



THE UNIVERSITY OF QUEENSLAND
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**The Role of Human Resource Innovation in Firms' Competitive Advantage in
Australian Manufacturing and Service Firms**

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ABSTRACT

There is a general consensus that both technical and non-technical innovations enable firms to gain competitive advantage. However, innovation literature has primarily focused on the role of technical innovations (product/service and process). While non-technical innovation (marketing and organisational) has received increased researcher attention over the last decade, the literature that specifically examines HR innovation and competitive advantage has been limited. This reflects a significant knowledge gap given that (a) competitive advantage built on HR innovation is believed to be not easily imitable, and it should therefore be a vital source of competitive advantage; and (b) HR innovation is intangible and therefore, approaches adopted to examine technical innovation may not be appropriate to develop a deeper understanding of HR innovation.

The strategic human resource management (SHRM) literature has assigned a greater importance to the 'HR innovation - competitive advantage' link. However, the focus has primarily been on types and outcomes of HR innovation. How firms design and implement HR innovation has received scant attention. Overall, the literature highlights the need for a conceptual framework that can be successfully operationalised to explain the approaches shaping HR innovation to support competitive advantage. These gaps in literature led to formulation of the research problem addressed by this research:

How do firms design and develop HR innovations and to what extent do such innovations support firms' competitive advantage?

Against this backdrop this research developed and empirically tested a framework of how firms create HR innovation to support competitive advantage. Considering the nature of the research problem and the complexities and social processes involved in HR innovation, the study adopted a mixed-method approach. First, drawing from SHRM, innovation and competitive strategy literature, an initial framework of HR innovation-related competitive advantage was developed. This led to *a priori* understanding of key activities related to HR innovation. Second, with a view to elucidating the constructs related to HR innovation and the relationships among them, nine in-depth interviews were conducted with senior HR professionals of medium to large Australian manufacturing and service firms. The qualitative findings highlighted the unique characteristics of HR functional-level entrepreneurship, learning capabilities, innovation and how competitive advantage is viewed at the functional level. The findings also indicated how these constructs relate to each other. The qualitative findings guided in refining the initial conceptual framework. Third, a quantitative survey was undertaken in a larger, diverse sample of medium to large Australian

manufacturing and service firms. Based on 226 survey responses from senior HR professionals, the conceptual framework was quantitatively tested.

The quantitative analysis, in general, supports the constructs and hypothesised relationships in the refined framework providing valuable insights on how HR innovation relates to firm's competitive advantage. As the findings reveal, firms pursuing HR innovation are characterised with entrepreneurial HRM. Such firms build and nurture internally-focused and externally-focused learning capabilities. As hypothesised, externally-focused learning directly impacts in designing and implementing HR innovation. Consistent with the absorptive capacity view, internally-focused learning significantly influenced externally-focused learning of HR professionals. The findings empirically support the contingency view of HR strategy in that firm's competitive strategy is found to influence HR innovation. As anticipated, top management support is a prerequisite for successful design and implementation of HR innovation. Consistent with SHRM literature, HR innovation influences firm's competitive advantage such that HR innovation influences *proximal* (employee behavioural) advantages and proximal advantages mediated the relationship between HR innovation and *distal* (firm-level performance) advantages.

This research makes several contributions to theory. First, it provides an empirically validated framework that captures key antecedents and outcomes of HR innovation, and thereby address the research problem cited above. Second, focusing on functional-level innovation as the unit of analysis, this research substantially departs from previous research into innovation and competitive advantage, which has been primarily undertaken at a firm's top management/firm-level. This paved the way to the identification of the distinct nature of entrepreneurship, learning capabilities, and innovation in the HR context and the development and validation of measures. These measures will facilitate future research. Third, by conceptualising learning activities related to HR innovation as dynamic capabilities, the findings contribute to both the dynamic capabilities view of competitive strategy and the organisational learning literature, which have escaped empirical investigation particularly in HR innovation context.

The findings of this research also have important implications for practice and policy planning. For managers, the findings provide valuable insights into how HR can be strategically managed to outperform a firm's closest competitors. HR managers pursuing innovation must adopt an entrepreneurial posture and build and nurture learning capabilities to acquire knowledge from external and internal sources. For policy planners, the findings provide valuable insight for the development of firm-level policies to encourage HR innovation.

DECLARATION BY AUTHOR

This thesis is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to jointly-authored works that I have included in my thesis.

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Publications during candidature

Journal Publications

Amarakoon, U., Weerawardena, J., & Verreyne, M. (2013). Competitive advantage through HR innovation. *The European Business Review*; September/October, 70-72.

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None

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TABLE OF CONTENTS

ABSTRACT.....	II
DECLARATION BY AUTHOR.....	IV
ACKNOWLEDGEMENTS.....	VII
TABLE OF CONTENT.....	X
LIST OF FIGURES.....	XIV
LIST OF TABLES.....	XV
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Research Problem.....	2
1.3 Justification and Significance of the Research.....	4
1.4 Overview of the Research.....	6
1.5 Outline of the Thesis.....	7
1.6 Definitions of key theoretical constructs.....	8
1.7 Conclusion.....	9
CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FOUNDATION.....	10
2.1 Introduction.....	10
2.2 Innovation.....	10
2.3 Innovation and Competitive Advantage.....	12
2.4 Learning and Innovation.....	13
2.5 Theory of Competitive Advantage.....	14
2.6 Human Resource Management and Competitive Advantage within Strategic Human Resource Management (SHRM) Literature.....	18
2.6.1 HR Characteristics, HR Management Process, and Competitive Advantage.....	18
2.6.2 Key Theoretical Perspectives on HRM and Competitive Advantage.....	19
2.6.3 HR Innovation and Competitive Advantage.....	21
2.7 Summary of Key Observations.....	23
2.8 Research Problem Statement.....	25
2.9 Conclusion.....	26
CHAPTER THREE: CONCEPTUAL RELATIONSHIP AND THE SYSTEM OF RELATIONSHIPS.....	27
3.1 Introduction.....	27
3.2 Principles of Model Development in Social Sciences.....	27
3.3 Conceptual Foundation.....	28
3.4 Theoretical Constructs and Hypothesis Development.....	29

3.4.1 HR Functional-level Entrepreneurship 29

3.4.2 HR Functional-level Entrepreneurship and Learning Capabilities..... 31

3.4.3 Learning Capabilities and HR Innovation 34

3.4.4 Firm’s Competitive Strategy and HR Innovation..... 35

3.4.5 HR Innovation and Competitive Advantage..... 37

3.4.6 Top Management Support (Moderator)..... 38

3.4 Conceptual Framework of HR Innovation-related Competitive Advantage..... 38

3.6 Conclusion..... 39

CHAPTER FOUR: RESEARCH DESIGN 40

4.1 Introduction 40

4.2 Research Paradigm 41

4.3 Research Method 41

4.4 Research Setting 44

4.5 Unit of Analysis and Key Informants..... 45

4.6 Study One: Qualitative Phase..... 45

4.7 Scale Development..... 46

 4.7.1 Specification of Domain and Definition of Constructs 46

 4.7.2 Item Generation 47

 4.7.3 Scale Purification..... 51

4.8 Survey Instrument Design 52

4.9 Pilot Study 53

4.10 Study Two: Quantitative Phase 54

4.11 Ethical Considerations..... 54

4.12 Conclusion..... 55

CHAPTER FIVE: QUALITATIVE DATA ANALYSIS..... 56

5.1 Introduction 56

5.2 Data Collection..... 57

5.3 Data Analysis 59

5.4 HR Functional-level Entrepreneurship..... 64

5.5 HR Functional-level Learning Capabilities..... 67

5.6 HR Innovation 68

5.7 Refining the Conceptual Framework and the System of Relationships..... 70

 5.7.1 Entrepreneurial HR Management and Learning Capabilities..... 70

 5.7.2 Learning Capabilities and HR Innovation 73

 5.7.3 Firm’s Competitive Strategy and HR Innovation..... 75

5.7.4 HR Innovation and Competitive Advantage.....	77
5.7.5 Role of Top Management Support	79
5.8 Refined Conceptual Framework.....	80
5.9 Conclusion.....	80
CHAPTER SIX: QANTITATIVE DATA ANALYSIS	81
6.1 Introduction	81
6.2 Description of Sample	82
6.2.1 Data Collection and Sample Size	83
6.2.2 Treatment of Missing Data	84
6.2.3 Outliers	85
6.2.4 Assumptions of Multivariate Analysis	86
6.2.5 Non-response Bias	87
6.2.6 Common Method Bias	88
6.3 Measurement Model Estimation	89
6.4 Model Evaluation Criteria	90
6.5 Evaluating Measurement Models.....	91
6.5.1 Entrepreneurial Human Resource Management.....	92
6.5.2 Internally-focused Learning Capability	94
6.5.3 Externally-focused Learning Capability.....	95
6.5.4 Human Resource Innovation	97
6.5.5 Top Management Support	99
6.5.6 Firm's Competitive Strategy.....	100
6.5.7 Competitive Advantage	102
6.6 Validity and Reliability	104
6.6.1 Validity	104
6.6.2 Reliability	106
6.7 Estimating the Structural Model.....	108
6.7.1 Testing for Moderation	109
6.7.2 Testing for Mediation.....	110
6.8 Estimating the Hypothesised Model	110
6.9 Testing Hypotheses	113
6.10 Indirect, Direct, and Total Effects.....	114
6.11 Competing Model.....	115
6.12 Conclusion.....	117

CHAPTER SEVEN: DISCUSSION AND CONCLUSION	118
7.1 Overview of the Research	118
7.2 Discussion on Research Hypotheses	120
7.2.1 Entrepreneurial HRM and Learning Capabilities	121
7.2.2 Learning Capabilities and HR Innovation	123
7.2.3 Firm's Competitive Strategy and HR Innovation	124
7.2.4 HR Innovation and Competitive Advantage.....	124
7.2.5 The Role of Top Management Support	125
7.3 Conclusion about the Research Problem.....	125
7.4 Implications for Theory.....	127
7.4.1 Contribution to SHRM Theory	128
7.4.2 Contribution to Entrepreneurship Theory.....	129
7.4.3 Contribution to Dynamic Capabilities View and Organisational Learning Theory.....	130
7.4.4 Contribution to Innovation Theory	130
7.4.5 Conceptualisation and Operationalisation of Key Constructs	131
7.5 Implications for Practice	132
7.6 Implications for Policy Planning	136
7.7 Limitations.....	138
7.7.1 Generalizability.....	138
7.7.2 Research Design	138
7.7.3 Key Informants	139
7.8 Directions for Future Research.....	139
REFERENCES.....	141
APPENDIX A: INTERVIEW PROTOCOLINTERVIEW PROTOCOL.....	156
APPENDIX B: EXPERT EVALUATION OF THE SURVEY QUESTIONNAIRE.....	161
APPENDIX C: SURVEY INSTRUMENT	171

LIST OF FIGURES

Figure 3.1: The Conceptual Framework of HR Innovation-related Competitive Advantage.....	38
Figure 4.1: Chapter Outline.....	40
Figure 5.1: Chapter Outline	56
Figure 5.2a: Data Structure Analysis and Emergent Constructs - Entrepreneurial HR Management.....	61
Figure 5.2b: Data Structure Analysis and Emergent Constructs - Learning Capabilities.....	62
Figure 5.2c: Data Structure Analysis and Emergent Constructs - Competitive Strategy, Top Management Support and HR Innovation	63
Figure 5.2d: Data Structure Analysis and Emergent Constructs - Competitive Advantage.....	64
Figure 5.3: The Refined Conceptual Framework of HR Innovation-related Competitive Advantage.....	80
Figure 6.1: Chapter Outline.....	81
Figure 6.2: Entrepreneurial HRM Construct.....	93
Figure 6.3: Internally-focused Learning Capability Construct.....	95
Figure 6.4: Externally-focused Learning Capability Construct.....	96
Figure 6.5: HR Innovation Construct.....	98
Figure 6.6: Top Management Support Construct.....	99
Figure 6.7: Firm's Competitive Strategy Construct.....	101
Figure 6.8: Competitive Advantage Construct.....	103
Figure 6.9: The Hypothesised Structural Model.....	110
Figure 6.10: Respecified Structural Model.....	112
Figure 6.11: Competing Structural Model.....	116
Figure 7.1: Conceptual Framework of HR Innovation-related Competitive Advantage.....	120
Figure 7.2: Conceptual Framework Emergent from Data Analysis	121

LIST OF TABLES

Table 4.1: Research Questions and Study Focus	42
Table 4.2: Summary of Purified Measures.....	51
Table 5.1: Profiles of Sampled Firms for In-depth Interviews	57
Table 6.1: Descriptive Statistics of the Sample.....	82
Table 6.2: Mann-Whitney U Test Statistics for Early and Late Respondent Groups.....	87
Table 6.3: Guideline for Evaluating Model Fit across Different Model Situations.....	90
Table 6.4: Measures used in Model Evaluation.....	91
Table 6.5: Indicators of Entrepreneurial HRM.....	93
Table 6.6: Fit Indices of Entrepreneurial HRM.....	93
Table 6.7: Indicators of Internally-focused Learning Capability.....	95
Table 6.8: Fit Indices of Internally-focused Learning Capability.....	95
Table 6.9: Indicators of Externally-focused Learning Capability.....	96
Table 6.10: Fit Indices of Externally-focused Learning Capability.....	97
Table 6.11: Items of HR Innovation Construct.....	98
Table 6.12: Fit Indices of HR Innovation.....	99
Table 6.13: Indicators of Top Management Support.....	100
Table 6.14: Fit Indices of Top Management Support.....	100
Table 6.15: Indicators of Competitive Strategy.....	101
Table 6.16: Fit indices of Competitive Strategy.....	102
Table 6.17: Indicators of Competitive Advantage.....	103
Table 6.18: Fit Indices of Competitive Advantage.....	103
Table 6.19: Average Variance Extracted (AVE) and Construct Reliability (CR) Values.....	105
Table 6.20: Fornell's and Larcker's (1981) Test of Discriminant Validity.....	106
Table 6.21: Fit Indices of the Respecified Structural Model.....	112
Table 6.22: Effect of Industry Type.....	112
Table 6.23: Path Estimates and Hypotheses Testing.....	113
Table 6.24: Coefficients of Determination – Refined Structural Model (R^2).....	114
Table 6.25: Direct, Indirect and Total Effects.....	115
Table 6.26: Fit Indices of the Competing Structural Model.....	116
Table 6.27: Coefficients of Determination – Competing Structural Model (R^2).....	117
Table 7.1: Results of Hypothesis Testing	121

CHAPTER ONE: INTRODUCTION

1.1 Background of the Research

Innovation has long been recognised as a source of competitive advantage (Damanpour & Aravind, 2006; Lengnick-Hall, 1992; Porter, 1985) and therefore has become an area of substantial interest for both practitioners and academics (Damanpour & Aravind, 2011; Lengnick-Hall, 1992). Porter's (1985) seminal value chain analysis suggests that a firm gains competitive advantage by conceiving new ways to conduct value-chain activities to deliver superior value to the customers, which is an act of innovation. Therefore; (a) innovation and competitive advantage are closely connected, and (b) innovation can occur in any value-creating activity of the firm (Schumpeter, 1934; Porter, 1985). The view that innovation can occur in any stage of the value chain has led to a typology of innovation consisting 'technical' and 'non-technical' innovation (Damanpour, 1991; Schumpeter, 1934), which has gained prominence in the literature. However, to the dismay of many researchers (e.g. Damanpour & Aravind, 2011; Hailey, Farndale & Truss, 2005), innovation literature has primarily focused on technical innovation (product/service and process), paying limited attention to non-technical innovations (Birkinshaw & Mol, 2006; Damanpour & Aravind, 2011) such as HR innovation (Hailey et al., 2005; Hamel, 2006).

This bias in the innovation literature is contrary to the consensus in the strategic human resource management (SHRM) literature that competitive advantage built on HR innovation is not easily imitable, and therefore is vital to sustainability of firm growth and competitiveness (Barney, 1991; Barney & Wright, 1998; Cooke & Saini, 2010; Wright & McMahan, 1992). HR innovation is commonly defined as an idea, program, practice or system that is related to the HRM function, and is at least new to the adopting firm (Wolfe, 1995; Wolfe, Wright, & Smart, 2006). The HR innovation - firm performance - competitive advantage linkage has received substantial interest in the SHRM literature (e.g. Barney & Wright, 1998; Cooke & Saini, 2010; Hailey et al., 2005) and there are growing calls for firms to invest in HR as a source of competitive advantage (Becker & Huselid, 2006; Schuler & Jackson, 1987). However, the extant literature on HR innovation-related competitive advantage focuses primarily on outcomes of HR innovations (e.g. Barney & Wright, 1998; Cooke & Saini, 2010) and attention on how firms design and develop HR innovation to support competitive advantage is limited and fragmented.

The above discussion highlights a substantial and important knowledge gap. Theoretically, the absence of a well-developed body of literature that addresses the HR innovation - competitive advantage linkage is evident. The fragmented nature of literature demands a conceptual framework that captures the key antecedents driving HR innovation and the way in which HR innovation is

designed and developed to support competitive advantage (e.g. Guest, 2011; Guest & Bryson, 2009). Practically, although HRM is widely recognised as a key strategic function in firms, the way in which HR management can support competitive advantage is not well-understood (Barney & Wright, 1998; Guest, 2011; Huselid & Becker, 2011). This has hindered HR professionals in designing and developing HR innovation to support firm's competitive advantage (Barney & Wright, 1998).

In an attempt to address these knowledge gaps, this research developed and validated a conceptual framework that captures the key antecedents and moderating constructs driving HR innovation and firm competitive advantage in the Australian context. A mixed-method approach was adapted in this process. First, drawing from multiple streams of literature, a conceptual framework of HR innovation and competitive advantage was developed. Second, an exploratory study was carried out to understand the antecedents of HR innovation and the nature of their interaction to support firm's competitive advantage. The findings of this phase were used to refine initial conceptual framework. Third, adopting the evidence from the exploratory phase and existing literature, the measures for the constructs of the refined framework were developed. An expert evaluation of measurement items was carried out to improve their clarity and representativeness. Fourth, the survey instrument was developed using the measures developed in preceding phases of this research. This survey instrument was pilot tested subsequently. Fifth, the survey was carried out targeting senior HR professionals of medium to large scale manufacturing and service firms in Australia. Next, quantitative data were analysed to validate the framework while testing hypotheses simultaneously. The research process, findings and contributions of this research are discussed in detail in subsequent chapters of this thesis. The remainder of this chapter focuses on presenting the research problem and justifying its significance. It also presents the process of this research in brief.

1.2 Research Problem

Overall, the literature identifies three key knowledge gaps related to HR innovation. First, the well-established organisational innovation typology comprising both *technical* and *non-technical* innovations suggests that both types of innovation enable firms to outperform their competitors (Damanpour, 1991; Damanpour, Szabat, & Evan, 1989; Hailey et al., 2005). However, to the dismay of many researchers (Damanpour & Aravind, 2011; Hailey et al., 2005), literature in HR innovation has progressed narrowly compared to other forms of innovation. HR innovation is suggested to be different from other forms of innovation in terms of its antecedents and outcomes (e.g. Kimberly & Evanisko, 1981) and therefore warrants closer investigation.

Second, despite interest in the SHRM literature in the HR innovation - firm performance – competitive advantage link, the primary focus has been on types of HR innovation and their

performance outcomes (e.g. Barney & Wright, 1998; Cooke & Saini, 2010; Hailey et al., 2005). Attempts to identify key antecedents and understand the approaches that enable HR innovations to support a firm's competitive strategy have been limited (Becker & Huselid, 2006; Guest, 2011). The SHRM literature therefore highlights the need to understand the process (*i.e.* the way in which HR innovations are designed and implemented) and context of HR innovation (e.g. Guest, 2011; Guest & Bryson, 2009). In addition, this stream of literature shows the need to analyse the impact of HRM on competitive advantage beyond the 'statistical significance' to 'effect size' (Combs, Liu, Hall, & Ketchen, 2006; Guest 2011). Therefore, the need to focus on the degree of variance of competitive advantage expected to be explained by HR innovation is evident.

Third, Porter's value chain analysis (Porter, 1985) suggests that innovation and competitive advantage are closely connected and innovation can occur in any value creating activity of the firm including HR management (Porter's, 1985; Schumpeter, 1934). However, the way in which HR innovation can be incorporated in firm's value creation process has received limited attention in the subsequent literature.

Overall, the foregoing discussion highlights significant and important knowledge gaps related to design and development of HR innovations and the degree of impact HR innovation can have on a firm's competitive advantage. To address these gaps, the broad research problem addressed in this research is:

How do firms design and develop HR innovations and to what extent do such innovations support firms' competitive advantage?

This research problem is expanded on the basis of the following research questions:

- 1) What are the antecedent factors that facilitate HR innovation?
- 2) What are the strategic behaviours demonstrated by HR professionals when pursuing HR innovation?
- 3) Do both radical and incremental HR innovations support competitive advantage?
- 4) To what extent do HR innovations support firm's competitive advantage?

The basis of formulating the above research questions (RQs) is presented in detail in Chapter Two. To address the aforementioned research questions, this study primarily focused on developing a well-founded conceptual framework and a system of theoretical relationships related to HR innovation and competitive advantage, explained in detail in proceeding chapters.

1.3 Justification and Significance of the Research

This study aimed at examining how firms design and develop HR innovations and to what extent do HR innovations support firms' competitive advantage. There are multiple grounds justifying the significance of this study.

First, practitioners and scholars widely agree that HRM is a key strategic function, and most of the corporate annual reports state 'people' as their most important asset. However, availability of human resource alone does not create competitive advantage without the availability of appropriate HRM mechanisms to mobilise human resources for firm's competitive gains (Wright & McMahan, 1992). Both popular press and scholars increasingly highlight the importance of HR function in creating a culture for innovation and thereby achieve competitive advantage. For instance a recent KPMG report (2013) states:

"... most successful corporate innovation strategies are the ones that predominantly focus on people and human capital. These include finding, engaging, and incentivising key talent for innovation, creating a culture of innovation by promoting and rewarding entrepreneurship and risk taking and developing innovation skills for all employees" (p.3)

Similarly, SHRM literature provides empirical evidence of HR innovations supporting and/or leading firms' competitive advantage. For instance, Barney and Wright (1998) provide evidence from the airline industry, in that Southwest airlines could sustain their competitive advantage over several decades in a highly volatile industry by having a differentiated, innovative approach to managing its HR. Continental airlines could move from last to first in 'on-time services', and remain the same for a long period of time, after introducing a new on-time bonus system for its employees. However, the limited understanding of the approaches through which HR strategy leads to competitive advantage has hindered HR practitioners pursuing HR innovation to achieve firm competitiveness (Barney & Wright, 1998; Becker & Huselid, 2006; Huselid & Becker, 2011). As a result, not many firms invest in HRM in a manner that enhances their competitive edge, contributing to heterogeneity in the quality of HRM among firms (Barney & Wright, 1998; Huselid & Becker, 2011). As Barney and Wright (1998) elaborates:

"...[a] few HR executives can explain, in economic terms, how a firm's people can provide sustainable competitive advantage and the role that the HR function plays in this process... due to this lack of understanding, many HR executives fail to direct the HR activities towards developing characteristics of the firm's human resources that can be a source of competitive advantage." (p.32)

The limited availability of empirically tested guidelines on how HR innovation can be effectively developed to gain competitive advantage (Barney & Wright, 1998; Becker & Huselid, 2006; Huselid & Becker, 2011) impedes the efforts of firms competing on HR strategies. This highlights the need for a conceptual framework that clearly explain the antecedent factors of HR innovation and how they interact to support firm's competitive advantage. Such a framework will guide HR professionals in designing and developing new HR activities to support firm's competitive advantage.

