htm>
- Osma, N. G. (2008). Board independence and real earnings management: The case of R&D expenditure. *Corporate Governance*, 16(2), 116–131.
- Osma, N. G., & Noguer, B. G. (2007). The effect of the board composition and its monitoring committees on earnings management: Evidence from Spain. *Corporate Governance: An International Review*, 15(6), 1413–1428.
- Otley, D. (1994). Management control in contemporary organizations: Towards a wider framework. *Management Accounting Research*, 5, 289–299.
- Palangkaraya, A., Stierwald, A., Webster, E., & Jensen, P. H. (2010). *Examining the characteristics of innovative firms in Australia*. Melbourne: Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.
- Park, Y. W., & Shin, H. H. (2004). Board composition and earning management in Canada. *Journal of Corporate Finance*, 10, 431–457.
- Patrick, H. (2001). *Corporate governance and the Indonesian financial system: A comparative perspective*. Paper for CSIS-Columbia University Joint Research Program on Indonesian Economic Institution Building in a Global Economy, USAID-Partnership for Growth Project, August.
- Pearce, J. A., & Zahra, S. (1992). Board composition from a strategic contingency perspective. *Journal of Management Studies*, 29(4), 411–438.
- Peng, M. W., & Heath, P. S. (1996). The growth of the firm in planned economies in transition: Institutions, organizations, and strategic choice. *Academy of Management Review*, 21(2), 492–528.
- Peng, M. W., Wang, D. Y. L., & Jiang, Y. (2008). An institution-based view of International business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920–936.
- Penman, S. H. (2010). *Financial statement analysis and security valuation*. New York: McGraw-Hill.
- Pergola, T. M., Joseph, G. W., & Jenzarli, A. (2009). Effects of corporate governance and board equity ownership on earning quality. *Academy of Accounting & Financial Studies Journal*, 13(4), 87–114.
- Pitelis, C. N. (2004). (Corporate) governance, (shareholder) value and (sustainable) economic performance. *Corporate Governance*, 12(2), 210–223.
- Porter, M. E. (1980). *Competitive strategy*. New York: Free Press.
- Porter, M. E. (1998). *Competitive advantage: Creating and sustaining superior performance*. New York: Free Press.
- Pugliese, A., Bezemer, P. J., Zattoni, A., Huse, M., Van Den Bosch, F. A. J., & Volberda, H. W. (2009). Boards of directors' contribution to strategy: A literature review and research agenda. *Corporate Governance: An International Review*, 17(3), 292–306.
- Purmerend, A. Y. (2012). Good corporate governance pays off for Indonesia. *The Jakarta Post*.
- Rahman, M. Z. (1998). The role of accounting in the East Asian financial crisis: Lessons learned. *Transnational Corporations*, 7(3), 1–52.
- Reddy, S. K. (1992). Effects of ignoring correlated measurement error in structural equation models. *Educational and Psychological Measurement*, 52(3), 549–570.
- Rediker, K. J., & Seth, A. (1995). Boards of directors and substitution effects of alternative governance mechanisms. *Strategic Management Journal*, 16, 85–99.
- Rezaee, Z. (2005). Causes, consequences, and deterrence of financial statement fraud. *Critical Perspectives on Accounting*, 16(3), 277–298.
- Rezaee, Z. (2009). *Corporate governance and ethics*. Hoboken, NJ: John Wiley.