Second, compared to other types of innovation, HR innovation is (a) *socially complex* - intangible and consists of highly interconnected human relationships; (b) *causally ambiguous* - easily understood in theory, but hard to decipher the cause and effect relationship in practice, from outside the organisation; (c) *path dependent* - developed over time and not easily available in the market to be purchased by competitors (Barney, 1991; Barney & Wright, 1998; Becker & Huselid, 1998; Huselid & Becker, 2011). Therefore, as mentioned earlier, the advantages gained over HR innovation are not easily imitable, and thus a source of sustained competitive advantage (Becker & Huselid, 1998; Bharadwaj, Varadarajan, & Fahy 1993; Huselid & Becker, 2011; Reed & Deffilippi, 1990). HR innovation is suggested to be substantially different from technical innovations (Damanpour & Aravind, 2011), thus the approaches adopted to capture technical innovations may not be adequate and appropriate to gain a deeper understanding of the role of HR innovation (Kimberly & Evanisko, 1981) in a firm's competitive advantage. Therefore, HR innovations warrant a closer investigation. Understanding the role of HR innovation in a firm's competitive advantage will have significant implications for both theory - advancing knowledge, and practice - serving as a guide for practitioners.

Third, there is much emphasis on innovation in industry and government policy planning in Australia. The potential economic gains of innovation in Australian context, is highlighted in a recent study by the Australian Management Institute (AIM, 2013):

“Given that Australian organisations are often cost disadvantaged on an international level and that quality and service advantages are being rapidly eroded, the last large-scale dimension for achieving competitive advantage is innovation” (p.7)

The findings of the above study suggest that the effective management of HR can be a key differentiator between corporate winners and losers. However, in spite of the greater emphasis on innovation in government policy planning, policy planners have not been able to develop policies to particularly encourage firm-level HR innovation. The absence of a well-developed body of knowledge on the role of HR innovation in supporting firm's competitive advantage has hindered

the efforts of government policy planners to encourage firm-level competitiveness through HR innovation.

Overall, the absence of a consistent body of literature on the HR innovation - competitive advantage link demands a conceptual framework that captures the key constructs driving HR innovation-related competitive advantage. A well-founded conceptual framework linking the antecedents and outcomes of HR innovation, in addition to providing insights to practice, will facilitate future research in multiple ways. First, as mentioned earlier and as explained in proceeding chapters in detail, the conceptual framework developed in this study draws from the extant literature on SHRM and also the dynamic capabilities view (DCV) of competitive strategy and the organisational learning-based approach to innovation. These theoretical perspectives have escaped empirical scrutiny in HR innovation context. The findings of this study will therefore have significant contributions to those streams of literature. Second, the initial framework is refined through qualitative data and then validated in a large sample of Australian manufacturing and service firms. This necessitated operationalising key constructs related to HR innovation. Developing measures to capture key constructs related to HR innovation will facilitate future research. Third, the focus on functional-level learning and innovation as the unit of analysis substantially departs from previous research on innovation and competitive advantage, which has been primarily undertaken at a firm's top management or firm-level. It will pave the way to explore unique features related to HR functional-level innovation.

1.4 Overview of the Research

The research questions above primarily focus on (a) identifying antecedents, moderators and outcomes of HR innovation (e.g. RQ 1 and RQ 2), (b) understanding the nature of relationships among those factors to result in HR innovation and support firm's competitive advantage (e.g. RQ 3), and (c) understanding the extent of support HR innovation can exert on firm's competitive advantage (e.g. RQ 4). As this research attempted to explore and then empirically test the theoretical relationships related to the HR innovation - competitive advantage link, it was guided by the post-positivist paradigm (Lincoln & Guba, 2000). Based on the nature of research questions and the research paradigm guiding this study, a mixed method, multi-phase approach was adopted in this research (refer to Chapter Four for a detailed discussion).

Phase 1 – Review of literature: In this phase, the literature on innovation, SHRM, and competitive advantage was reviewed, with a view to identify knowledge gaps and develop the theoretical foundation for this research. Review of extant literature also assisted developing the initial conceptual framework of HR innovation and competitive advantage.

Phase II– Qualitative phase: The objective of this phase was to develop a deeper understanding of HR innovation-related competitive advantage to refine conceptual relationships developed in Phase I. The Phase II therefore consisted of a set of exploratory, semi-structured in-depth interviews with nine senior HR professionals of Australian manufacturing and service firms. Interviews were recorded, transcribed, and analysed thematically. In order to develop a deeper understanding of the phenomenon of interest, the key themes related to HR innovation, learning, and entrepreneurship, were further studied before comparing and contrasting those with extant literature.

Phase III– Refining the conceptual framework: The objective of this phase was to refine the initial conceptual framework developed drawing from multiple streams of literature, in HR innovation context. This process necessitated revisiting qualitative evidence and related literature iteratively.

Phase IV – Formulating measures: The objective of this phase was to develop and refine measures for the latent constructs included in the conceptual framework. This involved item creation, reduction, and refinement. First, based on the extant literature and qualitative evidence, item pools were created for each construct. Second, nine academic experts assessed the representativeness and clarity of items. Third, six PhD candidates carried out reverse item sorting to further purify measures. The refined measures were used to design the survey instrument, which was subsequently pilot tested with eight senior HR professionals. Pilot testing the survey assisted making appropriate revisions to further minimize ambiguities and respondent errors.

Phase V – Quantitative survey: The objective of this phase was to empirically validate the conceptual framework and factor structure. Data were collected from 226 senior HR professionals of Australian manufacturing and service firms using a self-administered survey. Using structural equation modelling (SEM), the interaction between theoretical constructs and overall model fit were estimated.

1.5 Outline of the Thesis

The overarching aim of this thesis is to understand how firms design and develop HR innovation and to what extent HR innovation supports firms' competitive advantage. Based on the phases involved in attaining the above objective, this thesis is structured into the following seven chapters.

Chapter Two presents the extant literature in relation to the research topic. Through this process it identifies major knowledge gaps and also discusses the theoretical foundation anchoring this research. First, the related literature in innovation and SHRM is reviewed highlighting the knowledge gaps. Second, the key theoretical propositions in the competitive advantage related literature are discussed, primarily focusing on the DCV.

Chapter Three presents the initial conceptual framework of HR innovation-related competitive advantage with a view to addressing the knowledge gaps identified in Chapter Two. It also

discusses the proposed system of theoretical relationships of the initial conceptual framework, simultaneously presenting the research hypotheses.

Chapter Four presents the research design and research methods along with the philosophical underpinning that governs this research. It specifically focuses on the research process involved in the qualitative and quantitative phases of this research, including the sampling plan and data collection.

Chapter Five first presents the process of analysing qualitative data. Second, it focuses on refining the key constructs related to HR innovation, based on the qualitative evidence. Finally, this chapter revisits the initially hypothesised relationships and refine the initial conceptual framework based on the findings of the qualitative phase.

Chapter Six focuses on the analysis of the quantitative survey data. It presents the descriptive statistics, the measurement models developed to test the theoretical constructs, and the structural model developed to test the research hypotheses.

Chapter Seven provides a summary of the results of the qualitative and quantitative studies and discusses the theoretical and practical contributions of this research. It also presents the limitations of chosen methodologies and suggests directions for future research.

1.6 Definitions of key theoretical constructs

The definitions for the key theoretical constructs are presented below. These definitions are primarily derived from extant literature and will be discussed in detail in Chapter Two and Five.

Entrepreneurial HR management - A behavioural orientation in which the human resource professionals of a firm collectively display innovativeness, pro-activeness, risk-management, and consensus-seeking in their strategic decision-making (adapted from Covin and Slevin, 1989).

Internally-focused learning capabilities - The capacity of HR professionals to collectively create, extend, and modify knowledge acquired through internal sources to address changing business requirements of the firm through HR management (adapted from Helfat et al., 2007).

Externally-focused learning capabilities - The capacity of HR professionals to collectively create, extend, and modify knowledge acquired through external sources to address changing business requirements of the firm through HR management (adapted from Helfat et al., 2007).

Top management support - The degree of autonomy, resources, and explicit recognition extended by the top management towards effective implementation of HR innovation(s) (adapted from Elenkov & Manev, 2005).

Firm's competitive strategy – deliberate and strategic focus on specific activities in a firm's value chain to achieve positional (cost and/or differentiation) advantages (Porter, 1985).

HR innovation – a new idea adapted in to a firm's HR programs, systems and practices with an intention to directly or indirectly add value (at least) to the adopting firm (adapted from Wolfe, 1995).

Competitive advantage - Superior proximal and distal HR performance of the firm compared to those of its closest competitor(s) (Barney & Wright, 1998; Delaney & Huselid, 1996; Guest & Conway, 2011).

1.7 Conclusion

This chapter lays the foundation for this thesis. It opened with the background of the research followed by the research problem and research questions expected to be addressed in this research. The significance of the research was justified, both from a theoretical and practical point of view. Then it presented an overview of the research, followed by an outline of the thesis. The next chapter provides an extensive review of extant literature related to the focal research problem.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FOUNDATION

2.1 Introduction

The previous chapter presented the background, research problem, rationale, and the process of this research. The objective of this chapter is to critically review the literature relating to HR innovation and competitive advantage, identify knowledge gaps, and provide a justification for the research questions presented in Chapter One. This chapter is structured as follows: First, the innovation literature is reviewed, primarily focusing on the link between innovation and competitive advantage. Second, the literature on organisational learning is reviewed with a view to highlight the role of learning in innovation. Third, the literature on competitive advantage is reviewed focussing on the key theoretical propositions of the dynamic capabilities view (DCV) of competitive advantage. Fourth, the suggested link between HRM and competitive advantage within the SHRM literature is reviewed. Finally, the key observations of the chapter are summarised followed by an outline of the research gaps that will be addressed by this research leading to the research problem statement. Overall, this chapter provides a basis for the development of the conceptual framework presented in the next chapter.

2.2 Innovation

Since Schumpeter's seminal work (1934) that placed innovation at the heart of economic development, innovation has grown as an area of interest to both practitioners and scholars. The breadth and diversity of innovation research has resulted in multiple conceptualisations of innovation (Damanpour & Aravind, 2011). Innovation can be viewed as a process or an outcome (Damanpour, 1991; Damanpour & Evan, 1984). Innovation as a process is defined as the act of adopting a(n) idea or behaviour in product/service, process, system, policy or programme that is new at least to the adopting organisation (e.g. Damanpour, 1991; Damanpour et al., 1989; Wolfe, 1995). As an outcome, innovation is conceived as the output of the innovation process. For example, the widely followed Oslo manual's definition refers to innovation as 'the implementation of a new or significantly improved product (or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (OCED, 2005:46). Innovation may include a broad range of value creating activities (Porter, 1990; Schumpeter, 1934) at varying degrees of newness and value addition, including product changes, process changes, new approaches to marketing, new forms of distribution, new practices to manage employee performance, and new conceptions of scope, as discussed next.

2.2.1 Explicating Innovation Construct

Innovation Type - A typology of innovation consisting of ‘*technical*’ and ‘*non-technical*’ innovation (Damanpour, 1991; OCED, 2005:16; Schumpeter, 1934) has gained prominence in the innovation literature. Technical innovation comprises of product and process innovations and is directly related to basic work activities concerning either product (or service) or process (Damanpour, 1991; Damanpour & Evan, 1984). It focuses on innovations in products/services and production process technology. Non-technical innovation comprises of organisational and marketing innovations and may indirectly relate to the firm’s basic work activities (Damanpour & Evan, 1984; Kimberly & Evanisko, 1981). It may include innovations in organisational structure, administrative processes, methods of marketing, and new conception of market scope.

Degree of Innovation – Innovations can be differentiated in terms of the degree of novelty and the nature of knowledge with which it is associated (Damanpour & Aravind, 2011; OCED, 2005:18). Innovation that relies on currently available knowledge and areas of expertise, and that focuses on introducing minor improvements to existing conditions, is considered *incremental* (Damanpour & Aravind, 2011; Subramaniam & Youndt, 2005). In contrast, the *radical* innovation involves ground-breaking, discontinues knowledge and disruptive changes to the status quo (Damanpour & Aravind, 2011; Subramaniam & Youndt, 2005). Even though radical and incremental innovations can be adopted in both technical and non-technical areas, apart from a few exceptions (e.g. Birkinshaw, Hamel, & Mol, 2008; Hamel, 2006), incremental non-technical innovations have received much less scholarly attention than its technical counterpart.

2.2.2 Emergent Importance of Non-technical Innovation

Despite scholarly consensus that innovation should be broadly defined to capture both *technical* and *non-technical innovation* (Damanpour, 1991; Porter 1990) innovation literature primarily focuses on technical innovations (product/service or process) in manufacturing settings (Birkinshaw et al., 2008; Birkinshaw & Mol, 2006; Damanpour & Aravind, 2011; Hamel, 2006). There is growing evidence that both types of innovation can lead to enhanced firm performance (Damanpour, 1991; Damanpour et al., 1989; Damanpour & Aravind, 2011; Hamel, 2006; Weerawardena et al. 2014). However, non-technical innovation in general (Damanpour & Aravind, 2011; Hamel, 2006), and administrative and HR innovation specifically, have received limited attention (Hailey et al., 2005). In addition, the process and outcomes of non-technical innovations have long been identified to be substantially different from technical innovation (e.g. Kimberly & Evanisko, 1981), but the theories and models of innovation developed based on technical innovations are applied in all contexts, including non-technical innovation (Damanpour & Aravind, 2011). This reflects a substantial

knowledge gap. Therefore, non-technical innovation, HR innovation in particular warrants closer investigation.

HR innovation - HR innovation is commonly defined as an idea, program, practice or system that is related to the HRM function, and is at least new to the adopting firm (Wolfe, 1995; Wolfe et al., 2006). However, this definition only focuses on the newness of the idea, program, practice or system, but not on its intended value addition. Newness alone is unlikely to provide economic gains to the adopting firm if an innovation is not aligned with firm's goals (Birkinshaw et al., 2008). Highlighting the importance of the degree of newness as well as the intended value addition, Birkinshaw et al. (2008) define managerial innovation as a process of 'generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organisational goals'. Building on above definitions, for the purpose of this research, HR innovation is defined as a new idea adapted in to a firm's HR programs, systems and practices with an intention to directly or indirectly add value (at least) to the adopting firm. The degree of HR innovation is assessed through its degree of novelty, change to existing structures and behaviours, the number of employees affected (Wolfe, 1995), and its intended value addition.

This research defines innovation as an outcome, not a process, for two reasons. First, as a process innovation may focus on continuous ongoing activities, but as an outcome it focuses on activities that have been implemented already. Considering the intangible nature of HR innovation, it makes increasingly difficult to accurately capture innovation processes compared to innovation outcomes. In addition, it is relatively easy to accurately identify the antecedents and consequences of innovation outcomes, compared to processes. Second, the SHRM literature highlights a notable gap between intended and implemented HR practices (Khilji & Wang, 2006; Wright & Nishii, 2006), and suggests the need to focus on implemented HR practices. Therefore, focusing on HR innovation outcomes was deemed more appropriate in this study.

2.3 Innovation and Competitive Advantage

As mentioned earlier, innovations can manifest as product/service changes, process changes, new approaches to marketing, new forms of distribution, new approaches to management and administration, and new conceptions of scope (Damanpour, 1991; OCED, 2005:16; Schumpeter, 1934). The outcomes of these innovations may result in lowering buyers' costs (cost advantage) and/or by providing differentiated value (differentiation) in ways the buyers cannot match by purchasing from competitors (Schumpeter, 1934), and therefore results in competitive advantage. This is consistent with Porter's (1985) seminal value chain analysis, suggesting that a firm gains

competitive advantage by conceiving new ways to conduct value-chain activities to deliver superior value to the customers. Therefore, innovation and competitive advantage are closely connected and innovation can occur in any value creating activity of the firm (Porter, 1985; Schumpeter, 1934).

In general, the goal of firms is not only to achieve competitive advantage, but also to sustain that advantage (Hunt, 2000). The literature suggests that a competitor's inability to imitate or respond to the focal firm's competitive advantage creates advantage inimitability, leading to the sustainability of competitive advantage (Porter, 1985; Reed & Deffilippi, 1990). In other words, advantage sustainability is dependent on barriers to imitate or respond by competitors (Porter, 1985; Reed & Deffilippi, 1990). The literature shows that the higher the degree of innovation and continuous value addition, the higher the degree of ambiguity leading to a higher degree of barriers to imitation, thereby creating sustained competitive advantage (Bharadwaj et al., 1993; Reed & Deffilippi, 1990). Consequently, innovation is a key strategic approach for firms to gain competitive advantage.

2.4 Learning and Innovation

As noted earlier, the degree of innovation reflects the extent of knowledge embedded in an innovation. Therefore innovation is seen as a knowledge transformation process (Mahoney, 1995). The process of *knowledge acquisition* (development of creation of skills, insights, and relationships), *knowledge sharing* (disseminating what has been acquired), *knowledge utilizing* (integration of learning and generalizing it to new situations) and *unlearning* (review and renew existing knowledge) within firms (Huber, 1991; Sinkula, 1994; Slater & Narver, 1995) is referred to as organisational learning. Learning that occurs in a firm enables it to anticipate changes (Mohrman & Mohrman, 1993), facilitates behavioural changes that can lead to improved performance (Senge, 1990; Sinkula, 1994), and is therefore a source of competitive advantage (Slater & Narver, 1995). Thus, learning of a firm is fundamental to the firm's value creation (O'Cass & Weerawardena, 2010; Porter, 1990; Sinkula, 1994; Sinkula, Baker & Noordewier, 1997).

The learning literature has progressed along two distinct themes, based on sources of learning (external and internal) and ways of adopting knowledge (exploration and exploitation). These two themes are discussed below with greater emphasis on the former, which is a focal area of this research (explained in Section 2.6.4).

External and internal learning - The literature on learning focuses on two main types of learning, based on the sources of knowledge acquisition: *externally-focused learning*, which involves the pursuit of knowledge not existing within the firm, and *internally-focused learning*, which involves refining and deepening existing knowledge (March, 1991). Externally-focused learning is based on

a broad and general knowledge search, enabling firms to respond to unpredictable changes (Eisenhardt & Martin, 2000; Teece Pisana, & Shuen, 1997). In contrast, internally-focused learning is based on a localised and in-depth knowledge search in narrow knowledge domains enabling less diverse, more certain outcomes in relatively stable environments (Eisenhardt & Martin, 2000). The literature on learning and innovation suggests that both externally focused-learning and internally-focused learning are critically important to firms pursuing innovation (Greer & Lei, 2012; Weerawardena, 2003a; 2003b). There is consensus among scholars that internal and external learning activities are not substitutes for one another, but complementary (Arora & Gambardella, 1990; Mowery & Rosenberg, 1989). Both types of learning can work synergistically to facilitate innovation (Sinkula et al., 1997; Weerawardena, 2003a; 2003b; Weerawardena, O’Cass & Jullian, 2006). In the context of HR, externally learning may include labour market trends, competitor moves, previous work experience (with other firms), and new labour laws and regulations, while internal learning may include understanding HR requirements of other functional areas, feedback from internal customers (e.g. functional managers and employees) and experience from implemented HR practices.

Exploration and exploitation – Exploration refers to pursuing new possibilities which involves acquiring new knowledge, experimentation, and risk-taking (March, 1991; Liu, 2006). In contrast, exploitation refers to further development of existing competencies which involves retrieving existing knowledge (March, 1991; Lyles & Schwenk, 1992). These uses of knowledge are independent from the aforementioned sources of learning. The literature highlights the importance of maintaining the appropriate balance between explorative and exploitative learning for firm survival and growth (Cohen & Levinthal, 1990; March 1991; Penrose, 1959; Wernerfelt, 1984).

However, similar to the innovation literature’s bias towards technical innovation, the role of learning capabilities in innovation has been primarily examined in the context of technical innovation. The contribution of organisational learning to non-technical innovation in general and HR innovation in particular, has received scant attention. Overall, the literature specifically focusing on the linkage between learning capabilities and HR innovation is limited.

2.5 Theory of Competitive Advantage

The primary focus of theories of competitive advantage has been on strategies to outperform a firm’s closest competitors. The industrial organisation (IO) view and the resource based view (RBV) have been the two prominent, yet complementary theories of competitive advantage in the strategy literature for many decades. IO (also known as environmental view) takes an outside-in

approach and considers the primary focus of a firm's strategy formulation in relation to industry. IO view is considered a 'deterministic view' as the firm performance is determined by the industry environment (external forces) (Mason, 1939; Porter, 1985; 1990), and the best firm can do is to analyse the industry competition and find a suitable place for its business. The internal firm-specific factors such as a firm's resources and capacity of its managers to make strategic decisions are not considered.

In contrast to the IO view, the RBV focuses primarily on the internal resources and pays limited attention to external forces. The RBV suggests that a firm's valuable, inimitable, rare, and non-substitutable (VIRN) resources are sources of competitive advantage (Barney, 1986; 1991; Lippman & Rumelt, 1982; Reed & DeFillippi, 1990; Peteraf, 1993). Resources here are comprised of *tangible* and *intangible* assets and intangible assets have a greater potential to accrue competitive advantage (Barney, 1991). However, the critics of RBV argue that resources alone provide an insufficient explanation of firm performance and value creation (Amit & Schoemaker, 1993; Wright, Dunford & Snell, 2001). The RBV's emphasis on resources assigns a limited role to the firm's key decision makers (Penrose, 1959). In addition, RBV's original assumption of the static external environment neglects the influence of market dynamism. The RBV does not take into consideration the possible effects of the external environmental dynamism on firm performance (Eisenhardt & Martin, 2000). Therefore, the suggested link between VIRN resources and sustained competitive advantage is found to be unlikely under conditions of market dynamism (Mahoney & Pandian, 1992). Furthermore, the RBV offers little insight into the process of transforming the resources into competitive advantage (Mosakowski & McKelvey, 1997; Williamson, 1999).

Building on the work of Penrose (1959), Mahoney and Pandian, (1992) suggest that a firm achieves competitive advantage not because it has better resources, but because of its capability to make better use of available resources. This paved the way for a capabilities view of competitive advantage. Capabilities are viewed as a firm's capacity to deploy resources through processes within the firm to affect desired ends (Grant, 1991; 1996). Capabilities of a firm are developed over time through complex interactions between the firm's resources, and therefore are usually firm specific (Amit & Schoemaker, 1993) and can be a source of competitive advantage. Although the capabilities view provides a better explanation of gaining competitive advantage compared to RBV, it fails to address changes in market conditions. In other words, it is based on the view that a firm exploits external market opportunities based on the capabilities that the firm possesses, and ignores the capacity of the firm to develop capabilities in response to or initiate market change. The limitations of capabilities view have paved the way for dynamic capabilities view, which has gained prominence in the competitive strategy literature in the recent past as a better explanation of firm heterogeneity.

Dynamic Capabilities View (DCV) of Competitive Advantage

The DCV explains why certain firms outperform others in conditions of rapid and uncertain market change, where the competitive landscape continuously shifts (Eisenhardt & Martin, 2000). Changing market conditions may degrade or supplement existing capabilities and therefore require changes in firm's competitive strategy and redeployment of resources (Teece et al., 1997). Dynamic capabilities are thus founded on the processes or routines (patterned behaviours) through which a firm redeploys its resources to in response to changing market conditions (Eisenhardt & Martin, 2000; Teece et. al., 1997).

Although the DCV has received much academic interest in the recent past, defining 'dynamic capabilities' is an area yet to reach the scholarly consensus (Hine, Parker, Pregelj & Verreynne, 2013). For instance, Teece et al. (1997:516) define dynamic capabilities as 'the firm's ability to integrate, build, and reconfigure internal and external competencies to rapidly changing environment'. This definition suggests that dynamic capabilities can only be demonstrated in conditions of rapid environmental change. In contrast, Eisenhardt and Martin (2000) suggest that dynamic capabilities can be demonstrated by firms in relatively stable environmental conditions and firms can even initiate market change. They define dynamic capabilities (2000:1017) as 'the firm's process that use resources - specifically the process to integrate, reconfigure, gain and release resources - to match and even create market change'. Many proponents of dynamic capabilities suggest that dynamic capabilities are not processes, but are embedded in processes (e.g. Grant, 1991; 1996; Wang & Ahmed, 2007). Wang and Ahmed (2007:35) define dynamic capabilities as 'a firm's behavioural orientation to constantly integrate, reconfigure, renew, and recreate its resources and capabilities and, most importantly, upgrade and reconstruct its core capabilities in response to changing environment to attain and sustain competitive advantage'. This definition ignores the possibility of a firm to create environmental change. Building on prior literature, Helfat et al. (2007:4) define dynamic capabilities as 'the capacity of an organisation to purposefully create, extend, or modify its resource base'. This definition is comprehensive and captures the essence of previous work. Therefore this definition is adopted to conceptualise and measure dynamic capabilities in this research (discussed in detail in proceeding chapters).

Dynamic capabilities and competitive advantage - Early contributors to DCV suggest that firms gain competitive advantage by possessing a set of dynamic capabilities (Teece et al., 1997). While, the suggested theoretical relationship has not been empirically substantiated, there is growing consensus that the primary task of dynamic capabilities is to transform the firm's knowledge resources and operational routines (Weerawardena et al., 2014; Zollo & Winter, 2002). Eisenhardt and Martin (2000:1118) suggest that "long-term competitive advantage lies in resource

configurations and not dynamic capabilities”. As Grant (1991) and Pisano (1994) suggest, dynamic capabilities are the antecedent firm level and strategic routines by which managers alter their resource base (*i.e.* acquire, disseminate, integrate and recombine resources) to generate new value-creating strategies. Thus, the output of dynamic capabilities is a new configuration of knowledge resources and operational routines (Cepeda & Vera, 2007). The new resource configurations enable the firm to pursue its primary value creating strategy through, (a) ability to solve problems (substantive capability), (b) addressing change or anticipated change of problems (environmental dynamics or uncertainty), and (c) ability to change the way the firm solves problems (dynamic capability) (Zahra, Sapienza & Davidson, 2006).

Knowledge transformation process - The processes/activities through which knowledge resources are transformed, have received extensive attention in the recent literature. For example, *build, integrate* and *reconfigure* (Teece et. al., 1997); *integrate, reconfigure, gain, release, and match environmental change* (Eisenhardt & Martin, 2000); *generate* and *modify* (Zollo & Winter, 2002); and *create, extend* and *modify* (Helfat et. al., 2007). Each of these typologies is founded on two generalised core processes, an initial acquisition process which can be termed build, gain, create, and generate, and a subsequent transformation process termed integrate, extend, modify, and reconfigure. As mentioned earlier, this research adopts the create, extend, and modify topology (Helfat et. al., 2007), as these terms capture the key stages of transition from initial acquisition – ‘create’ - through a creation stage, to a stage enabling reinforcement of routines – ‘extend’ - and on to finally an adaptation stage – ‘modify’.

Role of key decision-makers - Compared to IO and RBV, DCV assigns a prominent role to firm’s key decision-makers suggesting that, effective management decisions as a prerequisite to develop dynamic capabilities. Proponents of DCV suggest that dynamic capabilities do not merely accrue to the firm from a good fit with industry or environmental requirements, but are developed consciously and systematically by the wilful choices and actions of the firm’s key decision makers (Grant, 1991; Lado, Boyd & Wright, 1992; Teece et al., 1997) to pursue opportunities. Therefore, the role of key decision-makers in exploiting opportunities and pursuing the best use of resources is widely established in literature (e.g. Covin & Slevin, 1989; Covin, Green, & Slevin, 2006; Lumpkin & Dess, 1996).

2.6 Human Resource Management and Competitive Advantage within Strategic Human Resource Management (SHRM) Literature

Having discussed key conceptual frameworks relating to the focal research topic of HR innovation and competitive advantage in previous sections, this section reviews how the SHRM literature has progressed on this topic. The SHRM literature is the primary arena in which the linkage between HRM and competitive advantage has been examined (e.g. Barney & Wright, 1998; Cooke & Saini, 2010; Hailey et al., 2005; Schuler & Jackson, 1987). SHRM is defined as a pattern of planned human resource deployment and activities intended to enable a firm to achieve its goals (Wright & McMahan, 1992) or drive competitive advantage (Chadwick & Dabu, 2009). The SHRM literature that has grown in significance over the past few decades has progressed along several themes. One of the themes particularly relevant to the focal topic of this research is the strategic importance of HR in a firm's value creation process. This stream of literature focuses on two primary areas: (a) HR characteristics, and (b) the HR management processes. These two themes are discussed below with greater emphasis on the latter, which is the focal area of this research.

2.6.1 HR Characteristics, HR Management Process, and Competitive Advantage

The HR characteristics of a firm include knowledge, experience, skill, and commitment of its employees, along with their relationships with each other and with those outside the firm (Barney & Wright, 1998). The integration of RBV with SHRM theory (e.g. Lado & Wilson, 1994; Snell, Youndt, & Wright, 1996; Wright, McMahan & McWilliams, 1994) has enhanced the attention for HR characteristics in a firm's value creation process. The RBV claims that the valuable, rare, firm-specific, and not easily imitable or substitutable, nature of human resource can provide a source of sustained competitive advantage (Barney, 1991; Snell et al., 1996). Furthermore, employees of a firm are seen as collectively involved in causally ambiguous, socially complex mutual relationships that are not easily imitable or transferable across firms, providing a unique source of competitive advantage (Barney, 1991; Barney & Wright, 1998; Huselid, 1995). However, the ability of RBV to explain how HR characteristics of a firm support its competitive advantage is limited due to three reasons. First, the literature suggests that labour market resources available for firms are relatively homogenous (Barney & Wright, 1998), and therefore focusing on HR characteristics alone cannot adequately explain the heterogeneity of firm performance. Second, the literature highlights the need for HR systems and practices to deploy a firm's human resources to create HR advantage (Barney & Wright, 1998; Becker & Huselid, 2006). The RBV fails to explain how firms design and implement such HR systems and practices. Third, the RBV fails to explain how a firm can address its dynamic HR requirements (Barney & Wright, 1998). Accordingly, a firm possessing valuable, rare, not easily imitable or substitutable HR characteristics may not be a sufficient condition for

creating competitive advantage (Ray, Barney & Muhanna, 2004; Becker & Huselid, 2006; Wright & McMahan, 1992).

The SHRM literature, which focuses on the HR management process and competitive advantage, suggests that both the development of distinctive HR systems and practices and the way in which those systems and practices are implemented, can result in competitive advantage (Guest, 2011). Effective HR systems and practices lead to proximal, attitudinal and behavioural outcomes, such as: reduced absenteeism/turnover (Huselid, 1995; Richard & Johnson, 2004), improved levels of job satisfaction, employee loyalty and commitment. In addition, such HR systems and practices lead to distal outcomes such as improved firm level creativity, innovation, quality of goods and services, and productivity (Arthur, 1994; Becker & Huselid, 1998; Huselid, 1995), through which HR could influence organisational profitability and competitive position (Guest, 1997; Guest & Conway, 2011; Wright et al., 2005). Overall, focusing on the HR management process provides a better explanation for the HRM – competitive advantage link, compared to HR characteristics. Therefore, this research focused on the way in which firms manage their HR to support competitive advantage.

2.6.2 Key Theoretical Perspectives on HRM and Competitive Advantage

The SHRM literature provides three prominent theoretical perspectives to shed light on how HR practices support in gaining competitive advantage.

Universalistic perspective - The universalistic perspective identifies ‘best practices’ and recommends that all firms should adopt those (e.g. Huselid, 1995; Osterman, 1994). Examples of best practices may include employee empowerment, employment security, performance-based pay, job rotation, and quality circles (Michie & Sheehan, 2005; Osterman, 1994; Pfeffer, 1994). In theory, the universalistic perspective provides little room for differentiation (Boxall & Purcell, 2003). However, in practice the universalistic perspective can result in competitive advantage because, (a) not all firms adopt best practices, and (b) those that do, may adopt best practices to match its operating context, which may result in a certain degree of differentiation (Boxall & Purcell, 2003; Delery & Doty, 1996).

Contingency perspective - This perspective focuses on individual or a few HR practices that are consistent with other aspects of the firm, such as the strategic position of a firm (Barney & Wright, 1998; Becker & Huselid, 2006; Delery & Doty, 1996; Schuler & Jackson, 1987). For example, proponents of this perspective have attempted to show how certain HR practices are consistent with different strategic positions which in turn relate to firm performance (Delery & Doty, 1996; Michie

& Sheehan, 2005; Schuler & Jackson, 1987). Following this perspective may result in competitive gains for a short run; however, an individual HR practice can be relatively easily copied by competitors in the long run (Wright et al., 2001).

Configurational perspective - The configurational perspective takes a holistic view (i.e. focus on systems of HR practices) and advocates the need for the internal and external fit of the systems of HR practices (e.g. Becker & Huselid, 2006; Kang, Morris, & Snell, 2007; Lepak & Snell, 1999). It argues that HR systems with adequate fit will have stronger impacts on performance (Arthur, 1994) and competitive advantage (Delery & Doty, 1996). *Internal fit* refers to the fit between HR policies and practices as well as the fit among HR practices, while *external fit* refers to the fit between HR practices and a firm's competitive strategy (Huselid, 1995; Michie & Sheehan, 2005; Milliman, Von Glinow, & Nathan, 1991; Wright & Snell, 1991).

The configurational perspective is further strengthened with the introduction of the concept of high performance work systems (HPWS) which consists of comprehensive and extensive systems of selection, performance management, employee involvement, and training, working synergistically to create greater returns than the sum of its parts (Drummond & Stone, 2007; Huselid, 1995). Huselid's (1995) work on HPWS was among the first studies to empirically justify the long held belief that HR systems with appropriate internal and external fit is a source of competitive advantage. Furthermore, as a result of these developments, the literature on the HRM – value creation linkage, has shifted the focus towards a holistic approach to HRM and focuses on HR systems and overall HR configurations to address performance and value creation, as opposed to the approach of focusing on individual HR practices (Becker & Huselid, 1996; Delery & Doty, 1996; Huselid, Jackson & Schuler, 1997).

Recent SHRM literature suggests that firms can have multiple internally and externally consistent HR systems working as a coherent whole to meet strategic HR requirements. Tsui et al. (1997) were among the first to conceptualise the idea that firms can have more than one HR system working synergistically, while Lepak and Snell (1999), used the term '*HR architecture*' to explain a collection of such HR systems within the firm. Lepak and Snell (1999; 2002) define HR architecture as an alignment of different employment modes, employment relationships, HR configurations, and criteria for competitive advantage. Accordingly, HR architecture is a coherent whole of internally and externally consistent HR systems, practices and competencies, and employee performance behaviours designed to support gaining competitive advantage (Becker & Huselid, 2006).

However, there is no one-size HR architecture that fits all firms (Becker & Huselid, 2006; Guest, 2011). Therefore, HR systems or bundles of interrelated, internally and externally consistent

HR activities/practices, provide greater potential to create causally ambiguous and less-imitable advantages (Barney & Wright, 1998; Wright et al., 2001). Accordingly, an HR architecture that fits a firm's requirement can not only result in competitive advantage but also makes advantages not easily imitable by competitors, resulting in sustained advantages (Becker & Huselid, 2006; Huselid & Becker, 2011). Based on the foregoing discussion, this research conceptualised HR architecture as the platform on which firms design and implement new HR practices, systems, and policies with an intention to add value. In other words, HR architecture is the platform for HR innovations.

2.6.3 HR Innovation and Competitive Advantage

HR innovation serves two primary purposes in a firm, namely; (a) driving firm-level change and innovation (Barney & Wright, 1998; Carrig, 1997) (e.g. the case of Continental airlines), and (b) supporting firm-level change and innovation (Chang, Gong & Shum, 2011; Gilley, Greer & Rasheed, 2004). In both cases, HR innovation is reported to improve response speed to environmental change, and produce flexibility and productivity, thereby improving the overall firm performance (Barney & Wright, 1998; Becker & Huselid, 2006; Carrig, 1997; Gilley et al., 2004) and competitiveness. Therefore HR innovation can serve as a vital source of competitive advantage. Furthermore, HR innovation is socially complex, causally ambiguous, and path dependent (Barney, 1991; Barney & Wright, 1998; Becker & Huselid, 1997; Huselid & Becker, 2011). Therefore, the advantages gained over HR innovation are not easily imitable, and thus a source of sustained competitive advantage (Becker & Huselid, 1997; Bharadwaj et al., 1993; Huselid & Becker, 2011; Reed & Deffilippi, 1990).

However, as mentioned earlier, the extant literature on HR innovation related competitive advantage is considered limited and fragmented due to several reasons. First, the *extant literature on HR innovation-related competitive advantage primarily focuses on the outcomes of HR innovations* (e.g. Barney & Wright, 1998; Cooke & Saini, 2010). The way in which firms design and develop HR innovation to support competitive advantage has received scant research attention. The limited understanding on the approach through which firms design and develop HR innovation has hindered the efforts of HR practitioners to achieve firm competitiveness through HR innovation (Barney & Wright, 1998; Becker & Huselid, 2006; Huselid & Becker, 2011). As a result, not many firms invest in HRM in a manner that enhances their competitive edge, contributing to heterogeneity in the quality of HRM among firms (Barney & Wright, 1998; Huselid & Becker, 2011). This highlights the need for a conceptual framework clearly explaining of the antecedents of HR innovation and the way in which those antecedents interact to support HR innovation-related competitive advantage. Such a framework will serve as a guide for practitioners.

Second, limited empirical studies on HR innovation *focus primarily on radical HR innovations and their outcomes* (e.g. Barney & Wright, 1998). The role of incremental HR innovations on firm performance/competitive advantage has received scant attention. In this regard, the innovation literature in general suggests that many firms pursue incremental innovations, which over a period will have a substantial effect on performance outcomes (Davenport, 1993). Whether both radical and incremental HR innovations support competitive advantage in a similar fashion it happens in the context of technical innovation, or not is yet to be tested empirically. Furthermore, as incremental innovation involves less risk and resource commitments compared to radical innovations, more firms can have greater receptiveness towards incremental HR innovations compared to its radical counterpart. Therefore, the role of incremental HR innovations in supporting the competitive advantage warrants closer investigation.

2.6.4 Role of HR Practitioners in HR Value Creation

The importance of the role of HR professionals in HR value creation is widely recognised in the SHRM literature (Barney & Wright, 1998; Wolfe, 1995; Wolfe et al., 2006; Ulrich & Beatty, 2001; Ulrich & Brockbank, 2005) and the practice. HR professionals add value when their work assists their key stakeholders (e.g. employees, line managers, customers, and investors) to attain goals (Ulrich & Brockbank, 2005). The Ulrich's model of HR service delivery (Ulrich, 1997; Ulrich & Brockbank, 2005; Ulrich, Younger, & Brockbank, 2008), has recently gained prominence as the best practice in HR value addition (CPID, 2006; 2011), at least among practitioners in the United Kingdom. This model offers three mechanisms of HR service delivery, namely, *HR strategic partner*, *centres of expertise*, and *shared services* (Ulrich & Brockbank, 2005; Ulrich et al., 2008). As a strategic partner, HR professionals are expected to work closely with business leaders and/or line managers to achieve shared organisational objectives. The centre of expertise refers to a team of HR experts with specialist knowledge of novel HR solutions in areas such as training and development, performance management, and compensation and reward. The shared services mechanism refers to a unit that handles HR transactional services such as recruitment, payroll, more effectively at a lower cost.

Despite the popularity of Ulrich's model, critics argue that it is often a 'change of title only' for HR professionals (e.g. Hennessey, 2009:26). Pitcher (2008) suggests that this model has not resulted in any improvements in strategic decision making on HR issues within firms, which is identified to be an essential in HR's way forward. In the light of above criticisms, a recent CPID study highlights (2012:2) the need for HR professionals to move beyond the service delivery and process focus to be more *insight-driven*. This demands HR professionals to be *business-savvy* (having a deep understanding of the business), *context-savvy* (understanding the environment within

which the business operates), and *organisational-savvy* (understanding of how internal factors such as the impacts of culture, leadership, and employees, interact to enable/derail business success) (CIPID 2011:5). In other words, this highlights the need for HR professionals to create and adapt knowledge from external and internal sources. However, empirically investigating how HR professionals deploy resources to create aforementioned knowledge and the way in which it is adapted for HR value addition have received limited attention in the SHRM literature.

2.7 Summary of Key Observations

As the foregoing discussion suggests, innovation is a vital source of competitive advantage, but the literature on non-technical innovations is limited. Although organisational learning and capabilities have emerged as an antecedent for innovation and competitive advantage, those have escaped empirical scrutiny in HR innovation context. Similarly, while SHRM literature that recognises the importance of HRM related competitive advantage has grown in significance, the literature focusing on ways in which HR professionals design and develop HR innovations to support competitive advantage is limited and fragmented. Overall, the above review of literature related to HR innovation-related competitive advantage leads to identification of the following knowledge gaps.

Innovation and competitive advantage - Innovation has long been identified as a vital source of competitive advantage. However, the literature on innovation primarily focuses on technical innovations and efforts to identify the role of non-technical innovations, HR innovation in particular, are limited and fragmented (Hailey et al., 2005; Hamel, 2006). This is a vital area of investigation as (a) the competitive advantage gained over HR innovation is causally ambiguous, thus is difficult to imitate, and serves as a source of sustained competitive advantage (Barney & Wright, 1998), and (b) organisational transformations resulting from technical innovations cannot be effectively implemented without appropriate innovation in and change of associated HR systems and practices (Chang et al., 2011; KPMG, 2013). Thus, the role of HR innovation in competitive advantage is an area of theoretical and practical significance.

Learning and innovation – Although organisational learning has been identified as an essential prerequisite for innovation and value creation, its application to explain HR innovation-related competitive advantage is limited. Empirical investigation to understand if and how organisational learning facilitates HR innovation therefore remains an area of research interest.

DCV and SHRM - The DCV of competitive strategy, that has gained prominence in competitive strategy research as a viable explanation of firm performance heterogeneity, has not been adopted in

the SHRM literature. The DCV suggests that firm's dynamic capabilities enable it to create new knowledge, resource combinations, and operational capabilities, and thereby provide a platform for innovation and competitive advantage (Eisenhardt & Martin, 2000; Teece et al., 1997).

HR innovation and competitive advantage - SHRM literature, the arena in which HR innovation has received most attention identifies HR innovation as a driver or facilitator of firm's competitive advantage process. However, the limited literature available on HR innovation focuses primarily on types and outcomes of HR innovation. Efforts to explain the way in which firms design and develop HR innovation to support competitive advantage is limited. Furthermore, despite the potential impact incremental HR innovations can have in supporting competitive advantage, extant empirical studies only focus on radical HR innovations and their outcomes. In addition, although the importance of the role of HR professionals in HR value creation is widely recognised in SHRM literature, how HR professionals deploy resources to create and adapt knowledge for HR value addition has received limited empirical attention.

The role of 'strategist' in HR innovation and competitive advantage

As noted earlier, the SHRM literature suggests a positive relationship between HR innovation and firm's competitive advantage (Barney & Wright, 1998; Becker & Huselid, 1997; Chang et al., 2011; Huselid & Becker, 2011). Implicit in this discussion is that firms that pursue HR innovation will be different in their strategic behaviours. The well-developed entrepreneurship literature suggest that firm's that pursue innovation are characterised with entrepreneurial behaviour (innovativeness, proactiveness and risk-taking) (Covin & Slevin, 1991) which is found to be positively related to superior firm performance (Lumpkin & Dess, 2001; Shane & Venkataraman, 2000; Zahra, et al., 2006). While this discussion has primarily evolved within innovations in manufacturing context, it has escaped empirical scrutiny in the context of HR innovation. In addition, past research has examined entrepreneurship and innovation at the firm-level while studies examining entrepreneurship at functional-level in general (Chadwick & Dabu, 2009) and HR functional-level in particular have been limited.

Overall, the limited and fragmented nature of literature on HR innovation-related competitive advantage pinpoints the need of a conceptual framework that can be successfully operationalised to understand how HR professionals design and develop HR innovation to support gaining and sustaining competitive advantage. Therefore, a framework clearly explaining the antecedents and approach of HR innovation-based competitive advantage will provide a sound theoretical foundation to further advancement of theory and practice.

2.8 Research Problem Statement

As noted in Chapter One and discussed above, HR innovation can play a vital role in a firm's competitive advantage. In addition to limited research attention on HR innovation, existing studies primarily focus on types and outcomes of HR innovation. Empirically founded evidence on the way in which firms design and develop HR innovation to support competitive advantage demands closer attention. Therefore, the broad research problem addressed in this study is:

How do firms design and develop HR innovations and to what extent do such innovations support firms' competitive advantage?

This research problem is expanded on the basis of four research questions, discussed in the following section.