- Richardson, S. A., Sloan, R. G., Soliman, M. T., & Tuna, I. (2005). Accrual reliability, earnings persistence and stock prices. *Journal of Accounting & Economics*, 39(3), 437–485.
- Ronen, J., & Yaari, V. (2008). *Earnings management: Emerging insights in theory, practice, and research*. New York: Springer.
- Sardar, M. N. (2013). Accounting risk governance: A multidisciplinary analysis and research agenda. Victoria university.
- Schmidt, K. M. (1997). Managerial incentives and product market competition. *Review of Economic Studies*, 64, 191–213.
- Schmidt, S. L., & Brauer, M. (2006). Strategic governance: How to assess board effectiveness in guiding strategy execution. *Strategic Governance*, 14(1), 13–14.
- Scott, W. R. (2011). *Financial accounting theory*. Toronto, ON: Pearson.
- Setia-Atmaja, L. Y. (2009). Governance mechanism and firm value: The impact of ownership concentration and dividends. *Corporate Governance: An International Review*, 17(6), 694–709.
- Short, H., & Keasey, K. (1999). Managerial ownership and the performance of firms: Evidence from the UK. *Journal of Corporate Finance*, 5(1), 79–101.
- Singh, A. (2003). Competition, corporate governance and selection in emerging markets. *The Economic Journal*, 113(491), F443–F464.
- Siregar, S. V., & Utama, S. (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate governance practices: Evidence from Indonesia. *The International Journal of Accounting*, 43(1), 1–27.
- Solomon, J. F., Solomon, A., Norton, S. D., & Joseph, N. L. (2000). A conceptual framework for corporate risk disclosure emerging from the agenda for corporate governance reform. *The British Accounting Review*, 32(4), 447–478.
- Spira, L. F., & Gowthorpe, C. (2008). *Reporting on internal control in the UK and the US: Insights from the turnbull and Sarbanes-Oxley consultations*. Edinburgh: The Institute of Chartered Accountants of Scotland.
- Spira, L. F., & Page, M. (2003). Risk management: The reinvention of internal control and the changing role of internal audit. *Accounting Auditing & Accountability*, 16(4), 640–661.
- Sun, L., & Rath, S. (2009). An empirical analysis of earnings management in Australia. *International Journal of Human and Social Sciences*, 4(14), 1069–1085.
- Sunityo-Shauki, E., & Siregar, S. V. (2007). *Determinants of firm's governance and financial Performance: Evidence of the Indonesian listed companies*. Paper presented to 19th Asia Pacific conference on international accounting issues, Kuala Lumpur, Malaysia.
- Switzer, L. N. (2007). Corporate governance, Sarbanes-Oxley, and small-cap firm performance. *The Quarterly Journal of Economics and Finance*, 47, 651–666.
- Tadesse, S. (2006). Innovation, information and financial architecture. *Journal of Financial and Quantitative Analysis*, 41, 753–786.
- Tan, H. H., & See, H. H. (2004). Strategic reorientation and responses to the Asian financial crisis: The case of the manufacturing industry in Singapore. *Asia Pacific Journal of Management*, 21, 189–211.
- Tang, Z., & Tang, J. (2012). Entrepreneurial orientation and SME performance in China's changing environment: The moderating effects of strategies. *Asia Pacific Journal of Management*, 20(2), 409–431.
- Terblanche, N. S. (2008). Reconsidering the measures of shareholders value: A conceptual overview. *Corporate Ownership and Control*, 5(4), 9–14.
- Thompson, A. A., Strickland, A. J., & Gamble, J. E. (2010). *Crafting and executing strategy: The quest for competitive advantage* (17th ed.). New York: McGraw-Hill.
- Thomsen, S., Pedersen, T., & Kvist, H. K. (2006). Blockholder ownership: Effect on firm value in market and control based governance system. *Journal of Corporate Finance*, 12, 246–269.
- Tian, G. Y., & Twite, G. (2009). Corporate governance, external market discipline and firm productivity. *Journal of Corporate Finance*, 17, 403–417.