RQ 1 – As noted earlier, the extant literature on HR innovation and competitive advantage primarily focuses on types and outcomes of HR innovation, paying limited attention to antecedent factors facilitating HR innovation (e.g. Barney & Wright, 1998). The DCV suggests that dynamic capabilities enable a firm to create, extend, and modify its knowledge resources in a manner that would allow the firm to add value and thereby gain competitive advantage. The capacity of DCV to explain how new knowledge resources can be developed to undertake innovation and value creation has not been adopted in SHRM literature. Similarly, although organisational learning has been identified as an essential prerequisite for innovation and value creation, its application to explain HR innovation-based competitive advantage is limited. This has led to RQ 1: *What are the antecedent factors that facilitate HR innovation of a firm?*

RQ 2 - As noted earlier, while strategic behaviour of firms undertaking innovation has received substantial attention in manufacturing innovation, the attention for HR functional-level entrepreneurship and its relationship with innovation-related competitive advantage has been limited. The DCV facilitates examination of the role of 'strategist' in innovation and firm competitive advantage. As mentioned earlier, a firm's dynamic capabilities do not merely accrue to the firm from a good fit with industry or environmental requirements, but are developed consciously and systematically through the wilful choices and actions of its managers (Grant, 1991; Lado et al., 1992; Teece et al., 1997). Similarly, the SHRM literature suggests that HR innovation does not automatically take place in a firm, but is enacted by HR professionals with an intention to create value (Chadwick & Dabu, 2009). However, if and how HR professionals demonstrate strategic behaviours in HR value creation, has received limited attention. This has led to RQ 2: *What are the strategic behaviours demonstrated by HR professionals when pursuing HR innovation?*

RQ 3 – As mentioned earlier, limited empirical studies on HR innovation primarily focus on radical HR innovations and their outcomes (e.g., Barney & Wright, 1998). The innovation literature in general suggests that many firms pursue incremental innovations, which over a period will have a substantial effect on performance outcomes (Davenport, 1993). However, the role of incremental HR innovations on firm performance and/or competitive advantage has received scant attention. In other words, can both radical and incremental HR innovations lead to competitive advantage in a similar fashion as it happens in the context of technical innovation is yet to be tested empirically. This has led to RQ 3: *Do both radical and incremental HR innovations support competitive advantage?*

RQ 4 – As mentioned in Chapter One, the SHRM literature highlights the need to analyse the impact of HRM on competitive advantage beyond the ‘statistical significance’ to ‘effect size’ (Combs et al., 2006; Guest 2011). In addition, quantifying the effect of HR innovation on competitive advantage will facilitate practitioners in HR investment decisions. This has led to RQ 4: *To what extent do HR innovations support firm’s competitive advantage?*

2.9 Conclusion

In this chapter, the literature on innovation, competitive advantage, and SHRM was critically reviewed to identify knowledge gaps related to HR innovation-related competitive advantage and thereby provided justification for the research questions presented in Chapter One. The limited and fragmented nature of knowledge pertaining to HR innovation-related competitive advantage highlighted the need for a well-founded conceptual framework. Addressing these research gaps, the next chapter focuses on developing a conceptual framework of HR innovation-related competitive advantage.

CHAPTER THREE: CONCEPTUAL RELATIONSHIP AND THE SYSTEM OF RELATIONSHIPS

3.1 Introduction

The previous chapter critically reviewed the literature relating to HR innovation and competitive advantage. It identified knowledge gaps and provided justification for the research questions. It was evident that the literature on HR innovation remains limited and fragmented, paying scant attention to its suggested role in gaining firm competitive advantage. This highlights the need for a well-founded conceptual framework that can facilitate future research and practice. As such, this chapter focuses on developing a conceptual framework of HR innovation-related competitive advantage.

The remainder of this chapter proceeds as follows: First, the key principles of conceptual model development in social sciences are revisited. Second, drawing from multiple streams of extant literature, the key constructs associated with HR innovation-related competitive advantage are identified and their theoretical relationships discussed as the hypotheses are presented. Finally, the resulting conceptual framework of HR innovation-related competitive advantage is presented.

3.2 Principles of Model Development in Social Sciences

A conceptual model is a visual representation or a narrative explanation of key constructs or variables of interest associated with the phenomenon under investigation and the proposed/hypothesised relationships among them (Miles & Huberman, 1994:18). It can explain *what* – what the factors are (variables, constructs, and concepts), *how* – how the identified factors are related, and *why* – what the underlying dynamics that justifies the factors and theoretical relationships among them are (Christensen & Sundahl, 2001; Whetten, 1989) and therefore can be used to predict the variance in an outcome (Christensen & Sundahl, 2001; Doty & Glick, 1994). The literature suggests that good theoretical model development efforts should be guided by the following principles:

- a. *Conceptual clarity* – demands clear and complete understanding of constructs or variables included in a theoretical model (Bacharach, 1989; Doty & Glick, 1994; Rumelt, 1984).
- b. *Relationship among constructs* – cause and effect relationship should be unambiguous (Yin, 1984).
- c. *Falsifiability* - implies that the predictions associated with a theoretical model should be testable and subject to disconfirmation (Christensen & Sundahl, 2001; Doty & Glick, 1994).
- d. *Testability* – to be testable a model should be concise where the researcher will set some relationships to zero and focus only on the fewest, most important variables that exert the

greatest influence on the phenomenon under investigation (e.g. Covin & Slevin, 1991; Keats & Bracker, 1988).

- e. *Parsimony* – requires variables included in the theoretical system to sufficiently, but parsimoniously, tap the domain of the question (Bacharach, 1989).

Accordingly, the process of model development involves identifying key constructs or variables, developing logical theory-driven causal connections among them, and understanding the boundary conditions of study. The conceptual framework that was built for this study was guided by these principals.

3.3 Conceptual Foundation

As mentioned in earlier chapters, the objective of this research is to develop a well-founded conceptual framework of HR innovation-based competitive advantage. In this process, this research draws on two complementary streams of literature, namely the dynamic capabilities view (DCV) and the organisational learning-based approaches to innovation. Considering the fact that the role of dynamic capabilities is to build new knowledge configurations need to pursue firm's primary strategy (Eisenhardt & Martin, 2000) the two literature streams converge in explaining firm innovation and competitive advantage. Therefore, both these theoretical foundations have been extensively used in understanding sources of firm heterogeneity.

The adoption of these theoretical approaches is justified by several reasons. First, in principle, SHRM integrates strategy and HRM fields (Wright & McMahan, 1992). Second, there is a long held belief that greater understanding and interaction between HRM and strategy would be mutually beneficial (Tichy, Fombrun & Devanna, 1982; Wright et al., 2001). Third, the application of theoretical developments in the fields of strategy, have significantly contributed to theoretical and practical advancement in SHRM (Becker & Huselid, 2006). This research therefore adopts DCV and organisational learning-based approaches to innovation in explaining how firms utilise knowledge resources to design and develop HR innovation.

Although the SHRM literature is limited and fails to identify antecedents of HR innovation and the nature of their interactions, it provides a sound conceptual discussion on the importance of external and internal fit in HR strategy formulation. In addition, the SHRM literature provides evidence on the relationship between HR innovation and competitive advantage (e.g. Barney & Wright, 1998; Wolfe, 1995; Wolfe et al., 2006). Therefore this research draws on the SHRM literature wherever applicable.

3.4 Theoretical Constructs and Hypothesis Development

3.4.1 HR Functional-level Entrepreneurship

Entrepreneurship is viewed as a process of creating new resources or combining existing resources in a new way to capitalise on an environmental opportunity to create value (Hitt, Ireland, Camp & Sexton, 2002; Naman & Slevin, 1993; Shane & Venkataraman, 2000). Therefore, entrepreneurship and innovation are closely linked (Schumpeter, 1934). Entrepreneurial process can take place at multiple levels, including individual, team, unit, firm, inter-organisational, network, industry or even at country level (Covin & Lumpkin, 2011; Shane & Venkataraman, 2000; Lumpkin & Dess, 1996). However, entrepreneurship literature has primarily focused on firm/ top management level entrepreneurship (Covin & Lumpkin, 2011) paying limited attention to other levels, in particular the functional-level. Overall, the literature over the last few decades reflects a major shift from viewing entrepreneurship as an individual trait-based construct (e.g. Cunningham & Lischeron, 1991; Gartner, 1989) to a firm-level behavioural construct (e.g. Covin & Slevin, 1986; 1991; Lumpkin & Dess, 1996; 2001; Shane & Venkataraman, 2000). Firm-level entrepreneurship is also referred to as corporate entrepreneurship and focuses on creating and pursuing opportunities (e.g., entering a new market, introducing new products or services) to gain strategic advantages (Lumpkin & Dess, 1996; 2001; Shane & Venkataraman, 2000). In other words, corporate entrepreneurship is the sum of firm's venturing and innovation activities (Zahra, et al., 2006).

Innovation is suggested as the primary strategy through which entrepreneurial firms use to redefine or rejuvenate them, their market positions, or their competitive arenas (Covin & Miles, 2006; Zahra et al., 2006). The process of innovation/new entry consists of the methods, practices, and decision making styles that managers use to act entrepreneurially, and is called entrepreneurial orientation (Lumpkin & Dess, 1996). Entrepreneurship's suggested link with these processes has received limited attention in the context of HR innovations.

The behavioural approach to entrepreneurship (Covin & Slevin, 1986; Miller, 1983; Naman & Slevin, 1993; Zahra et al., 2006), which has dominated entrepreneurship literature over the last two decades, conceptualises entrepreneurship as a firm characteristic insofar as the firm displays *innovativeness*, *pro-activeness*, and *risk-taking* in its strategic decisions. The proponents of this school of thought suggest that these three dimensions together reflect the entrepreneurial intensity of a firm (Covin & Slevin, 1989; 1991) and lead to firm growth and competitive advantage (Naman & Slevin, 1993).

Innovativeness - the willingness of a firm to undertake innovation. It reflects a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result

in new products, services, or processes (Lumpkin & Dess, 1996:142). Innovativeness provides a means for firms to make use of environmental opportunities, allowing value creation and gaining competitive advantage (Wang & Ahmed, 2004).

Pro-activeness - acting in anticipation of the future. It is an opportunity seeking, forward looking behaviour that involves introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment (Lumpkin & Dess, 2001:431). While some scholars have associated pro-activeness with first mover advantage (e.g. Leiberman & Montgomery, 1988), pro-activeness may sometimes result in strategically eliminating operations which are in the mature and declining stages of the life cycle (Venkatraman, 1989). Managers capable of providing vision and imagination, play an important role in identifying and pursuing environmental opportunities, which result in firm growth and sustaining competitive advantage (Penrose, 1959). Pro-activeness therefore is a key dimension of entrepreneurship to drive firm growth and competitive advantage.

Risk-taking - Risk-taking involves taking bold actions by venturing into the unknown, borrowing heavily, and/or committing significant resources to ventures in uncertain environments (Baird & Thomas, 1985; Lumpkin & Dess, 1996). Even though risk-taking is vital in entrepreneurship, it does not involve reckless decision making, but a reasonable awareness of the risk and an approach towards managing it. Specifically, it involves rational and calculated risk taking which would provide reasonable rewards in return.

Despite general consensus in the literature on innovativeness, pro-activeness, and risk-taking as key dimensions of entrepreneurial intensity, some scholars have attempted to extend and modify Miller's (1983) conceptualisation with additional dimensions. For instance, Lumpkin and Dess (1996) conceptualise entrepreneurial orientation to be five dimensional: *innovativeness*, *pro-activeness*, *risk-taking*, *autonomy* (relative independence of managerial actions), and *competitive aggressiveness* (challenging competitors for improving the market position). In addition, scholars have extended and modified conceptualisation of entrepreneurship to match the context within which it is empirically examined. For example, Jones and Rowley (2011) conceptualise entrepreneurial marketing as an extension of entrepreneurial orientation, which include aspects of *market orientation*, *customer orientation* and *innovation orientation*.

Despite differences in conceptualising entrepreneurship, the role of top management/ key decision-makers in a firm's entrepreneurship is a key underlying theme in the behavioural entrepreneurship literature. The literature suggests that entrepreneurial managers/decision-makers,

in their attempt to exploit opportunities and pursue the best use of resources (Chadwick & Dabu, 2009), identify and/or create environmental opportunities and effectively utilise organisational resources (Bradely, Wiklund, & Shepherd, 2011; Garcia-Morales, Llorens-Montes, & Verdú-Jover, 2006; Verreynne, Meyer, & Liesch, in press; Zahra et al., 2006). Similarly, Stevenson (e.g. Stevenson, 1983; Stevenson & Jurillo, 1990) suggests that a firm's entrepreneurial intensity is demonstrated by the extent to which the managers pursue opportunities without regarding the resources they currently control. Overall, the role of managers/decision-makers in pursuing opportunities is a prominent theme in the extant entrepreneurship literature.

Although entrepreneurship has received limited attention in HR context, the role of HR professionals in HR value creation has been recognised in the SHRM literature (Barney & Wright, 1998; Wolfe, 1995; Wolfe et al., 2006; Ulrich & Beatty, 2001; Ulrich & Brockbank, 2005). For instance, as discussed in Chapter Two, Ulrich's model highlights the importance of HR professionals in HR value addition and facilitating organisational change. Similarly, Barney and Wright (1998) suggest that, if a firm intends to add value through HR, its HR professionals should understand (a) the value of people and their role in competitive advantage, (b) economic consequences of the HR practices of the firm, (c) HR and HR practices in a firm compared to those of competing firms, and (d) the role of HR function in building organisational capabilities for the future. Although strategic behaviour demonstrated by HR professionals in HR value creation has received limited attention in the SHRM literature (Pitcher, 2008), the literature in general suggests the need for HR professionals' opportunity seeking, forward-looking, innovative behaviours, as prerequisites for HR value addition. Such behaviour is consistent with the dimensions of entrepreneurial intensity discussed above. Consequently, this research conjectures that entrepreneurial behaviour demonstrated by HR professionals in HR functional-level strategic decision making is prerequisite for HR innovation-related value addition.

3.4.2 HR Functional-level Entrepreneurship and Learning Capabilities

Entrepreneurship of a firm entails management's (a) perception of opportunities to productively change existing routines, and resource configurations, (b) willingness to undertake change, and (c) ability to implement changes (Penrose, 1959; Zahra et al., 2006). Therefore, entrepreneurial behaviour demonstrated by firm/key decision-makers can be the foundation for dynamic capabilities (Weerawardena et al., 2007). Highlighting the role of entrepreneurial managers in dynamic capabilities, Zahra et al. (2006:918) define dynamic capabilities as "the ability to reconfigure a firm's routines and resources in a manner envisioned and deemed appropriate by its principal decision maker(s)". In other words, dynamic capabilities are the enabling mechanism that

links entrepreneurial managers to firm's opportunity exploitation and subsequent competitive gains (Covin & Lumpkin, 2011).

Entrepreneurial posture is also suggested as a prerequisite for the new knowledge acquisition needed for innovation (Drucker, 1999; Meyer & Heppard, 2000; Slater & Narver, 1995). Entrepreneurial management "leads a firm and its members to constantly search and filter information for new product ideas and process innovations that will lead to greater profitability" (Meyer & Heppard, 2000:2). It therefore involves a system of firm-specific managerial processes that enhances knowledge accretion, coordination, and exploitation (Chadwick & Dabu, 2009). The process of new knowledge accretion, coordination, and exploitation, is a part of learning (Huber, 1991; Sinkula, 1994; Slater & Narver, 1995). Therefore, this research conjectures organisational learning as a dynamic capability (Day, 1994; Weerawardena, 2003).

The foregoing discussion suggests that entrepreneurial management is a prerequisite for innovation and value creation, and a firm's dynamic learning capability is the enabling mechanism through which entrepreneurial managers create value. Although organisational learning has received limited empirical attention in HR innovation context, the SHRM literature recognises the role of firm's management in building and nurturing its learning capabilities. For instance, Ulrich et al. (1993:60) suggest that learning capabilities depend on "the capacity of managers within an organisation to generate and generalise ideas with impact". However, designing and implementing learning mechanisms to effectively transmit organisational knowledge into dynamic capabilities is a responsibility of HR management (Chien & Tsai, 2012). HR professionals therefore require not only learning, unlearning, and relearning continuously, but also providing leadership and facilitating organisational learning process (Chadwick & Dabu, 2009; Kang et al., 2007). This necessitates HR managers/professionals to demonstrate entrepreneurial behaviour in making strategically important resource allocation decisions related to organisational learning. However, given the limited autonomy, recognition and resources available for HR managers/professionals (Elenkov & Manev, 2005; Khilji & Wang, 2006) compared to top management, HR functional-level entrepreneurial behaviour is likely to differ from that of top management.

On the basis of the above, this research conjectures that entrepreneurial HR managers/professionals play a dominant role driving HR functional-level learning capabilities, enabling HR innovation. The next section elaborates on the role of entrepreneurial HR professionals in dynamic internally-focused and externally-focused learning of HR function.

Internally-focused Learning Capability

Based on the DCV, internally-focused learning is defined as the capacity of HR professionals to collectively create, extend, and modify knowledge acquired through internal sources to address

changing business requirements of a firm through HR initiatives (Helfat et al., 2007). Internally-focused learning includes experimental learning (trial and error learning) (Weerawardena, 2003a) and experiential learning (learning through exposure to firm's important events, culture and employee relations) (March, 1991). Internally-focused learning therefore, is based on a localized, narrow, in-depth knowledge search.

HRM is a support function of the firm. Therefore, HR professionals who intend to add value, should have a clear understanding of the business and its competitive strategy (Barney & Wright, 1998; Ulrich, 1997; Ulrich et al., 2013), internal customers of the HR function (Barney & Wright, 1998; Ulrich, 1997), how HR practices facilitate internal customers in their tasks, what the firm's future competitive strategy will be, and what the future knowledge, skill, and competency requirements of the firm will be (Barney & Wright, 1998; Ulrich, 1997). Generating and utilising aforementioned internal knowledge requires HR professionals to identify opportunities for HR value addition and make strategically important resource allocation decisions (Wright et al., 1994; Ulrich & Beatty, 2001). Therefore, drawing from the behavioural entrepreneurship literature discussed above, this research theorises that HR entrepreneurship is an essential prerequisite in effective generation and utilising of a firm's internal knowledge. Thus, the relationship between HR functional level entrepreneurship and internally-focused learning was advanced as follows:

Hypothesis 1: HR functional-level entrepreneurship is positively related to internally-focused learning capability.

Externally-focused Learning Capability

Externally-focused learning capability is defined as the capacity of HR professionals to apply HR initiatives to create, extend, and modify knowledge acquired through external sources to address the changing business requirements of their firm. The broader innovation literature suggests that entrepreneurial managers actively engage in externally-focused learning (Slater & Narver, 1995; Weerawardena et al., 2007; Zahra et al., 2006). Although past research has identified the role of entrepreneurship in externally-focused learning capability and innovation (e.g. Weerawardena et al., 2007), this has escaped empirical scrutiny in HR innovation context. However as mentioned earlier, the SHRM literature highlights the importance of externally-focused learning in HR value addition and the role of HR professionals in effective generation and utilising of external knowledge (e.g. Barney & Wright, 1998; Ulrich, 1997; Ulrich et al., 2013). The externally-focused learning of HR function may include, knowing a firm's key customers, their expectations and strategies to meet those expectations, and co-creating strategies to meet those expectations (Ulrich et al., 2013), understanding the firm's close competitor(s), strategies and HR practices (Barney & Wright, 1998),

acquiring knowledge from formal education and professional networks, understanding general business environment including social, technological, political, economic, environmental and demographical trends (Ulrich et al., 2013). Therefore, similar to internally-focused learning, externally-focused learning necessitates HR professionals to identify opportunities for generating and utilising external knowledge and make strategically important resource allocation decisions to facilitate the learning process (Wright et al., 1994; Ulrich & Beatty, 2001). Accordingly, the link between HR functional-level entrepreneurship and externally-focused learning was advanced as follows:

Hypothesis 2: HR functional-level entrepreneurship is positively related to the externally-focused learning capability

3.4.3 Learning Capabilities and HR Innovation

Learning facilitates behavioural changes, leading to improved performance (Senge, 1990; Sinkula, 1994; Slater & Narver, 1995; Subramaniam & Youndt, 2005). The literature suggest that a firm's capacity to learn is fundamental to create, extend, and modify, organisational routines and resource configurations, leading to innovation and value creation (Brikinshaw & Mol, 2006; O'Cass & Weerawardena, 2010; Sinkula, 1994; Sinkula et al., 1997) in both technical and non-technical innovation context. The innovation literature suggests that the above process requires a wide array of knowledge both from the internal and external environment (Crossan, Lane, & White, 1999; Kang et al., 2007). For instance, Brikinshaw's and Mol's (2006) five phase process of generating non-technical innovations clearly highlights the way in which learning capabilities facilitate a firm's non-technical innovations. The suggested process comprises of, (a) *dissatisfaction with the status quo* – usually based on internal knowledge, (b) *inspiration* – usually based on external knowledge, (c) *invention* - based on a combination of dissatisfaction and inspiration, (d) *validation* – based on both internal and external knowledge, and (e) *diffusion* to other organisations. Although the SHRM literature recognises the role of internal and external knowledge in HR management and value addition in general, their role in HR innovation specifically has received scant attention. Therefore, drawing from the literature on non-technical innovation and learning capabilities, this study theorises that HR functional-level learning capabilities lead to HR innovation.

Internally-focused Learning and HR Innovation

HR professionals who intend to add value to their firm should generate and utilise multiple types of internal knowledge (Barney & Wright, 1998; Ulrich, 1997; Ulrich et al., 2013). This includes the knowledge of core practices of the firm and the way HR practices are designed and implemented to

facilitate the value creation process (*i.e.* external fit) and the way in which HR practices are integrated into a coherent whole (*i.e.* internal fit). The internal knowledge therefore provides the foundation for designing internally and externally consistent HR practices. Furthermore, the ‘absorptive capacity’ view (Cohen & Levinthal, 1990) suggests that the internally-focused learning undertaken correlates positively with the acquisition and assimilation of external knowledge (Cohen & Levinthal, 1990; Zollo & Winter, 2002), which can play a significant role in HR innovation (explained in the proceeding section). Therefore, this research conjectures that internally-focused learning is a vital prerequisite for HR innovation, and the following hypothesis was advanced:

Hypothesis 3: Internally-focused learning capability is positively related to HR innovation

Externally-focused Learning Capability and HR Innovation

Externally-focused learning creates a diverse knowledge-base and thus facilitates better coping with speed, complexity and cost of innovations (Vanhaverbeke, Duysters & Noorderhaven, 2002). Furthermore, external sources of knowledge such as participation in external organisational networks and communication with prior adopters (Damanpour & Schneider, 2006; Greer & Lei, 2012; Kimberly & Evanisko, 1981), and previous work experience and professional and educational qualification of managers involved in innovation (Damanpour & Schneider, 2006), are found to be significant predictors of non-technical innovation compared to its technical counterpart (Damanpour & Schneider, 2006). Despite scant attention to the role of external knowledge in HR innovation, the SHRM literature, as mentioned earlier, recognises the importance of external knowledge in effective management of HR (e.g. Barney & Wright, 1998; Ulrich, 1997; Ulrich et al., 2013). However in the context of HR innovation in particular, applying external knowledge without appropriate adaptation will lead to inefficiencies, wastage of resources, and even loss of credibility of the HR function among its internal stakeholders. This suggests the importance of modifying the knowledge which is an inherent process in dynamic capabilities. Based on the foregoing discussion, the relationship between externally-focused learning capability and HR innovation was advanced as follows:

Hypothesis 4: Externally-focused learning capability is positively related to HR innovation

3.4.4 Firm’s Competitive Strategy and HR Innovation

A firm’s competitive strategy involves a deliberate selection of strategic activities in a firm’s value chain to achieve positional advantages primarily in cost leadership and/or differentiation (Porter, 1985). The behavioural view of HRM (Arthur, 1994; Becker & Huselid, 2006; Huselid, 1995;

Schuler & Jackson, 1987) suggests that successful implementation of competitive strategy requires a firm to create/maintain a unique set of HR practices eliciting a unique set of employee behaviours and attitudes; therefore, a firm's HR strategies should be aligned with its competitive strategy (Delery & Doty, 1996; Michie & Sheehan, 2005; Schuler & Jackson, 1987; Ulrich & Brockbank, 2005). For example, those firms adopting cost advantage as a strategy, implement HR practices focused on cost leadership, and generally involve in standardized training and development, designing narrow jobs, and short-term oriented job descriptions, etc. (Arthur, 1994; Schuler & Jackson, 1987); those firms adopting differentiation as a strategy, implement HR practices focused on innovation and quality improvement, and generally involve in improving the level of employee participation and commitment, training on group work (Arthur, 1994).