- Trueman, B. (1986). Why do managers voluntarily release earnings forecasts? *Journal of Accounting and Economics*, 8(1), 53–71.
- Van de Ven, A. (2010). *Risk management from an accounting perspective* (Risk management and corporate governance: Interconnections in law, accounting and tax). Cheltenham: Edward Elgar Publishing Limited.
- Victoria, K. (2006). Ownership, board structure, and performance in continental Europe. *The International Journal of Accounting*, 41(2), 176–197.
- Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). Editorial: Perspectives on partial least squares. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications*. Berlin: Springer.
- Wang, K., & Claiborne, M. C. (2008). Determinants and consequences of voluntary disclosure in an emerging market: Evidence from China. *Journal of International Accounting, Auditing and Taxation*, 17(1), 14–30.
- Ward, A. J., Brown, J. A., & Rodrigues, D. (2009). Governance bundles, firm performance, and the substitutability and complementary of Governance mechanisms. *Corporate Governance: An International Review*, 17(5), 646–660.
- Wells, J. T. (2004). New approaches to fraud deterrence. *Journal of Accountancy*, 197(2), 72–76.
- Wibowo, A. (2008). *The impact of organizational culture and internal corporate governance on organizational performance in Indonesian Companies*. Doctor of Philosophy thesis, Curtin University of Technology.
- Wie, T. K. (2002). Competition policy in Indonesia and the new anti-monopoly and fair competition law. *Bulletin of Indonesian Economic Studies*, 38(3), 331–342.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314.
- Wilcox, J. B., Howell, R. D., & Breivik, E. (2008). Questions about formative measurement. *Journal of Business Research*, 61(12), 1219–1228.
- Wolfe, L. M., & Ethington, C. A. (1986). Within-variable, between occasion error covariances in models of educational achievement. *Educational and Psychological Measurement*, 46(3), 571–583.
- World Bank. (2010). *The 2010 corporate governance ROSC for Indonesia*. Washington, DC: World Bank.
- Wu, H. L. (2008). When does internal governance make firm innovative? *Journal of Business Research*, 61, 141–153.
- Yatim, P. (2009). Board structures and the establishment of a risk management committee by Malaysian listed firms. *Journal of Management and Governance*, 14, 17–36.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40, 185–211.
- Yeung, M. C. H., & Ennew, C. T. (2000). From customer satisfaction to profitability. *Journal of Strategic Marketing*, 8, 313–326.
- Yong, L. (2009). *Lessons in corporate governance from the global financial crisis*. Sydney, Australia: CCH a Walters Kluwer Business.
- Young, B. (2003). Corporate governance and firm performance: Is there a relationship? *Ivey Business Journal*, 68, 1–5.
- Yuan, L., Zhongfeng, S., & Yi, L. (2010). Can strategic flexibility help firms profit from product innovation? *Technovation*, 30(5–6), 300–309.
- Yunos, R. M. (2011). The effect of ownership concentration, Board of Directors, Audit Committee and ethnicity on conservative accounting: Malaysian evidence. Doctor of Philosophy thesis, Edith Cowan University.
- Zahra, S., & Pearce, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15(2), 291–334.
- Zhang, Y., Zhou, J., & Zhou, N. (2007). Audit committee quality, Auditor independence, and internal control weaknesses. *Journal of Accounting and Public Policy*, 26, 300–327.

Index

A

- Asian Conference on Corporate Governance and Sustainability, 43–44
- Audit committee financial expertise (PCAFB), 67–68
- Auditor's opinion/report (AOP), 69–70

B

- Board of commissioners independence (INB), 67
- Business risks (BR), 71
- Business strategy
 - vs. corporate governance, 45–46
 - definition, 8
 - vs. earnings quality, 49–50
 - vs. performance, 51

C

- Conceptual framework
 - business competition, 42
 - business strategy, 43
 - vs. contingency factors, 41
 - contingency theory, 43
 - corporate governance (*see* Corporate governance)
 - impact of, 42
 - incorporates determinants, 42
 - measure, 43
 - role, 41–42
- Confirmatory factor analysis
 - AMOS output of normality assessment, 102, 104
 - goodness-of-fit indices, 102, 104, 106, 108