The empirical evidence in SHRM literature suggests that firms with differentiation strategy consider HR innovation as an opportunity for differentiation (e.g., Barney & Wright, 1998; Schuler & Jackson, 1987; Szpekman, 1992). For instance a firm aiming for high quality products would require a high degree of commitment for customer service, and therefore may involve in new employee training practices, empowering employees, delegating authority to solve customer problems, and rewarding employees based on their performance (Szpekman, 1992). Therefore, differentiation strategy positively relates to investments in HR innovation. However, the relationship between cost leadership and HR innovation has received limited empirical attention. Firms pursuing cost leadership strategy may invest in new HR practices such as employee training – to improve productivity and minimise wastage, and performance-based reward. For instance, firms operating in business-to-business environments (e.g. part suppliers to automobile manufacturers) may primarily pursue cost leadership strategy, and still invest in improving firm's resources, including HR (Chandler & Hanks, 1994). However, the SHRM literature suggests that firms pursuing cost leadership strategy make lower investments in HR practices in general, compared to those pursuing differentiation strategy (Michie & Sheehan, 2005).

Although Porter (1985; 1990) suggests that firms should pursue either differentiation or cost leadership strategy (but not both), this view has been criticised in subsequent developments in competitive strategy literature (e.g. Gopalakrishna & Subramanian, 2001; Proff, 2000). For instance, Gopalakrishna and Subramanian (2001) suggest that firms' competitive strategies can have a mix of strategic focuses (hybrid strategy) such that those pursuing differentiation strategy have higher differentiation focus and lower cost leadership focus, and vice versa. The idea that firms can have a mix of strategic focuses is well supported by the empirical evidence from the Japanese automobile industry, where automobile manufacturers pursue a mix of differentiation and cost leadership focuses (through mass customisation). Based on the foregoing discussion, this research conceptualise that a firm's competitive strategy can be a mix of strategic focuses such that

a firm pursuing differentiation strategy has higher differentiation focus and lower cost leadership focus, and vice versa. Based on the foregoing discussion, the relationship between firm's competitive strategy and HR innovation was advanced as follows:

Hypothesis 5: A firm's competitive strategy is positively related to its HR innovation such that differentiation focus has a stronger positive relationship with HR innovation compared to the relationship with cost leadership focus and HR innovation.

3.4.5 HR Innovation and Competitive Advantage

Competitive advantage is a positional superiority obtained by a firm either lowering buyers' costs or raising the buyers' performance in ways the buyers cannot match by purchasing from competitors (Porter, 1990). As discussed in Chapter Two, HR innovation serves two primary purposes in a firm; (a) driving firm-level change/innovation (Barney & Wright, 1998; Carrig, 1997) (e.g. the case of Continental airlines), and (b) supporting firm-level change/innovation (Chang et al., 2011). There is general consensus in the SHRM literature that HR innovation leads to competitive advantage in both cases above (Barney & Wright, 1998; Becker & Huselid, 1997; Chang et al., 2011; Huselid & Becker, 2011). The literature on the HRM - firm performance - competitive advantage linkage focuses both *proximal* (employee behavioural and attitudinal, such as voluntary turnover, absenteeism, employee engagement) and *distal* (firm-level performance, market and financial, such as productivity, quality of goods and services, market share, sales, and profitability) outcomes of HRM as indicators of competitive advantage (Barney & Wright, 1998; Becker & Huselid, 2006; Boselie, Dietz, & Boon, 2005; Carrig, 1997; Guest, 1997; Wright, Gardner and Moynihan, 2003). However, as mentioned in Chapter Two, empirical evidence on HR innovation primarily focuses on radical HR innovations paying limited attention to the role of incremental HR innovation. The innovation literature in general suggests that many firms pursue incremental innovations, which over a period will have a substantial effect on performance outcomes (Davenport, 1993). In HR innovation context in particular, engaging in continuous and incremental innovation will minimise risk of implementation failure and make innovation a part of firm's culture. Therefore, this study conjectures that radical as well as continuous incremental HR innovations can lead to competitive advantage, and their relationship was advanced as follows:

Hypothesis 6: HR innovation (radical and incremental) is positively related to competitive advantage

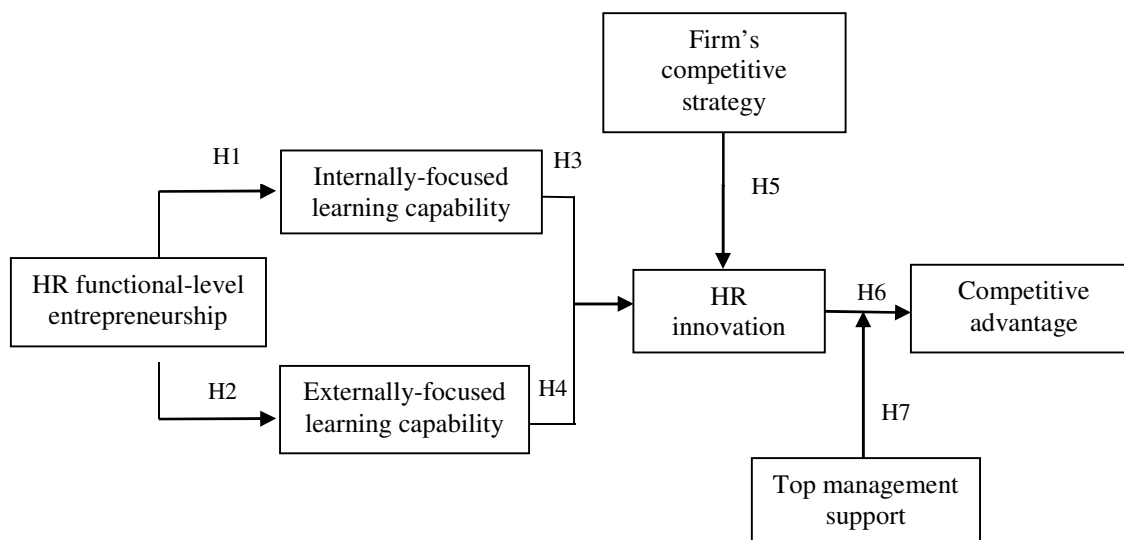
3.4.6 Top Management Support (Moderator)

Strategic decision making is a top management prerogative. In addition, allocating required resources to various functional departments comes within the top management purview. Top management plays a critical role in the degree of autonomy and recognition for the HR function (Elenkov & Manev, 2005; Taylor, Benschler, & Napier, 1996; Wright et al., 2001). The SHRM literature suggests that effective implementation of HR innovation requires the effort of the HR department to be well supported by the top management of the firm (Flood, Smith & Durfus, 1996; Wolfe et al., 2006). Furthermore, top management support on HR innovation can foster consensus among employees (Bowen & Ostroff, 2004). Top management support therefore is vital in a firm's endeavour to improve the effectiveness of HR change (Elenkov & Manev, 2005). Poor top management support in contrast results in limited autonomy, recognition, and access to resources required for implementation of new HRM initiatives (Elenkov & Manev, 2005; Whittaker & Marchington, 2003). Accordingly, the degree of top management support is identified to be a key contributor for the implementation success of HR changes (Khilji & Wang, 2006). In other words, the degree of top management support is identified to influence the strength of the relationship between HR innovation and its outcomes. Therefore, the role of top management support was advanced as follows:

Hypothesis 7: Top management support moderates the relationship between HR innovation and competitive advantage

3.5 Conceptual Framework of HR Innovation-related Competitive Advantage

Figure 3.1: The Initial Conceptual Framework of HR Innovation-related Competitive Advantage



The initial conceptual framework developed based on the above discussion is presented in Figure 3.1. Building on the DCV, the framework suggests that firms pursuing HR innovation in their competitive strategy build and nurture a set of learning capabilities. These learning capabilities are built and nurtured by HR functional-level entrepreneurship. The extant literature further suggests that learning capabilities are both externally and internally focused leading to the development of a knowledge-base (Sinkula et al., 1997; Subramaniam & Youndt, 2005; Ulrich et al., 2013) that supports greater HR innovation. The overall competitive strategy of the firm influences the design, development, and implementation of HR innovation. This conceptual framework further conjectures that both radical and incremental HR innovations can lead to competitive advantage and are manifested in employee behavioural and firm-level performance outcomes. In addition, the relationship between HR innovation and competitive advantage is suggested to be moderated by the top management support. This conceptual framework is refined and validated in subsequent phases of this research.

3.6 Conclusion

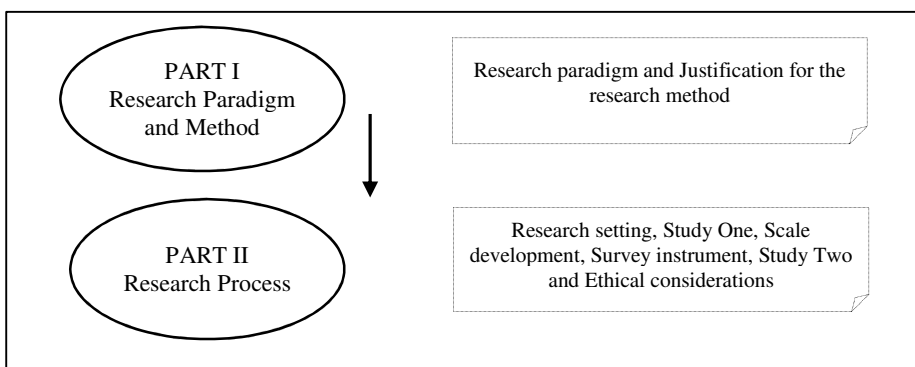
This chapter focused on developing a conceptual framework of HR innovation-related competitive advantage. In this process, the basic tenets of conceptual model development in social sciences were examined first. Second, based on the extant DCV, innovation and SHRM literature, the key theoretical constructs related to HR innovation were identified. Third, the relationships between constructs were theoretically established while simultaneously developing hypotheses for theoretical relationships identified. In subsequent phases of this research, the theoretical constructs and their relationships will be refined and tested. As such this conceptual framework provides a foundation for examining the research problem of this research. The next chapter focuses on the research methods.

CHAPTER FOUR: RESEARCH DESIGN

4.1 Introduction

The previous chapter presented the framework of HR innovation-related competitive advantage developed based on extant literature. It also presented the set of hypotheses to be tested subsequently in this study. This chapter focuses on the research design, which includes the philosophical underpinnings of the research design and the research method. The outline of this chapter is presented in Figure 4.1.

Figure 4.1: Chapter Outline



In Part I, different philosophical paradigms are evaluated to determine which paradigm is appropriate for this research. Next, the rationale for a mixed methods design is discussed. Part II focuses on the activities undertaken in carrying out the two studies mentioned above. Initially it focuses on providing background information such as the research setting, unit of analysis and key informants. Next it briefly outlines the qualitative phase (Study One). It then focuses on this scale development and survey instrument development phases, followed by a brief outline of the quantitative phase (Study Two). Finally, the ethical considerations governing this study are presented.

PART I – RESEARCH PARADIGM AND METHOD

4.2 Research Paradigm

The importance of clarifying the philosophical position from which research approaches are derived has been stressed in the literature (Hunt, 1992). Failure to think through philosophical issues can seriously affect the quality of management research. Therefore any research requires clarifying research paradigm in which the study is founded. A paradigm is a basic set of beliefs that define the worldview of the researcher, including ontological (*i.e.* the nature of what exists) and epistemological (*i.e.* the nature and scope of knowledge) positions, and thereby guide his/her action (Denzin & Lincoln, 2005; Guba 1990:17). Guba and Lincoln (2005) discuss five major paradigms underpinning social science research; (a) positivism, (b) post-positivism, (c) critical theory, (d) constructivism, and (e) participatory/ cooperative paradigm.

The aim of inquiry in both positivist and post-positivist paradigms is to explain, predict and/or control (Guba & Lincoln, 2005). Positivism, which is the most common paradigm in management research (Symon & Cassell, 2006), is characterised by realist ontology (existence of apprehensible reality), dualist/objectivist epistemology (true findings), and an experimental methodology to verify hypotheses through quantitative methods (Guba & Lincoln, 1994; 2005). The proponents of post-positivism acknowledge that reality exists, ‘but only imperfectly and probabilistically apprehensible’ (*i.e.* critical realism ontology), and findings are probably true (*i.e.* modified dualist /objectivist epistemology). In contrast to positivists, post-positivists believe that it is difficult, if not impossible, for the researcher to remain completely independent from the phenomenon of interest and its investigation, and therefore researcher’s personal perceptions, values, knowledge, and biases are acknowledged as inevitable in the process of knowledge inquiry (Guba & Lincoln, 1994). While not rejecting experimentation and scientific inquiry, post-positivism has greater emphasis on gathering situation and contextual information, and therefore may involve a mix of quantitative and qualitative methods (Guba & Lincoln, 1994; 2005). Considering the aim of inquiry (*i.e.* explore, explain, and predict), the researcher approached this program of research with a post-positivist standpoint. The way in which the chosen paradigm shaped the methodological approach in this study is explained next.

4.3 Research Method

Given the ontological and epistemological positions associated with post-positivism, a mixed-method approach was adopted (Guba & Lincoln, 1994; 2005) in this research project. Drawing from mixed-method literature Johnson, Onwuegbuzie, and Turner (2007:123) define mixed-method as;

...the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.

Such combinations of qualitative and quantitative approaches allow researchers to (a) draw upon respective complementary strengths of each approach, and (b) compensate for weaknesses with one approach through the other (Bainbridge & Lee, 2013). While the quantitative designs facilitate the modelling of complex relationships between variables and arriving at more generalizable findings at the cost of depth, qualitative designs facilitate understanding underlying processes governing complex phenomena at the cost of external validity (Bainbridge & Lee, 2013:32). These strengths of mixed-method approach have resulted in its growing recognition in HRM research in the recent past (e.g. Bartel, 2004; Truss, 2001).

Given the limited empirical evidence on *what* factors influence HR innovation and *how* they relate to each other in their suggested contribution to firm's competitive advantage, majority of the research questions in this research were exploratory in nature. Therefore, a qualitative approach was deemed appropriate in addressing RQ1, RQ2, and RQ3 (Rich & Ginsburg, 1999). Building on findings of the qualitative phase, RQ 4 necessitated adopting a quantitative approach to understand the extent to which HR innovations support firm's competitive advantage. Accordingly, this research project adopted a(n) *equal status* (i.e. equal weight for each component), two study *sequential* approach in which a *development purpose* (i.e. the results of one method informed the subsequent study) qualitative study followed by a *complementarity purpose* (i.e. the results from one clarified, enhanced, or illustrated the results from the other) quantitative study (Bainbridge & Lee, 2013; Johnson & Turner, 2003). The Table 4.1 illustrates the use of multiple studies to address research questions.

Table 4.1: Research Questions and Study Focus

Research Question	Focus of Studies
RQ1: What are the antecedent factors that facilitate of HR innovation?	Qualitative Phase – Study One
RQ2: What are the strategic behaviours demonstrated by HR professionals when pursuing HR innovation?	Qualitative Phase – Study One
RQ3: Do both radical and incremental HR innovations support competitive advantage?	Qualitative and Quantitative Phases – Study One and Two
RQ4: To what extent do HR innovations support firm's competitive advantage?	Quantitative Phase – Study Two

The combination of qualitative and quantitative approaches in this research project enabled the researcher to, (a) provide both the depth and breadth of understanding the phenomenon of interest, (b) generate theory grounded in data, and to provide an initial verification of that theory, and (c) draw stronger inferences based on data (Bainbridge & Lee, 2013). In addition, given the limited understanding of antecedents and consequences of HR innovation, Guest (2011) highlights the need for qualitative and mixed-method studies. Hence adopting a mixed-method approach in this research project not only facilitates attaining research aims but also is consistent with literature.

PART II - RESEARCH PROCESS

4.4 Research Setting

As discussed in Chapter One, at the international level, Australian organisations are often cost disadvantaged, and quality and service advantages are being rapidly eroded (AIM, 2013) thereby compelling them to look for innovative ways to compete/survive in the global market (AIM, 2013; AIRC, 2007). Having identified the vital role innovation can play in shaping the Australian economy, the Australian government over the recent years has provided incentives to industry to encourage investments in research and development and policy level support for innovation (AIRC, 2007). While the primary focus has been on product innovation, there is greater scope for productivity improvements through investments in HR innovation. There is a global shortage of skilled-labour and Australia is predicted to have a shortage of 500,000 skilled workers by 2020 (BCG, 2003). The aging population adds complexity to this situation and the number of young people entering the workforce is estimated to be 40 percent of that of the 1970's (Härtel & Fujimoto, 2010:29). The shortage of skilled labour and an aging workforce demands HR professionals to look at novel strategies not only to better utilise existing HR to achieve productivity enhancements, but also to attract and retain employees. Accordingly, Australia was considered a good testing ground for this research.

With the service dominant logic (Vargo & Lusch, 2006; 2008) gaining increased attention as a way of competing better, HR implications in service delivery and new service design have come to light. The general understanding is that service firms have a higher level of direct HR involvement in service delivery while manufacturing firms have a higher level of supportive HR involvement. Interestingly, the effect size of HRM on firm performance is found to be greater in manufacturing than in services (Combs et al., 2006). Therefore, both service and manufacturing firms operating in Australia were considered to be an appropriate setting for this research (Huselid, 1995). The researcher's initial discussions with HR experts and professionals suggested that firms with a significant presence of HR functionality were the most appropriate to study the focal issues. Having a dedicated HR department and availability of a senior HR position (*i.e.* HR manager, senior HR consultant/partner, HR strategist, director HR, or vice president HR) were considered as significant presence of HR functionality. Therefore, the sampling frame consisted of medium to larger firms having greater than 100 employees (Huselid, 1995) with a dedicated HR department and a senior HR position (Chan, Shaffer, & Snape, 2004).

4.5 Unit of Analysis and Key Informants

As discussed earlier, this research sought to examine the role of HR innovation in a firm's competitive advantage. This necessitated setting the unit of analysis as the HR function-level, which is where HR innovation initiatives occur. This approach departs from past innovation, entrepreneurship and competitive strategy research where the unit of analysis was the firm or the CEO/top management team (e.g. Covin & Slevin, 1989; Lumpkin & Dess, 1996). This research intended examining how a firm's HR functional-level entrepreneurship and learning capabilities, lead to HR innovation and competitive advantage. Accordingly, participants of this research were required to provide comprehensive information about both HR functional and firm level information, including strategic HR directions, HR initiatives, firm strategy, and the overall HR linkage to firm performance. Therefore, a senior HR professional (*i.e.* HR manager, senior HR consultant/partner, HR strategist, director HR, or vice president HR) from each firm was considered to be the most appropriate key informants for this research (Delery & Doty, 1996; Huselid, 1995).

The single-source/respondent approach frequently used in HRM and firm performance research (Boselie et al., 2005; Combs et al., 2006), is however criticised for its perceptual bias and noise raising reliability issues (Boselie et al., 2005; Gerhart, Wright, & McMahan, 2000; Guest, 2011; Purcell, 1999). For instance, a senior HR professional, in a large firm in particular, may not be able to provide accurate information about local practice, in terms of whether practices are implemented or whether they are effective (Guest, 2011). Tsui (1990) provides evidence against the general assumption that HR professionals will give invariably high ratings of HR practices or their department compared to other stakeholders. In addition, the multiple respondent reliability values obtained by some studies report the responses of multiple respondents to be similar (e.g. Guest & Convey, 2011; Lepak & Snell, 2002). Overall, single respondent approach has advantages of (a) reduced strain on the research budget and therefore can improve the sample size, and (b) having a relatively higher rate of participation (Lyon, Lumpkin & Dess, 2000). Consequently, considering aforementioned pros and cons of single respondent approach as well as time and resource constraints associated with this research, the single informant approach was opted for in this research.

4.6 Study One: Qualitative Phase

Graebner, Martin, and Roundy (2012) present five distinct rationales for using qualitative data namely; (a) building new theory when prior theory is absent, underdeveloped, or flawed, (b) capturing individuals' life experiences and interpretations, (c) understanding complex process issues, (d) illustrating an abstract idea/framework, and (e) examine narratives, discourse, or other linguistic phenomena. The objective of Study One was to identify antecedents and moderators of HR innovation and understand the way in which they interact to support firm's competitive

advantage and thereby illustrate the initial conceptual framework developed based on multiple streams of literature in HR innovation context. Considering the limited understanding of innovation in HRM context, a qualitative design was deemed appropriate for the Study One (Eisenhardt, 1989; Graebner et al., 2012).

Qualitative semi-structured in-depth interviews were used as the method of data collection. Increasingly interviews are considered as an “active interaction between two (or more) people leading to negotiated, contextually based results” (Fontana & Frey, 2005:698). As a result, in addition to understanding the traditional *whats* related to the phenomena of interest, interviews focus in encompassing the *hows* (Fontana & Frey, 2005). Using semi-structured, in-depth, face-to-face interview approach in Study One provided the opportunity to probe answers to gain a deeper understanding of respondents’ meanings of phenomena (Saunders, Lewis & Thornhill, 2000). Evidence from multiple in-depth interviews was used to (a) elucidate the constructs identified from multiple streams of extant literature (Bitektine, 2008; Graebner et al., 2012) in context of HR innovation, verify the theoretical relationships among them, and (b) identify dimensions of HR innovation-related constructs to develop robust measures required for testing the suggested conceptual framework (Eisenhardt & Graebner, 2007). Detailed discussion on participating firms, data collection process, and analysis of qualitative data, is presented in Chapter Five.

4.7 Scale Development

Having refined the conceptual framework based on qualitative evidence, the next step was to quantitatively test it. This required adapting or developing measures to capture the constructs presented in the framework. Out of the seven constructs included in the conceptual framework, two constructs (*i.e.* firm’s competitive strategy, and competitive advantage) had pre-tested measures that could be suitably adapted to the context of this research. The remaining five constructs (*i.e.* HR functional-level entrepreneurship, internally-focused learning capability, externally-focused learning capability, HR innovation, and top management support) required developing new measures. This research followed the step-by-step scale development guidelines, recommended in literature (e.g. Churchill, 1979; De Vellis, 2012) and discussed below.

4.7.1 Specification of Domain and Definition of Constructs

Specifying the domain and defining the construct is the essential first step in scale development. The domain of a construct delineates what dimensions are included in and excluded from the definition (Churchill, 1979) and therefore provides the foundation for assessing construct and content validity (Hinkin, 1995). It is highly recommended to thoroughly consult related literature to adequately and appropriately define the constructs (Churchill, 1979; De Vellis, 2012) to avoid

under-representations (attributed to narrowly defined constructs) and/or irrelevant variance (attributed to broadly defined constructs). Therefore, the domain and definitions of the constructs in this research were specified based on extant literature and subsequently refined (if required) based on qualitative evidence.

Reflective and Formative Scales

In nearly all cases in organisational research, latent variables are measured using *reflective* indicators which are conceptualised to be a function of (*i.e.* caused by) the latent variable (Diamantopoulos & Siguaw, 2006). However, in some cases, indicators are conceptualised as ‘causing’, but not ‘caused by’ the latent variable (Diamantopoulos & Siguaw, 2006; MacCallum & Browne, 1993) and therefore known as *formative* indicators. Jarvis et al. (2003) provide a set of guidelines to determine the appropriate measurement models for the constructs: (a) the *direction of causality*, (b) *interchangeability of items* – items need not be interchangeable in formative measures, but should be for reflective measures (c) *co-variation among items* – not necessarily or implied in formative measures, but a necessary condition in reflective measures, and (d) whether all items required to have *same antecedents and consequences* – not required in formative measures, but required in reflective measures as items are interchangeable. HR innovation construct in this research was conceptualised to be caused by innovations in different HR practices which are not interchangeable and/or may not necessarily co-vary with each other. Therefore, HR innovation construct was determined to be formative and all remaining construct were determined to be reflective (Blunch, 2008; Coltman, Devinney, Midgley, & Venaik, 2008; Diamantopoulos & Siguaw, 2006; Jarvis et al., 2003; Venaik, Midgley, & Devinney, 2004).

4.7.2 Item Generation

Once the domain and definition of constructs are specified, the next step is to generate items to capture each construct. Based on the guideline provided in literature, attempts were made to write items clearly and in short, to minimise reading difficulty levels (Churchill, 1979; De Vellis, 2012). There is no significant difference between item generation for reflective (De Vellis, 2012) and formative scales (Diamantopoulos & Winklhofer, 2001), and both approaches strongly emphasise the need to be comprehensive and inclusive during item generation (Diamantopoulos & Siguaw, 2006).

Hinkin (1995) in a meta-analysis of scale development literature suggests that multi-item scales are highly reliable compared to single item scales. Therefore, as majority of the constructs in this research is multi-dimensional, multiple items were used to capture each dimension of constructs (Churchill, 1979; De Vellis, 2012). However, scales with too many items can create response biases

and respondent fatigue (Hinkin, 1995). Keeping a scale short addresses the above issues (Schmitt & Stults, 1985), but scales with too few items may create issues with content and construct validity, internal consistency, and reliability (Hinkin, 1995). This research hence attempted to have adequate number of items parsimoniously capturing the dimension of interest (Cronbach & Meehl, 1955, in Hinkin, 1995). Furthermore, the literature suggests that negatively worded items reduce scale reliability (Hinkin, 1995) and may confuse respondent and result in respondent fatigue, in long questionnaires in particular (De Vellis, 2012). Therefore negatively worded items were not used in any of the scales.

After creating the pool of items, the scale format was decided (De Vellis, 2012). To ensure sufficient variance among scale score, a five point Likert scale ranging from (1) – *Strongly disagree* to (5) - *Strongly agree*, was used for all constructs except HR innovation. HR innovation items used a five point Likert scale ranging either from (1) – *Incremental* to (5) – *Radical* or (1) – *Few* to (5) – *Many*. The following section presents the item generation process for each construct in detail.

HR Functional-level Entrepreneurship – The behavioural approach to entrepreneurship (Covin & Slevin, 1986; 1989; Miller, 1983; Naman & Slevin, 1993; Zahra et al., 2006) provided the basis for defining HR functional-level entrepreneurship in this research. As discussed in Chapter Three, proponents of this view conceptualise entrepreneurship as firm-level behaviour insofar as the firm displays innovativeness, pro-activeness, and risk-taking in its strategic decisions. The qualitative evidence from Study One suggested that HR professionals display ‘consensus-seeking’ behaviour in addition to traditional three dimensions of behavioural entrepreneurship (refer to Chapter Five for a detailed discussion). Furthermore, instead of the anticipated risk-taking behaviour, HR professionals make rational but cautious decisions to minimize associated risk in designing and implementation of new HR practices. Therefore, based on extant literature and qualitative evidence, HR functional-level entrepreneurship was defined as HR functional-level behaviour insofar as HR professionals of a firm collectively display innovativeness, pro-activeness, risk-management, and consensus-seeking in their strategic decision-making.

Existing scales of entrepreneurship, such as Covin and Slevin’s (1989), primarily focus on firm-level entrepreneurial behaviour in a manufacturing context, and are therefore not adequate to fully capture aforementioned unique dimensions of HR functional-level entrepreneurship. Therefore the SHRM literature, Ulrich and Brockbank (2005) in particular, and qualitative evidence from Study One, were used additionally to developed 16 items (presented in Appendix B) to capture all four dimensions of HR functional-level entrepreneurship

Learning Capability – As discussed in Chapter Three, the conceptualisation of Helfat et al. (2007) provided the basis for developing items for internally-focused and externally-focused learning capabilities. Accordingly, items for these two constructs were generated to capture her ‘*create*’, ‘*extend*’, and ‘*modify*’ dimensions. The indicators of two learning capabilities reflect the collective efforts of HR professionals’ towards knowledge creation, extension, and represent modification, the process underpinning dynamic capabilities. Drawing from the extant literature and qualitative evidence, 12 and 14 item scales were developed for internally-focused and externally-focused learning respectively (presented in Appendix B).

HR Innovation – As discussed in Chapter Two, this study defines HR innovation as a new idea adapted in to a firm’s HR programmes, systems and practices with an intention to add value to the adopting firm. Schuler (1992) suggests that changes in a firm’s HR programmes and systems are best reflected by its HR practices. Therefore, consistent with similar studies that captured the impact of HRM based on the impact of HR practices (e.g. Barney & Wright, 1998; Delaney & Huselid, 1996; Guest & Conway, 2011; Huselid, 1995), HR innovation of a firm was captured based on innovations in its HR practices.

Drawing from the literature (e.g. Ulrich & Brockbank, 2005; Ulrich & Lake, 1990), the most common and comprehensive clusters of HR practices, consisting of six clusters namely *recruitment and selection*, *training and development*, *performance management*, *compensation and rewards*, *organization design*, and *internal communication*, were identified. These six clusters could cover all types of HR innovations identified in Study One, and therefore were considered appropriate to capture HR innovation of a firm. Using innovations in different types of HR practices to represent a firm’s overall HR innovation, the approach adapted in this research, is consistent with attempts to capture firm-level innovation in the extant literature (e.g. Weerawardena, 2003). To capture innovations in each type of HR practices, a four item scale focusing on the number of innovations, degree of newness (Damanpour, 1991; Wolfe, 1995; Wolfe et al., 2006), degree of intended value addition (Damanpour, 1991; Wolfe, 1995; Wolfe et al., 2006), design and implementation gap (Becker & Huselid, 2006), were developed (refer to Appendix B).

Top Management Support – Although the top management of a firm has long been identified to play a vital role in designing and implementation of HR innovations in a firm (Bowen & Ostraff, 2004; Elenkov & Manev, 2005; Taylor et al., 1996; Wright et al., 2001), there is no known measure to capture all dimensions of top management support (*i.e.* recognition, resource allocation, and autonomy) in HR innovation context. Drawing from the literature and qualitative evidence, this

research therefore developed an eight item scale presented in Appendix B to capture top management's recognition and support towards HR innovation.

Firm's Competitive Strategy – After Porter's (1980; 1985) conceptualisation of firm's competitive strategy as a deliberate selection of firm's strategic activities to achieve cost leadership and/or differentiation advantage, competitive strategy was operationalised in multiple subsequent studies (e.g. Beal, 2000; Pertusa-Ortega, Molina-Azria, & Claver-Cortes, 2010; Miller, 1988; 1997). Based on Pertusa's et al. (2010) measure of competitive strategy (construct reliability values - 0.84 for each dimension) and qualitative evidence, a four item scale for cost leadership and a six item scale for differentiation were adopted in this study.

Competitive Advantage – As discussed in Chapter Three and suggested by subsequent qualitative evidence, HR innovations not only lead to proximal outcomes such as, ability to attract essential employees, retain and engage them at work, but also support distal outcomes such as, improved productivity, service/product quality, profitability, and market share. Based on this conceptualisation, Delaney and Huselid (1996) operationalise competitive advantage as a higher-order construct having two first-order constructs, namely firm-level (Cronbach's Alpha – 0.85) and market-level (Cronbach's Alpha – 0.86) performance. Each first-order construct captures performance (firm/market) over the last three years compared to the firm's closest competitors. Drawing from Guest and Conway (2011) and qualitative evidence, this research adapted Delaney and Huselid's (1996) scale to develop five item scales to capture proximal and distal advantages.

Control Variables – Control variables explain the conditions under which certain actions or events cause results (Christensen & Sundahl, 2001). The extant literature suggests that large, established, resource-rich firms have greater HR practice presence (Boselie et al., 2005; Guest & Convey, 2011). Therefore, the firm size and age (Arthur, 1994; Boselie et al., 2005; Damanpour, 1991; Delaney & Huselid, 1996; Huselid, 1995; Guest & Convey, 2011) were considered as control variables in this research. The firm size focused the number of full-time employees and age focused on the number of years of operation in Australia. Similarly, the firm type (*i.e.* service or manufacturing) was also used as a controlled variable in this research (e.g. Delaney & Huselid, 1996). All controlled variables were captured using single item measures.

Once the item pool for each construct was generated, the next step was to purify scales to retain the items that best captured the construct of interest (De Vellis, 2012; Hinkin, 1995). The process of purifying measures is presented next.

4.7.3 Scale Purification

Following De Vellis's (2012) guidelines, a panel of academic experts in HRM and strategy disciplines was identified. The panel consisted of nine senior academics with expertise in SHRM field and experience in scale development. The panel was provided the item assessment form, presented in Appendix B. The item assessment form included, (a) clear definitions of each construct, (b) specification of dimensions of each construct, (c) items associated with each dimension and their sources, (d) a section to indicate the representativeness of items, and (e) a section for additional comments. In a letter of invitation sent along with the item assessment form, the experts were requested to (a) provide feedback on the perceived relevance of each item to measure what it intended to measure (*i.e.* construct validity), (b) evaluate each item for its clarity and conciseness, and (c) identify (if any) areas not captured by the current measure but important in understanding the phenomena of interest (*i.e.* content validity) (De Vellis's, 2012). The items that were judged to be 'not representative' by any of the experts or 'clearly representative' by less than three experts were either removed or reworded. For instance, the item that focused on the implementation gap of each type of HR innovation was removed from the measure. The items identified to be ambiguous by experts were reworded.

Table 4.2: Summary of Purified Measures

Construct	Dimensions	Adopted from	Items
Entrepreneurial HRM	Innovativeness Pro-activeness Risk-management Consensus-seeking	Qualitative evidence Ulrich and Brockbank (2005) Covin and Slevin (1989)	13 items
Internally-focused Learning	Create Extend Modify	Helfat et al. (2007) Qualitative evidence	11 items
Externally-focused Learning	Create Extend Modify	Helfat et al. (2007) Qualitative evidence	11 items
HR Innovation	Recruitment and selection Training and development Performance management Compensation and reward Organisational design Internal communication	Ulrich and Brockbank (2005) Weerawardena (2003) Qualitative evidence	18 items (3 items to capture innovations in each type)
Top Management Support	Single dimension (capturing recognition, autonomy, and resource allocation)	Qualitative evidence	8 items
Competitive Strategy	Cost-leadership Differentiation	Pertusa-Ortega et al. (2010)	9 items
Competitive Advantage	Proximal advantage Distal advantage	Delaney and Huselid (1996)	11 items

The next step in scale purification process involved an item sorting activity. Six PhD candidates from management and strategy areas were provided the construct definition and requested to assign items to hypothesised dimensions of constructs, from a mixed pool of items. Items either corresponding to more than one dimension or assigned to an unintended dimension were considered problematic. Such items, identified to be problematic, by three or more out of the six PhD candidates were re-phrased to improve item clarity and minimise ambiguities. A summary of purified measures used in this research is presented in Table 4.2.

After the item purification process, refined scales were used to design the survey instrument (refer to Section 4.8) which was subsequently pilot tested (refer to Section 4.9) prior to commencing the Study Two. The final steps of scale development process are to assess the psychometric properties followed by an examination of its relationships with other variables of interest (Hinkin, 1995). A detailed discussion on these two steps is presented in Chapter Six.

4.8 Survey Instrument Design

Research suggests that the design and implement of the survey have a substantial impact on the response rate (e.g. Dillman, 2007; Dillman & Christian, 2005). Therefore, as suggested by Dillman (2007), the following areas received close attention:

Question Structure – The questions were clear and concise (Henninger & Sung, 2012), incorporating the feedback received during the expert evaluation and pilot study phases. The questionnaire was separated into sections and instructions for completion were provided at the beginning of each section (Dillman, 2000). Demographic information was addressed first in order to put respondents at ease.

Presentation – The mail-based survey (refer to Appendix C) was printed in two columns, double sided, on three 11”x17” (A3) papers and folded into conventional 11”x 8 1/2” (A4) size to make a 12 page survey booklet (Dillman, 2007). Questions were printed in black on white paper leaving adequate space between questions. Every other question in section was shaded to further improve the clarity of presentation. The front page of the survey included a personalised letter to each participant from the principal research adviser, printed on a UQBS letterhead. The second page included a detailed information sheet about the research project. The survey booklet was designed in such a way that the paper containing first and second pages (printed on either sides of page 1) could be easily removed from rest of the booklet. Therefore, anonymity of responses could be maintained. The first page of the questionnaire (*i.e.* page 3 of the survey booklet) included the

project title, names of members of the research team, and general guidelines for completing the questionnaire.

The online survey was designed using the Qualtrix software package. The online version had the same question format as the mail-based survey (Dillman, Smyth, & Christian, 2009). However, it did not include a personalised welcome letter, but a link to the participant information sheet was provided. The welcome screen of the online survey was similar to the front page of the questionnaire. Each section of the questionnaire was presented in a new screen and every other question was shaded to further improve the clarity. The link to the online version of the survey was included in both page one (*i.e.* personalised letter of invitation) and page three (*i.e.* front page of the questionnaire) of the mail-based survey.

Motivation to Participate – A key strategy adopted for this purpose was to convince the potential respondents of the national importance of the research project. The aforementioned personalised letter of invitation, in addition to improving the professionalism of the survey process, was intended to make the participant feel valued and motivated to participate in the study. The participant information sheet clearly outlined the purpose of the research project, research process, the role of and benefits for the participants. Relatively short average completion time (less than 15 minutes) should have further motivated to take part in the survey.

Convenience – The research suggests that the higher the perceived convenience of completing the survey, the higher will be the response rate (Dillman et al., 2009; Henninger & Sung, 2012). Therefore as mentioned earlier, the participants were given the option of either responding to the mail-based survey or the online survey. The mail-based survey enclosed a reply-paid envelope. The online survey was designed with smart phone friendly interfaces to match the busy lifestyles of senior HR professionals. Using a mix of mail-based and online survey improved response rate (Dillman et al., 2009).

4.9 Pilot Study

Literature suggests that a pilot study to test the questionnaire is important and should be directed at the representative sample of the population (Alreck & Settle, 1995). Pilot studies in social sciences can serve two main purposes. First, it can be a “small scale version or trial-run in preparation for a major study” (Polit, Beck, & Hungler, 2001:467). Second, it is used to pre-test or try-out a research instrument (Baker, 1994:182), which was the main objective of the pilot study in this research. Once the initial survey was designed, it was pilot tested with eight senior HR professional. Four of them received a softcopy of the survey instrument, with an additional ‘comments’ column for each

section and the remaining four received the online link. The participants were asked to provide feedback if the instructions were comprehensible and questions were clear and/or ambiguous (De Vaus, 1993). The pilot study also assisted in identifying respondent errors, unanswered questions, average time taken to complete, and concerns related to the structure and length of the instrument. Appropriate changes were made to fine tune the survey instrument based on the feedback, prior to commencement of Study Two.

4.10 Study Two: Quantitative Phase

The objective of Study Two was to empirically test the relationships among the factors identified in earlier stages of this research, and thereby test (and re-specify, if required) the conceptual framework in Australia manufacturing and service context. Therefore, a quantitative survey approach was deemed appropriate for this study. Data collection was carried out using a self-administered mail-based survey questionnaire. The survey questionnaire, which also included a link to the online version of the questionnaire, was sent to a sample of 3000 senior HR professionals in moderate to larger (greater than 100 employees) Australian service and manufacturing firms. As a result of the latent variables and path relationships required to be estimated, structural equation modelling approach was deemed appropriate for the data analysis of this study (Hair, Black, Babin, & Anderson, 2010). Hence SPSS and AMOS software packages were used for the analysis of data in the quantitative phase. Detailed discussion on participating firms, data collection process, and analysis of quantitative data and thereby estimating measures and the structural model, is presented in Chapter Six.

4.11 Ethical Considerations

Ethics in general refer to a set of moral principles and rules of conduct (Morrow & Richards, 1996). In the context of social science research, it refers to “the application of a set of moral principles to prevent harming or wronging others, to promote the good, to be respectful, and to be fair” (Sieber, 1993:14). This research project was guided by the ethical guidelines provided by The University of Queensland Business School (UQBS) Ethics Review Committee. In addition to obtaining ethical clearance from the UQBS Ethics Review Committee prior to conducting each study, the research team (*i.e.* the principle investigator and her advisers) adhered to the following key principles throughout this research project.

Informed Consent – An information sheet clearly outlining the purpose, research procedure, nature of participation of respondents, associated risks and benefits, and matters related to privacy and confidentiality and data security, was provided to every potential participant enabling them to make

an informed judgment on their participation in this study. The participation was voluntary. Participants were under no obligation to participate and could withdraw at any time. In Study One, the consent was recorded on tape prior to commencement of the interview. In Study Two, completing and returning the survey was constructed as the expression of consent.

Degree of Risks and Benefits – The research process did not cause any physical or psychological harm or discomfort to the participants. Although the research team underwent a certain degree of mental stress during the process, it was not at harmful levels. Those who consented to receive a summary of the findings were sent an executive summary. The findings of this study will benefit participants, by improving their understanding on how firms can effectively use HR innovation to outperform competitors, and the research team, by contributing to SHRM theory.

Privacy and Confidentiality – The data were treated confidentially; neither the participant nor the respective firm was identified as a data source. The collected data were used only for the intended purpose.

Data Security - The data collected were stored secured in a de-identified manner accessible only by the research team.

4.12 Conclusion

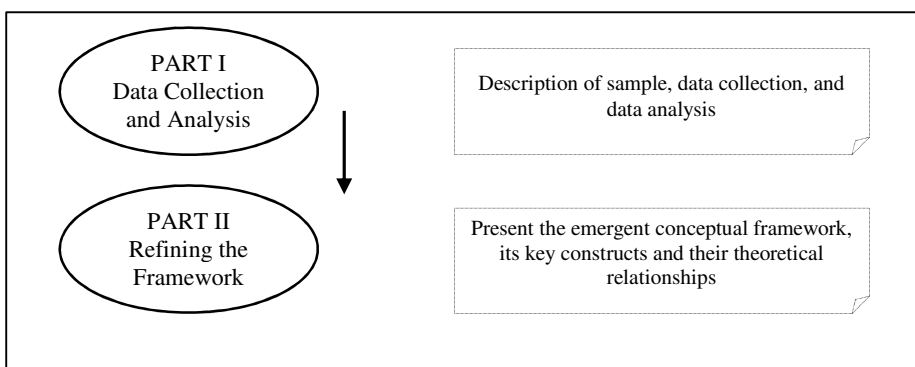
This chapter presented the design of this research. Having based the research in the post-positivist paradigm, this chapter provided the rationale for the mixed-methods design adopted in this research. While outlining the two studies, this chapter also presented the scale development process and survey instrument design phases in detail. It discussed the efforts taken by the research team to adhere to ethical considerations governing this research. The next chapter presents the qualitative data analysis.

CHAPTER FIVE: QUALITATIVE DATA ANALYSIS

5.1 Introduction

The previous chapter presented the philosophical underpinnings of this research providing a detailed justification for the two-stage research design comprising of qualitative and quantitative phases. This chapter describes the qualitative study undertaken, its findings, how such findings influenced in refining the initial conceptual framework that was built from extant literature. The outline of this chapter is presented in Figure 5.1.

Figure 5.1: Chapter Outline



Part I presents a description of the sample, data collection, and data analysis process. Part II reports findings of the study providing a deeper understanding of the key constructs, namely, HR functional-level entrepreneurship, learning capabilities, and HR innovation. It then explains the interactions among constructs as a basis to refining the conceptual framework presented in Chapter Three.

PART I – DATA COLLECTION AND ANALYSIS

5.2 Data Collection

As discussed in Chapter Four, the sampling frame of this research consisted of medium to large firms with a substantial HR function presence (dedicated HR department and the presence of a senior HR position). Firms located in a major Australian capital city were identified from mining, construction, financial and consulting services, and automobile industries using the State Government’s list of companies. A summary of the sampled firm profiles is presented in Table 5.1.