- model figure and AMOS outputs, 102, 103
- second model of, 104, 105
- in SEM, 100
- single-factor congeneric model, 102
- standardized and variance, 101
- standardized regression weights for, 102, 104, 107, 108
- variance extracted estimate, 101–102
- variance for, 103, 105, 107, 108
- Corporate governance, 11, 37–38
 - academic contribution, 7
 - accounting risks, 3, 134
 - arguments, 3
 - basic concept, 12–13
 - business strategy, 8
 - conceptual framework (*see* Conceptual framework)
 - contingency theory
 - business strategy, 17–18
 - control system, 16–17
 - costs of, 19
 - effectiveness, 19
 - Filatotchev and Toms explain, 18
 - firm effectiveness, 15
 - fit or alignment, 16
 - MCS, 15
 - mechanisms, 19
 - structural, 15, 19
 - uses, 19–20
 - definition, 9, 12
 - determinants of
 - and business environment, 20–21
 - and business strategy, 21–22
 - disclosure and transparency, 2
 - earnings quality, 9

Corporate governance (*cont.*)

- effectiveness of, 1
 - environmental and organisational factors, 1
 - financial control role of, 2–3
 - important issues, 5
 - Indonesia, 4
 - limitations, 150–151
 - literature gaps, 38–39
 - measures, 36–37
 - mechanisms, 14
 - board size, 23–24
 - earnings quality, 33–36
 - financial expertise of boards, 26–27
 - independent boards, 24–26
 - managerial ownership, 32–33
 - ownership concentration, 27–29
 - risk management, internal control, 29–32
 - objectives, 6
 - OECD's principle, 14
 - performance, 9
 - practical contribution, 8
 - protecting shareholders', 12–13
 - research gaps, 143–144
 - research questions development, 5
 - SEM, 4
 - single-factor congeneric model of
 - goodness-of-fit indices, 92, 93, 95, 97, 100
 - organizational and environmental factors, 93
 - outputs of AMOS, 91–93, 95, 96, 98
 - standardized regression weights, 92, 93, 95, 97, 99, 101
 - variance for, 92, 93, 95, 97, 101
 - SOX, 2
 - strategic control role, 3
 - structure, 13–14
 - tangible and intangible costs, 2
 - variables and measures
 - ICRM, 68–72
 - INB, 67
 - MOWN, 68
 - multiple indicators, 66
 - PCAFB, 67–68
 - POWN, 68
 - SEM, 67
 - SZB, 67
 - weaknesses, 143
- Corporate social responsibility (CSR), 71
- Credit risks disclosure (CRR), 71

D

- Data analysis
- mathematical model, 62–63
 - multi-variate
 - normality and bootstrap procedure, 61–62
 - outliers, 60–61
 - reflective vs. formative measures, 59–60
- SEM
- comparative analysis, 57, 58
 - covariance vs. variance-based, 57–58
 - goal, 56
 - PLS, 57
 - types, 57
 - uses, 57
- Descriptive analysis
- business strategy measures, 78–79
 - confirmatory factor analysis
 - AMOS output of normality assessment, 102, 104
 - goodness-of-fit indices, 102, 104, 106
 - model figure and AMOS outputs, 102, 103
 - second model of, 104, 105
 - in SEM, 100
 - single-factor congeneric model, 102
 - standardized and variance, 101
 - standardized regression weights for, 102, 104, 107
 - variance extracted estimate, 101–102
 - variance for, 103, 105, 107
 - convergent validity, 110–113
 - corporate governance measures
 - Asian financial crisis, 82
 - business environment/competition, 82–83
 - data distribution, 80
 - earnings management, 83–84
 - ICRM, 80–81
 - performance, 83, 84
 - POWN, 80
 - risk management audit committee, 81
 - SZB, 80
 - data indicators, 145–146
 - hypothesis testing, 120–122
 - industry category, 77–78
 - model evaluation, 122–123
 - model fit
 - absolute fit indices, 84–86
 - incremental fit indices, 86–87
 - parsimony fit indices, 87