Table 5.1: Profiles of Sampled Firms for In-depth Interviews

Firm	Key Informant	Number of employees	Sector /Nature of business	Year of inception (Australia)	Competitive position
A	HR Manager	220	Mining - supply of explosives and associated services to the mining, quarrying and civil construction industries	Early 1990s	Market challenger Around 30 per cent market share
B	HR Manager	165	Mining - seismic acquisition and high-end seismic data processing services to the oil and gas industry	Mid 2000s	Niche player Around 40 per cent market share
C	HR Strategist	Clients have 100-1000 employees	HR Consultancy – carry out all HR activities for firms without a dedicated HR department	Late 2000s	Niche player
D	General Manager HR	950	Financial Services – banking and personal insurance	1940	Market challenger Rapidly growing its market share in banking
E	Senior HR Partner	6000+	Construction - engineering, architectural, project management services to large scale projects	Mid 1990s	Market leader Provides one stop construction solutions
F	Senior HR Partner	3000+	Mining – explore and produce gas and oil	1954	One of the two market leaders in gas operations
G	Manager-People Strategy	15000+	Financial Services – banking insurance, and wealth management	1902	Market leader in insurance
H	Vice President HR	1100	Mining - explore and develop gas fields, produce and sell coal seam gas, and generate electricity	1997	Market challenger Rapidly growing market share
I	HR Manager	1500	Automobile – manufacture and sell trucks and cars	1967	Market leader in the truck manufacturing industry

Initially, secondary data was gathered from publicly available sources which included: the nature of business operations, markets serviced and the degree of competition faced, history, management team, number of employees, other demographic information, and HR awards and recognitions

received in the recent past, details of which were confirmed during interviews. This information was used in the selection of firms for the study. As mentioned in Chapter Four, the literature suggests that the firm age and size (number of full-time employees - FTEs) are likely to relate to the degree of HR practice presence (Arthur, 1994; Boselie et al., 2005; Damanpour, 1991; Delaney & Huselid, 1996; Huselid, 1995; Guest & Convey, 2011). Therefore, instead of randomly selecting participants, firms representing a wide range of age (ranging from fewer than 10 years to more than 100 years) and size categories (five in the below 1000 FTE category and four in above 1000 FTE category) were selected (Eisenhardt, 1989). Each size category included one firm that had won/nominated for multiple HR awards in the recent past, indicating very high levels of HR functionality presence; Firm D (below 1000 category) - 'Australian HR Team of the Year', 'Best Reward and Recognition Strategy', 'Employer of Choice for Women', 'Australian HR Champion CEO', and Firm G (above 1000 category) - 'Employer of Choice' and 'Best Diversity Strategy'. This approach, where firms representing different age and size categories were included, increases the generalizability and external validity of theory (Eisenhardt, 1989).

As noted earlier, despite limited focus on the way in which firms design and implement HR innovation, the SHRM literature provides significant empirical evidence of the nature of HR innovation and a suggested relationship between HR innovation and competitive advantage (e.g. Barney & Wright, 1998; Wolfe 1995). Although this enabled an *a priori* identification of activities associated with HR innovation, no theoretical relationships among those activities were assumed (Eisenhardt, 1989).

Interview Process

Potential participants received a mail invitation to participate in an interview, followed by a confirming telephone call. All interviews were conducted at the offices of the respective participants. The interviews had a semi-structured format. The interview process was guided by an interview protocol developed for this study (refer to Appendix A) consisting of open-ended questions followed by extensive probing aimed at capturing fine-grained insights on the focal research problem (Creswell, 2007). The initial interview questions covered publicly available general information (through websites, magazines, newspaper articles) about the sampled firms and its competitive environment with the intention of both motivating and relaxing the respondent. As the interviews progressed, the focus shifted to specifics of the HR innovation and competitive advantage. Interviews were exhaustive, ranging from 50 to 75 minutes, and conducted by the researcher and one of the advisers simultaneously to limit interviewer bias (Eisenhardt & Bourgeois, 1988). The archival materials of participating firms were also collected during the interviews.

5.3 Data Analysis

Interviews were recorded and transcribed. Each interview yielded just over 20 typed pages on an average. Interview transcripts were sent to respective informants for checking (Cho & Trent, 2006). Adhering to the stepwise thematic analysis process suggested by Braun and Clarke (2008), interview transcripts were first read and re-read several times to become familiar with the data. Second, the key concepts emerging from the interview and archival materials of each firm were identified and grouped into categories. This ‘within-firm’ analysis process not only allowed understanding unique themes of each firm, but also accelerated subsequent ‘cross-firm’ analysis process (Eisenhardt, 1989). As the analysis was started during the data collection process, this initial understanding of themes facilitated probing in to related areas in subsequent interviews (Eisenhardt, 1989). Third, the categories within the firm were compared with those of other firms. This process forced the researcher to go beyond initial impressions to use diverse lenses, resulting in more accurate and reliable theory that fits closely with data (Eisenhardt, 1989). Fourth, categories collated to develop broader themes. Fifth, the themes were reviewed to identify those relevant to the HR innovation process. These steps constituted a detailed data structure analysis as suggested by Rindova, Dalpiaz and Ravasi (2011) and Tracey, Phillips, and Jarvis (2011) to identify key theoretical constructs involved with HR innovation and resultant competitive advantage. Figures 5.2a, 5.2b, 5.2c, and 5.2d provides a graphical representation of how qualitative data led to broader themes related to design, development, implementation, and outcomes of HR innovation.

These constructs and emergent theoretical relationships were studied further in an iterative fashion to identify how the interview evidence concurred or deviated from extant literature (Creswell, 2007; Eisenhardt, 1989). This enabled refining the abstract conceptual framework presented in Figure 3.1.

Figure 5.2a: Data Structure Analysis and Emergent Constructs - Entrepreneurial HR Management

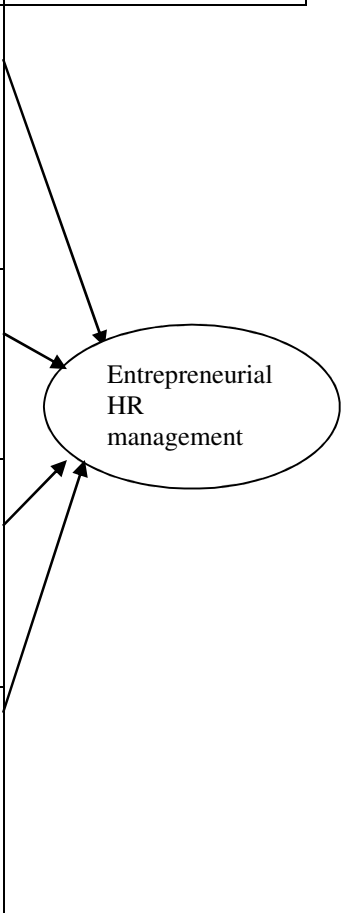
	Empirical Observation	Theoretical Observation	Theoretical Construct
Behavioural orientation of HR professionals in strategic decision making	<ul style="list-style-type: none"> • <i>...the first thing for us was what will these roles actually look like...what will the skills and capabilities that we [the firm] need for people [employees] ...-Firm D</i> • <i>We (HR function) have a strategic plan in terms of the objective we want to achieve. That gives us a better quality of understanding, so that we are better able to achieve our objectives - Firm A</i> • <i>There are a lot of things that I can see, that could potentially be better, that we could do differently. But we are focusing on what we feel is going to have the greatest impact initially. - Firm A</i> 	<p>Pro-activeness –forward looking perspective in seeking opportunities for HR value addition in operational and/or strategic activities</p>	 <p style="text-align: center;">Entrepreneurial HR management</p>
	<ul style="list-style-type: none"> • <i>We're reviewing what we do every day. Can we do it better?, What's a better way to do it? And how to do it? - Firm G</i> • <i>There are a lot of things that could potentially be better, that we could do differently. But we are focusing on what we feel is going to have the greatest impact initially. So we've focused on the high risk and high priority areas and then we fine tune as the time goes by. – Firm A</i> 	<p>Innovativeness – willingness to innovate to affect opportunities for HR value addition</p>	
	<ul style="list-style-type: none"> • <i>I won't make a plan and say this is what we are going to do without some level of consultation [operational managers] - Firm A</i> • <i>If HR is going to make a change in isolation, you are not getting a lot of buying in up front and people will resist - Firm F</i> • <i>I call everyone [operational managers] together and allow everybody to be involved in the planning day – Firm C</i> 	<p>Consensus seeking – seek for agreement among HR function's principal stakeholders</p>	
	<ul style="list-style-type: none"> • <i>...it's us [HR professionals] who are deciding which ones we are going to do, where are we going to invest our money in. – Firm G</i> • <i>We've considered all the consequences and we've been able to satisfy our own minds that the change is going to work – Firm B</i> • <i>We put together a strong business case, and what will the cost be, what will the benefits be.... - Firm G</i> 	<p>Risk management – willingness to try out new HR practices in spite of uncertainties in outcomes</p>	

Figure 5.2b: Data Structure Analysis and Emergent Constructs - Learning Capabilities

	Empirical Observation	Theoretical Observation	Theoretical Construct
Learning from internal sources	<ul style="list-style-type: none"> • They [HR team] need to understand how other departments work, how they relate and interact with each other, what their problems and issues are for them to deliver their services effectively - Firm A • ...more senior more experienced people tell me about the business operations, particularly the crew operations - Firm B • It's like action learning, tweaking as we go over and then say well this is now the model that we want to implement. - Firm D 	Create – generate new knowledge resources from internal sources	
	<ul style="list-style-type: none"> • ...one of the very strong feedbacks came through was the lack of communication and the people feeling lack of engagement in the business...So a lot of the innovations that we have had been around engagement for human resources - Firm A • We engage with focus groups, subject matter experts in different sessions testing it [designed HR practices/activities], getting their feedback, tweaking it before it actually goes live - Firm D • ...we've identified where we can alleviate some of the tasks (HR administrative tasks) from managers to free up some of their time. - Firm F 	Extend - apply new knowledge from internal sources to existing knowledge resources	
	<ul style="list-style-type: none"> • Every month we [HR professionals and operational managers] meet and discuss the progress. See what has changed and what hasn't and we can tweak it along the way and see what happens – Firm C • People have an open discussion on what's not working... a lot of good things happen and good ideas come up – Firm G • ...in terms of employee misbehaving, we have a very strong group of legal people in employee relations. They come together, they share their ideas and help solve problems – Firm G 	Modify – Develop new knowledge configurations based on the new knowledge from internal sources	
Learning from external sources	<ul style="list-style-type: none"> • ...we [HR function] , relative to what we need, go to various conferences and training sessions whatever it maybe network sessions, fairly constantly. – Firm D • We are just about to start a new networking session across from HR industry leaders in [...]. ...to talk about the key issues and opportunities across each of the business with the view of learning from each other. - Firm D • ... connecting with HR professionals in similar sectors and then asking 'what do you guys do', 'what have you done in the past that hasn't worked', 'why didn't that work'... - Firm C • ...we cooperate with other companies on health and safety and other issues, for drilling techniques.. – Firm H 	Create - generate new knowledge resources from external sources	
	<ul style="list-style-type: none"> • The leadership framework which we have just recently done... it was implemented initially on a variation in my previous role. - Firm D • It comes from your experience and knowing your industry, and knowing what's gonna work best for you – Firm C • ...we have some staff that are significantly below market value and other staff that are significantly above market value - Firm A 	Extend - apply new knowledge from external sources to existing knowledge resources	
	<ul style="list-style-type: none"> • ...most processes tend to be quite generic, it's about the application that is important. And provided that at its core you follow the same process, and you can tweak the application... that's when you put in place what markets you are in, what challenges you as a business have, and tailor to that. - Firm F • They [HR team] will do a lot of research externally and say 'okay this is what's happening', but how can we actually integrate it. It's not just a cookie cutter, it's actually how do we customize it and implement it to suite [...]- Firm D 	Modify – develop new knowledge configurations using the new knowledge acquired from external sources	

Figure 5.2c: Data Structure Analysis and Emergent Constructs - Competitive Strategy, Top management Support and HR Innovation




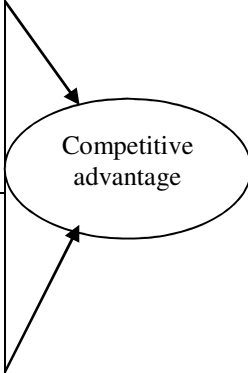
	Empirical Observation	Theoretical Observation	Theoretical Construct
The way firms compete in the market	<ul style="list-style-type: none"> • <i>Our product quality is excellent and it provides a better blasting outcome for mines... - Firm A</i> • <i>Somebody else may have similar products, so it has to be on our services and relationships. We pride ourselves significantly on that. - Firm D</i> • <i>Our CEO is a believer of creating new markets, not just fighting in existing markets – Firm G</i> 	Differentiation – unique product and/or service offerings to be ahead of competition	
	<ul style="list-style-type: none"> • <i>We can build a common platform across to gain cost advantage, common payroll system etc. I know our cost per unit is cheaper than Firm X [competitor] – Firm G</i> 	Cost leadership – minimizing cost to be ahead of competition	
New HR changes/ Practices introduced	<ul style="list-style-type: none"> • <i>...we did a whole role redesign... we looked at the recruitment practices... we then looked at how we trained them... And then we looked at how we measure their performance - Firm D</i> • <i>...having one enterprise agreement, previously we had six... A huge job. That was HR lead piece, but went across the organization... We had multiple payroll systems and we amalgamate them and we added them all together as well into one... – Firm G</i> • <i>Innovations in staff training, organizing remuneration and having a development and succession plan for staff, listening to them, respecting their feedback and communication... we have invested our money into. - Firm A</i> • <i>...we were a fairly centralised organization and then we became decentralised as far as our HR practices go. - Firm I</i> 	<p>Type – Innovations in recruitment & selection, training & development, performance management, compensation and benefits, communication, and structure & design</p> <p>Newness – incremental to radical</p> <p>Value addition – incremental to radical</p>	
Top management response	<ul style="list-style-type: none"> • <i>They [top management] are pretty supportive of any proposal for change and related resources, providing there is direct benefit.- Firm B</i> • <i>Senior management now recognises that HR has a commercial focus – Firm C</i> • <i>In terms of implementing the changes and the support that they [top management] had given from a strategic level, it's with anything,...- Firm F</i> • <i>.. if you present something in a logical way and you can ensure return on investment or the benefits, it'll be approved in a really fast and efficient way... - Firm A</i> • <i>Autonomy has never been an issue...you have to prove to people as well that you are able to handle the role and that you can work autonomously. - Firm I</i> 	Recognition of the HR function, autonomy and resource allocation	

Figure 5.2d: Data Structure Analysis and Emergent Constructs - Competitive Advantage

	Empirical Observation	Theoretical Observation	Theoretical Construct
Outcomes of new HR initiatives	<ul style="list-style-type: none"> • <i>The new reward system and talent identification system has kept people with us in a fairly tight market, we've been able to retain good performers</i> - Firm B • <i>...we are ahead of competitors....we are becoming an employer of choice for those key employees we want to attract...</i> - Firm C • <i>We believe that the changes we are making will make it easier for us to attract and retain people [over competing projects].</i> - Firm A • <i>A key driver is developing our leaders, another key driver is deliberating workforce capability</i> – Firm G 	<p>Proximal outcomes – improved capacity to attract, retain and engage employees compared to competitors</p>	 <p>Competitive advantage</p>
	<ul style="list-style-type: none"> • <i>...it [HR innovation] made the job of leaders across the organization much more simple. They were wasting time doing administrative things...Now get on with the actual work which is serving our customers and bringing in income...</i>- Firm G • <i>That [restructuring] should deliver us some cost savings and better efficiencies in terms of being able to support field operations.</i> - Firm B • <i>It [new talent management program] will deliver sustainable returns through highly engaged and enabled talent</i> – Firm G • <i>...we can deliver a much more personalised service...our business managers and our staff on the ground have quite close relationships with the client...</i> - Firm A • <i>We're getting some early feedback [from customers], and predominantly positive. It's a different experience-</i> Firm D • <i>We made a decision around the recruitment process and I actually managed to save the business about \$50,000</i> - Firm F 	<p>Distal outcomes</p> <ul style="list-style-type: none"> • Non-financial gains - Productivity gains, improved quality of products and services compared to competitors • Financial gains – cost savings 	

PART II: REFINING THE FRAMEWORK

The next step in the data analysis process was to systematically compare the initially developed conceptual framework with qualitative evidence to assess how well or poorly it fits the data. This involved refining (a) the definition and measurement of constructs and (b) the relationships among those constructs (Eisenhardt, 1989). This section initially focuses on refining the definition of construct in HR innovation context.

5.4 HR Functional-level Entrepreneurship

In Chapter Three, HR functional-level entrepreneurship was defined as a behavioural orientation insofar as HR professionals display *innovativeness*, *pro-activeness*, and *risk-taking* behaviour in their strategic decision making (Covin et al., 2006; Covin & Slevin, 1986; Naman & Slevin, 1993). Findings of the qualitative phase broadly supported this conceptualisation in that the sampled HR functions in general displayed these characteristics in their strategic decisions. For example, the Firm G (a financial service provider) demonstrated a high degree of willingness to innovate and continuously improve. As the Manager, People Strategy of Firm G stated:

We're (HR function) reviewing what we do every day. Can we do it better? What's a better way to do it? And how to do it?

Similarly, Firm A (a mining service provider) demonstrated its willingness to innovate, by identifying and strategically prioritizing the areas to be innovated. As the HR Manager elaborated:

There are a lot of things that could potentially be better, that we could do differently. But we are focusing on what we feel is going to have the greatest impact initially. So we've focused on the high risk and high priority and then fine-tune as the time goes by.

The HR function of Firm D (a financial service provider) attempted to pro-actively identify the ways in which they could facilitate the firm's strategic and operational activities. Demonstrating pro-activeness at strategic-level (e.g. a change in firm's culture), the HR function identified the need to create a 'high-performance culture' and rebrand HR as a function which adds value to the firm (Brockbank, 1999). All HR initiatives of the firm were to facilitate the said transformation of firm's culture. As related by the General Manager, HR of Firm D:

HR department was seen as a support function.... Didn't really [was] recognised as a value addition to the organisation... if we want to become a high performance culture, we need to put in place the almost basics for a start... we didn't have, for example, a training and development team, we didn't have a leadership framework, we didn't have call conferencing,

we didn't have a refined performance management system and we didn't have a refined reward and recognition program. So it was very purposeful.

Similarly, Firm D demonstrated its operational-level pro-activeness (*i.e.* forward looking behavior in carrying out HR operational activities) when the firm made a strategic decision to deliver a differentiated service and relationship experience to customers. HR professionals, in a systematic process, identified the nature of employee roles expected and the skills and capabilities required to perform the said services package (pro-active) and were willing to change existing HR practices (innovative). As the General Manager, HR further revealed:

So the first thing for us (HR function) was to understand what these roles will actually look like...what will the skills and capabilities that we (the firm) need for people (employees) to be able to actually demonstrate that they can do that job...(pro-activeness).

Although the above examples demonstrate pro-activeness of Firm D's HR function at strategic and operational levels, the majority of HR functions of sampled firms were proactive only at operational-levels, and reactive at strategic-level. In Firm A, for example, the HR function demonstrates a forward looking perspective to add value through better alignment of HRM activities with firm's strategic objectives (*i.e.* improving external-fit). As the HR Manager of Firm A stated:

We (HR function) have a strategic plan in terms of the objective we want to achieve. That gives us a better quality of understanding, so that we are better able to achieve our objectives.

However as HR functions in general play a support role in firms' value creation, considering pro-activeness only at operational-levels as a proxy for pro-activeness of HR functions is supported in SHRM literature (e.g. Brockbank, 1999). Therefore, similar to Firms A and D, the majority of sampled HR functions demonstrated pro-activeness in their strategic decision making.

As discussed earlier, all entrepreneurial activities are associated with a certain degree of risk (Schumpeter, 1934). The qualitative evidence suggested that HR professionals make rational, but cautious decisions to minimise the risk associated with the proposed HR initiatives. The HR Manager, Firm B (a mining service provider) referring to HR function's risk management behaviour stated:

We've considered all the consequences and we've been able to satisfy our own minds that the change is going to work.

The SHRM literature suggests that employees resist HR innovation because of their (a) uncertainty and lack of information, and (b) requirement to change (Wolfe, 1995; Wolfe et al., 2006). In an interesting departure from the conventional conceptualisation of entrepreneurship discussed earlier, the sampled HR functions displayed an additional characteristic to minimise the aforementioned resistance. In that, HR professionals of sampled firms invested considerable time and effort to improve communication and involvement with internal stakeholders (*i.e.* top management, operational managers, and other employees) during the design and development phases of new HR initiatives. As a Senior HR Partner of Firm F stated:

If HR is going to make a change in isolation, you (HR function) are not getting a lot of buying in up front and people will resist.

Stressing the importance of communication and involvement with internal stakeholders for the success of implementing HR change, the General Manager, HR of Firm D and the HR Manager of Firm A stated respectively:

We'll spend time (engaging stakeholders) even though sometimes we don't get a lot of value out of it. But, the value comes in how it's implemented.

I won't make a plan and say this is what we are going to do without some level of consultation (with other functional managers)

Bowen and Ostroff (2004) suggest that improved communication and involvement with internal stakeholders result in consensus among the HR team and internal stakeholders. Therefore this study identified HR professionals' effort to improve communication and involvement as an additional behavioural characteristic of HR functional-level entrepreneurship namely '*consensus-seeking*' behaviour. The SHRM literature supports this observation suggesting that improved participation and awareness of compelling objectives of HR innovation creates a feeling of trust and respect among stakeholders, all of which are antecedent to HR innovation success (Elenkov & Manev, 2005; Kossek, 1987; 1989). Such behaviour minimises the risk of implementation failure (Greer & Lei, 2012; Kossek, 1989), and therefore coincides with the aforementioned risk-management behaviour.

Based on the foregoing, it is argued that HR professionals who pursue HR innovations, in addition to demonstrating the three dimensions suggested in the conventional behavioural entrepreneurship studies, namely, *pro-activeness*, *innovativeness* and *risk-taking* (more appropriately *risk-management*) (Covin & Slevin, 1991), demonstrate *consensus-seeking* behaviour

in their strategic decision making. These four behavioural characteristics were used to conceptualise HR functional-level entrepreneurship in this study, namely, '*entrepreneurial HR management*'.

5.5 HR Functional-level Learning Capabilities

Based on Helfat et al. (2007), learning capabilities were defined in Chapter Three, as the capacity of HR professionals to collectively create, extend, and modify knowledge acquired through internal/external sources to address changing business requirements of a firm through HR initiatives. Consistent with the unit of analysis (*i.e.* functional-level) in this research, learning capabilities were conceptualised to capture HR functional-level knowledge routines. Using qualitative evidence, this section examines the appropriateness and adequacy of the above definition to capture HR functional-level learning capabilities.

Internally-focused Learning Capabilities

The study finds that all the sampled HR functions significantly invested their resources to acquire knowledge from internal sources. In all firms HR professionals constantly met internal stakeholders both formally and informally to identify their requirements, communicate HR changes, or get their feedback particularly in instances where a new HR initiative is designed. Firms A, D, F, G, and I had annual surveys to collect information on functionality of HR department/function and expectations of internal stakeholders. A majority of sampled HR functions extended (*i.e.* reinforcement of knowledge routines) and modified (*i.e.* adaption of knowledge) knowledge created through such internal sources for HR value addition.

For example, a report on Firm A's health and safety management programme (herein after referred to as V-Safe) provided evidence of extending and modifying internally-generated knowledge. V-Safe process consisted of seven steps namely; *identifying hazards* (employees were provided with a forum to "brainstorm" and develop a list of all occupational hazards), *assessing risk*, *treating the risk* (or *controlling the risk*), *documenting risk treatments* in minimal acceptable standards (safe operating procedures), *training staff*, *auditing compliance*, and *continuous improvement*. Knowledge created in step one was reinforced and adapted in subsequent steps in V-Safe process. Similarly, qualitative evidence from other firms supported the create-extend-modify conceptualisation to capture learning from internal sources. Therefore, the initial definition of internally-focused learning was deemed appropriate.