- single-factor congeneric model
 - of business strategy, 89–91
 - constructs, 88–89
 - of corporate governance, 91–100
 - structural model
 - AMOS outputs indicate, 115, 119
 - constructs evaluation, 114
 - covariance-based SEM, 113–114
 - goodness-of-fit assessment, 114, 115, 117, 118, 120
 - regression weights for, 115–118, 120
 - standardized estimates, 116
- E**
- Earnings quality
- vs. business strategy, 49–50
 - corporate governance
 - accounting and finance argument, 33
 - definition, 34
 - determinants, 35
 - empirical studies, 35
 - external indicators, 34
 - improvement, 34
 - management practices, 34
 - ownership structure, 36
 - risk management and internal control, 36
 - definition, 9
 - vs. performance, 50–51
 - variables and measures
 - accrual component, 72–73
 - constructs and indicators, 73–74
 - ICRM index, indicator, 73, 75
 - Jones model formula, 73
- Exchange rate risk disclosure (ERR), 71
- External audit quality (EAQ), 69
- H**
- Hypothesis development
- corporate governance vs.
 - business environment, 44–45
 - business strategy, 45–46
 - earnings quality (*see* Earnings quality)
 - performance, 47–48
 - strategic management, 48–49
- Hypothesis testing
- business environment vs. competition and strategy, 148
 - business strategy vs.
 - earnings quality/management, 148
 - performance, 149
 - corporate governance vs.
 - business environment, 146–147
 - business strategy, 147
 - earnings quality/management, 147
 - performance, 147–148
 - descriptive analysis, 120–122
 - performance vs. earnings quality/management, 148–149
- I**
- Implications
- methodology, 141–142
 - practical, 142
 - theoretical, 140–141
- Internal audit unit (IAU), 69
- Internal Control and Risk Management (ICRM)
- AOP, 69–70
 - BR, 71
 - CRR, 71
 - CSR, 71
 - EAQ, 69
 - ERR, 71
 - IAU, 69
 - index formula, 72
 - internal control assessment, 70
 - PIAC, 70
 - RMC, 70–71
 - uses, 68
 - variables, 69
- M**
- Management control system 167 (MCS), 15
- Managerial Ownership (MOWN), 68
- Measurement model analysis
- correlated errors, 125, 146
 - directors independence, 128
 - internal control, 126
 - low reliability, 127
 - managerial ownership, 128
 - modification index, 127
 - risk management, 126
 - transparency, 126–127
- P**
- Partial-Least Square (PLS), 57
- Performance
- vs. business strategy, 51

Performance (*cont.*)

- vs. corporate governance, 47–48
- definition, 9
- vs. earnings quality, 50–51
- proportion of independent audit committee (PIAC), 70
- Public Ownership (POWN), 68

R

Research method

- data
 - analysis, 56–63
 - and sampling, 54–55
 - setting, 53–54
 - source of, 56
- mathematical models, 74–76
- variables and measures
 - business environment/competition measure, 64
 - business strategy, 63–66
 - corporate governance, 66–72
 - earnings quality/management, 72–74
 - exogenous, 63
 - organizational performance, 72
- Return on assets (ROA), 72, 146
- Risk management committee (RMC), 70–71

S

- Sarbanes-Oxley Act (SOX), 2
- Single-factor congeneric model
 - goodness-of-fit indices, 92, 93, 95, 97, 100
 - organizational and environmental factors, 93
 - outputs of AMOS, 91–93, 95, 96, 98
 - standardized regression weights, 92, 93, 95, 97, 99, 101
 - variance for, 92, 93, 95, 97, 101
- Size of Board of Commissioners (SZB), 67
- Structural equation modeling (SEM), 4
 - comparative analysis, 57, 58
 - covariance vs. variance-based, 57–58
 - goal, 56
 - mathematical models of, 62–63
 - types, 57
 - uses, 57
- Structural model
 - AMOS outputs indicate, 115, 119
 - constructs evaluation, 114
 - covariance-based SEM, 113–114
 - goodness-of-fit assessment, 114, 115, 117, 118, 120
 - hypotheses, 129–139
 - regression weights for, 115–118, 120
 - standardized estimates, 116