Externally-focused Learning Capabilities

Similar to internal learning, HR functions of all sampled firms actively sought for external learning opportunities such as participating in networking events, engaging in discussions with peers from

other firms and actively learning from new and value-creating initiatives undertaken by others firms. In other words, all sampled firms actively involved in professional learning communities (Erwee & Conway, 2006). As the General Manager HR of Firm D elaborated:

I'm studying my Masters at the moment so that's always a good opportunity to learn what other people are doing and keep up to date ... But we (HR function), relative to what we need, go to various conferences and training sessions,... network sessions, fairly constantly. We are about to start a new networking session of HR industry leaders in [...]. Six or seven of us now have joined together to talk about the key issues and opportunities across each of the business with the view of learning from each other.

All sampled firms, when recruiting HR executives, sought candidates with sound prior knowledge, preferably from reputed firms. The qualitative evidence suggested that HR professionals of a majority of sampled firms not only actively acquired but also integrated external knowledge. For instance, in the risk assessing and risk treating/controlling stages of the aforementioned V-Safe process in Firm A, external safety standards such as ISO and Australian Standard 4360 were incorporated. Therefore, the initial definition of externally-focused learning was deemed appropriate to capture HR functional-level learning from external sources.

5.6 HR Innovation

Based on literature (e.g. Birkinshaw et al., 2008; Wolfe, 1995; Wolfe et al., 2006) HR innovation was defined as a new idea adapted in to a firm's HR programs, systems and practices with an intention to add value at least to the adopting firm. As discussed in Chapter Two, this research conceptualised innovation as an outcome (but not a process). SHRM literature suggests that innovations within a firm's HR architecture are best captured based on innovation in HR practices (Delaney & Huselid, 1996; Guest & Conway, 2011; Schuler, 1992). The qualitative evidence agreed with the literature, suggesting that incremental to radical innovations in sampled firms' HR architectures were implemented through internally and externally consistent innovations in HR practices.

For instance, in Firm G, which has multiple business units, HR policies for each business unit were initially developed in isolation and in line with six enterprise agreements. The new CEO of the firm wanted all its business units to work towards common goals. In this process, new project teams containing staff from the multiple business units were formed. As enterprise agreements and pay schemes of these business units were often different, managing the project teams consumed substantial time of project managers. HR professionals identified the need to innovate firm's HR architecture to improve its internal consistency by streamlining and amalgamating the firm's

performance management and compensation and reward practices. As the Manager, People Strategy of Firm G elaborated:

...prior to one enterprise agreement we had multiple payroll systems,... you could be a team leader; you've got a team of 10 different people and they're on six different employment agreements, which makes it very difficult... [there is] probably different personal sick leaves, different penalty rates; all of that is very complex...we added them all together into one; ...a huge job it was...it affected every employee in the company.

Similarly, in an effort to create a high performance culture, Firm D introduced a 'competency framework' in its HR architecture. In this process, the HR function first identified a set of competencies for each level of employment based on the values and goals of the firm (external fit of HR architecture), and introduced competency based performance management, training and development and reward and recognition practices subsequently (internal fit) to support implementation of the said competency framework. These findings are consistent with the SHRM literature suggesting that innovations in a firm's HR architecture can be viewed from innovations in its HR practices, particularly when focusing on innovation outcomes as the case in this research. Therefore, HR innovation of a firm was operationalised in terms of innovations in its HR practices.

The study also probed in to the degree of innovation (newness and intended value addition) of the new HR initiatives introduced by the sampled firms. Their initiatives ranged from *incremental* to *radical* innovations in multiple HR practices including *recruitment and selection, training and development, performance management, compensation and reward, internal communication, organisational design, and health and safety*.

The two examples cited above were radical HR innovations that affected a greater number of employees and involved a higher degree of new knowledge and value addition. While radical HR innovations were not common among sampled firms, the majority had introduced incremental HR innovations frequently. A few of these innovations included: Firm A — *internal communication* - introducing confidential employee survey, exit interviews, and suggestions box, Firm B — *compensation and reward* - improving its reward and compensation practices to recognise employee talents, Firm E — *internal communication* - introducing 'coffee-card-catch-up', an opportunity for team leader to improve informal communication and bonding with team members, Firm F — *job design* - empowering line managers with HR decision making related to operational employees, Firm H — *compensation and reward* - restructuring its compensation and reward practices after benchmarking with those in its industry, and Firm I — *training and development, internal communication* - designing new training and development practices to improve interaction and communication among employees. Although these innovations were incremental relative to the

degree of change involved and number of employees affected in radical innovations, all were intended to add value to their adopting firms.

HR innovations among sampled firms included seven types of HR practices including innovations in health and safety related practices (e.g. V-Safe of Firm A). However, health and safety was not a HR responsibility in a few of the sampled firms (e.g. Firm E and Firm F). Consistent with the SHRM literature (e.g. Ulrich & Brockbank, 2005; Ulrich & Lake, 1990) this research therefore primarily focused on six key types of HR practices namely;

- (1) Recruitment and selection,
- (2) Training and development,
- (3) Performance management,
- (4) Compensation and reward,
- (5) Internal communication, and
- (6) Organisational design.

Overall, the qualitative evidence suggested that the (a) initial definition of HR innovation was appropriate to capture innovations within a firm's HR architecture, and (b) innovations within HR architecture could be best captured in terms of new and value-adding initiatives in the firm's HR practices.

5.7 Refining the Conceptual Framework and the System of Relationships

Once constructs were refined, the qualitative evidence was used to revisit the relationships among the constructs of interest and thereby refine the conceptual framework. This section focuses on refining the conceptual framework presented in Figure 3.1.

5.7.1 Entrepreneurial HR Management and Learning Capabilities

Drawing from multiple streams of literature, positive relationships between entrepreneurial HR management and HR functional-level learning capabilities were established in Chapter Three. The suggested relationships were revisited based on qualitative evidence.

Entrepreneurial HRM and Internally-focused Learning Capability

The qualitative evidence suggested that sampled firms utilised multiple sources of internal knowledge including trial-and-error learning, annual employee survey, a suggestions box, regular face-to-face meetings with operational employees in the field, and regular meetings within the HR department to reflect on their practices. For instance Firm F, on a trial basis, assigned line managers attached to distant projects with several HR administrative responsibilities (e.g. entering

information into the HR system) with a view to facilitating HR-related decision making. However, it was later found that line managers lost a significant portion of their productive time on activities that could have been done more efficiently by HR. As a result, some of the delegated HR responsibilities were brought back under HR responsibility. Similarly, Firm D provided substantial evidence of experimental learning when introducing, its new 'concept banking model', aimed at providing a different service experience to customers, only to one branch of the bank (on a trial basis). As the General Manager HR, Firm D related:

It's a trial because we might learn from it then tweak it. It's like action learning, really tweaking as we go over and then say okay well this is now the model that we want to implement....we always say let's run with one, learn from that and then move on and tweak from there.

Both examples above suggested that HR professionals' penchant for innovation, risk-management, and consensus-seeking behaviour, facilitated integration of internal knowledge.

Furthermore, pro-activeness of HR professionals of Firm A enhanced integration of knowledge built from various internal sources to continuously improve its HR value addition. As the HR Manager of Firm A stressed the importance of learning from internal sources:

...the first thing ... was trying to understand where the business wants to go and how they thought of HR. The second thing is to ask questions to understand where the priorities were. We (HR function) need to understand how other departments work, how they relate and interact with each other, what their problems and issues are for them to deliver their services effectively.

As mentioned earlier, all firms paid substantial attention in creating internal and external knowledge. However, those firms characterised with a lesser degree of entrepreneurial HRM were associated with inconsistent attempts to extend and modify internal knowledge and a weaker strategic emphasis on internal learning. For instance, in Firm E (the Australian subsidiary of a global US-based construction service provider), because of its highly centralised decision-making structure, found their HR function with limited flexibility to successfully create, extend, and modify internal knowledge. They were primarily guided by the changes imposed on them by their global head office and showed limited discretion when introducing locally grown HR initiatives. As the Senior HR Partner of Firm E stated:

The decisions around processes and systems are made in the US and they get rolled out in a similar fashion to the whole world. We have the opportunity to provide feedback, but it doesn't change anything.

Therefore, the qualitative findings were consistent with the suggested theoretical relationship between entrepreneurial HRM and internally-focused learning capability and no changes were made to Hypothesis One, which is reproduced below.

Hypothesis 1: Entrepreneurial HRM is positively related to internally-focused learning capability

Entrepreneurial HRM and Externally-focused Learning Capability

As discussed earlier, the HR functions of all sampled firms created external knowledge. However, only those characterised with a higher degree of entrepreneurial HRM extended and modified external knowledge as a strategic initiative. The qualitative evidence suggested three key reasons that motivated HR professionals in sampled firms to actively learn from external sources: (a) desire to be up-to-date with regulations and industry standards (compliance requirements), (b) effectiveness and efficiency associated with learning from successes and failures, and (c) be ahead of the competition (e.g. Firm A and Firm B benchmarking salaries to offer competitive rates).

As in the case of developing the aforementioned V-Safe programme of Firm A, the majority of sampled firms constantly monitored changes in safety standards, labour and industrial relations regulations and integrated those in respective firms' HR practices. While firms characterised with a lesser degree of entrepreneurial HRM (e.g. Firm E and some clients of Firm C) perceived it as a compliance requirement (*some businesses would say, 'we just want to be compliant; we want to make sure that we've got everything in place, so we are compliant* – HR Strategist, Firm C), firms characterised with a higher degree of entrepreneurial HRM perceived it as an opportunity for value addition. For instant, Firm H (a coal seam gas producer) even collaborated with competitors with a view to improve industry standards. As the Vice President HR of Firm H stated:

...we cooperate with other companies on health and safety and other issues, for drilling techniques.

In addition, entrepreneurial HR functions could not afford to ignore opportunities to learn from other firms' HR success and failures considered it to be both effective and efficient. As a Senior HR Partner of Firm F elaborated:

...most processes tend to be quite generic, it's about the application that is important. And provided that at its core you follow the same process, and you can tweak the application... that's when you put in place what markets you are in, what challenges you as a business have, and tailor to that.

This coincided with the innovative and risk-management dimensions of entrepreneurial HRM discussed earlier. Overall, the qualitative findings were consistent with the suggested theoretical relationship between entrepreneurial HRM and externally-focused learning capability. Therefore, no changes were made to Hypothesis Two.

Hypothesis 2: Entrepreneurial HRM is positively related to externally-focused learning capability

5.7.2 Learning Capabilities and HR Innovation

As discussed in Chapter Three, the literature suggests that learning capabilities are fundamental to building new knowledge-resource configurations, thus leading to innovation and value creation (Sinkula et al., 1997). This section explores if the suggested positive relationship between learning capabilities and innovation is similar in HR innovation context.

Internally-focused Learning Capability and HR Innovation

The qualitative evidence suggested that entrepreneurial HR professionals integrate internally generated knowledge in designing new and value-adding HR practices and then reconfigure such knowledge for on-going HR initiatives. For instance, when the current HR manager of Firm A joined the firm three years ago, the firm had extremely high turnover rates ranging from 25 percent to 38 percent in different employment categories. In an attempt to understand the reasons for high turnover, the HR team introduced a confidential employee survey, a suggestions box, and frequent formal and informal meetings with internal stakeholders, many of which also were innovations in firm's communication practices. In addition, the HR team devoted substantial time and effort to integrate the internally acquired knowledge for innovations in performance management practices including introducing a systematic performance feedback and coaching supervisors and managers on giving effective feedback. As the HR Manager elaborated on creating and adapting internal knowledge for HR innovation:

We did the confidential employee survey recently and one of the very strong feedbacks came through was the lack of communication and the people feeling lack of engagement in the business...So a lot of the innovations that we have had been around engagement for human resources.

Similarly Firm I made a strategic decision to acquire the manufacturing and distribution of their closest competing brand. As a result, employees of competing brands had to work together. The strong brand loyalty of employees (some had worked for their brand for over two decades) often

caused resistance in team work and resultant productivity losses. As the HR Manager of Firm I stated:

... it has taken a long time for people to get over that brand loyalty. Some on the line said, 'I'm not working on a [Brand 1], no I don't want to learn how to work one', 'I don't want to learn how to build a [Brand 1]'. 'I'm a [Brand 2] person and vice versa'. That has taken a lot of convincing... in fact you're increasing your skills and your viability out there in the market places is better, you've got this product knowledge.

Incorporating the formal and informal feedback from shopfloor managers, team leaders, and employees, the HR professionals of Firm I designed multiple off-the-job training programmes to improve the interaction, trust, and respect among employees. As the HR Manager further elaborated:

And so we worked with the groups, and just things like workshops on cultural diversity and doing MBTIs with the full groups so that they understood that 'hey that fellow that works beside me, that works on [Brand 1], he's just like me, it's just because he works on a [Brand 1] ... he's not too bad after all', 'We are, all the same'.

Involving multiple internal stakeholders, in consultation and discussion, during the design and implementation phases of HR innovation in both above cases enhanced the understanding of employee and functional-level requirements (Greer & Lei, 2012). In addition to improving the fit (internal and external) and value addition of HR innovation, it improved the implementation effectiveness by enhancing the sense of ownership of HR innovations by respective employees (cf. Hawthorne effect) (Kossek, 1989). The foregoing discussion supports the positive relationship between internally-focused learning and HR innovation advanced in Chapter Three. Therefore, no changes were made to Hypothesis Three.

Hypothesis 3: Internally-focused learning capability is positively related to HR innovation

Externally-focused Learning Capability and HR Innovation

The qualitative evidence indicated that the knowledge sampled HR functions acquired through external sources added incremental to radical value through HR innovation. In Firm D for instance, the knowledge and experience that the general manager, HR had acquired from her previous employment was instrumental in introducing the 'leadership framework', which was targeted at improving consistency in leadership at operational-levels. In addition, benchmarking with rate

offered in the industry, allowed Firm A, Firm B, and Firm H to develop competitive salary packages for their employees. As the HR Manager of Firm A stated:

Every single different group of employees need to be remunerated differently. So we worked on an industry benchmarking for each [and] every position.

Furthermore, as discussed earlier, learning from other firms' best practices, successes or failures, and adapting those to the internal HR context saved time and effort in acquiring new knowledge (e.g. Firm F). This evidence concurs with innovation literature which indicates that externally-focused learning creates a diverse knowledge-base and thus facilitates better coping with speed, complexity and cost of innovations (Vanhaverbeke et al., 2002). Similarly, as the knowledge management literature suggests (Grant, 1996; De Luca & Atuahene-Gima, 2007; Madhavan & Grover, 1998) applying external knowledge without appropriate adaptation led to inefficiencies, wastage of resources, and loss of credibility of the HR function among its internal stakeholders. For instance, a few years ago Firm D made a failed attempt to introduce a competency framework (different from the one currently implemented) which had little relevance to the firm. As the General Manager of Firm D related:

... looking at what we call a 'competency framework', that have been implemented through massive process when the CEO first joined this (Firm D). But they (competencies) were sort of just sitting there, the people knew of them but there were no ways that they (employees) could actually be measured against them.

This evidence reiterates the importance of reconfiguration knowledge, which is an inherent process in dynamic capabilities. Overall the foregoing discussion supports the positive relationship between externally-focused learning and HR innovation. Therefore, Hypothesis Four was not changed.

Hypothesis 4: Externally-focused learning capability is positively related to HR innovation

5.7.3 Firm's Competitive Strategy and HR Innovation

Having defined a firm's competitive strategy as a deliberate selection of strategic activities in a firm's value chain to achieve positional advantages primarily in cost leadership and/or differentiation (Porter, 1985), this study conjectures that a firm's competitive strategy as a mix of strategic focuses (Gopalakrishna & Subramanian, 2001; Proff, 2000). In other words, a firm can have a combination of differentiation and cost leadership focuses (hybrid strategy) such that a firm pursuing differentiation strategy has higher differentiation focus and lower cost leadership focus, and vice versa. This departs from Porter's original view that any firm attempting to achieve both

'will be stuck in the middle', but consistent with subsequent theoretical developments in competitive strategy literature (e.g. Gopalakrishna & Subramanian, 2001; Proff, 2000). While supporting this conjecture the qualitative evidence suggested that a firm's competitive strategy significantly influences its HR strategy, including HR innovation. As the Manager, People Strategy of Firm G related on this relationship:

....what does the business want to do; okay so we must align people strategy in to the business and what the business wants to do.

The influence of competitive strategy on HR strategy was evident in merger and acquisition decisions the sampled firms had initiated as avenues for market development or acquire new capabilities to the firm's current assortment of capabilities. As demonstrated by Firms D, E, F, G, and I, the mergers and acquisitions necessitated new HR initiatives within the firm, including merging multiple HR systems and systematically integrating practices into a common systems and most importantly - managing the resultant cultural changes effectively. Therefore, the evidence supported the positive relationship between firm's competitive strategy and HR innovation.

The evidence further suggested that the majority of HR innovations introduced by sampled firms were aimed at improving HR efficiencies (improving productivity and minimising operational inefficiencies through introduction of standardised, streamlined HR practices), and therefore related to cost minimisation objectives. For instance, HR innovations of Firm F (decentralising HR responsibilities to line management), Firm G (streamlining HR policies and practices among business units), Firm I (improving shopfloor productivity through off-the-job training programmes) mentioned earlier were focused on minimising operational cost. Even in some of those firms primarily focused on differentiation as their competitive strategy, which offered differentiated products and services (Firm A and Firm B), their HR innovations were driven by cost minimisation motives. As the HR Manager of Firm B elaborated on the firm's new organisational design:

By not having X number of people in a certain department, by reducing the staff by one person, we are able to be more competitive in the overall tender process.

However, in a few instances, HR innovations of sampled firms were driven by differentiation motives. For example, Firm D decided to operate as a market challenger (aggressively seeking market share from its competitors) predominantly through differentiation. In pursuing this strategy, the firm introduced the 'concept banking' model which provided a differentiated service and relationship experience to its customers. This initiative offered the bank's products to customers with a package of services aimed at developing a closer relationship and achieving greater customer involvement. As indicated by the general manager, HR – *"It's all about being able to provide that*

emotional attachment". This strategic initiative required substantial changes to existing HR practices and the attitudes of employees. In a systematic process, the HR function of Firm D identified the specific roles expected to be played by employees and the skills and capabilities required to perform such roles. The HR professionals selected the right people, trained them, set targets, and also created the right work environment without which the model could have been an operational failure. As the General Manager, HR elaborated:

...we (HR function) went and did a whole role redesign and evaluation of skills, competencies and capabilities that were required...We then looked at the recruitment practices... We then looked at how we trained them (newly recruited employees)... what do we need to do to actually train them in a new way.

Overall the evidence from sampled firms, while supporting the positive relationship between firm's competitive strategy and HR innovation, suggested that a cost leadership (cost minimisation) focus had a stronger positive relationship with HR innovation compared to the relationship with differentiation focus and HR innovation. Further supporting the identified stronger relationship between cost leadership and HR innovation, HR Manager of Firm A stated:

...given that we have 25 to 38 percent turnover at the moment, if we can reduce that turnover by five percent, we would save a few hundred thousand dollars a year which is significantly more than what we are actually spending on the innovation.

The above evidence suggested that the majority of sample firms generally perceived investments in HR as a way of minimising operational costs than a way differentiating their product/service delivery. This finding contradicts the general understanding in SHRM literature that suggests a weaker relationship between cost leadership strategy and investments in HR practices, compared that of differentiation strategy and investments in HR practices (Michie & Sheehan, 2005). According to qualitative evidence, Hypothesis Five was refined as follows:

Hypothesis 5: A firm's competitive strategy is positively related to its HR innovation such that cost leadership focus has a stronger positive relationship with HR innovation compared to the relationship with differentiation focus and HR innovation.

5.7.4 HR Innovation and Competitive Advantage

As discussed in Chapter Three, the SHRM literature suggests a positive relationship between HR innovation and firm's competitive advantage (both proximal and distal) (e.g. Barney & Wright, 1998; Becker & Huselid, 1997; Chang et al., 2011; Huselid & Becker, 2011). The qualitative

evidence supported the above suggesting a positive relationship between HR innovation and both absolute and comparative performance of a firm. Examples included: (a) reduced employee turnover and absenteeism (all except Firm E), (b) improved employee commitment and engagement (Firms A, D, F, G, H and I), (c) improved employee attraction and retention compared to competitors (Firm A and B), (d) improved productivity (Firms A, B, D, F, G and I), and (e) delivery of differentiated product/services (Firm D).

The evidence further indicated that both incremental and radical innovations can assist firms to outperform their competitors. For instance, Firm B through an incremental HR innovation, improved its compensation and reward practices to recognise employee contribution, and as a result improved the firm's capacity to attract, engage and retain employees, compared to its competitors. Similarly Firm G's amalgamation of multiple HR systems, which was a radical innovation, improved its productivity and provided cost advantages over competitors. As the Manager, People Strategy of Firm G related:

...it (amalgamating HR practices) made the job of leaders across the organisation much simple. They were wasting time doing administrative things around different conditions ... (now they can) get on with the actual work which is serving our customers and bringing in income. I know our cost per unit is cheaper than Firm X (a close competitor).

In addition the evidence suggested that, if a firms' competitive advantage was driven or strongly supported by HR innovation, it was not easily imitable. As Firm D related:

I'll be interested to see any of the other banks try and copy that (concept banking model), because it's very, very different the way we operate. ...ultimately it comes back to the way that we train our people, it's the way that we effectively employ them, recruit and then train them, asses them, and that's how we manage their performance and their target and so on.

This concurs with the general consensus in the literature that the complex processes involved in building HR innovation enable firms to build human resources that will provide firm-specific advantages thereby erecting barrier to competitors (Barney & Wright, 1998). HR innovations therefore make it difficult for competitors to imitate the value adding HR practices enabling the focal firm to gain sustained competitive advantage (Barney & Wright, 1998; Becker & Huselid, 1998; Chang et al., 2011; Damanpour & Aravind, 2011; Wolfe et al., 2006). Overall the foregoing discussion supports the positive relationship between HR innovation and competitive advantage. Therefore, no changes were made to Hypothesis Six.

Hypothesis 6: HR innovation (radical and incremental) is positively related to competitive advantage.

5.7.5 Role of Top Management Support

In Chapter Three, top management support was theorised to moderate the relationship between HR innovation and competitive advantage. The qualitative evidence coincided literature (Bowen & Ostroff, 2004; Elenkov & Manev, 2005; Whittaker & Marchington, 2003) suggesting that the degree of top management support positively related to the success of HR innovation implementation, thereby it moderated the relationship between HR innovation and competitive advantage. While sampled firms characterised with a higher degree of top management support (e.g. Firms A, D, F, G, H, and I) reported a higher degree of success in HR innovation implementation, those with lower degree of top management support (e.g. Firm E) compared badly in HR innovation implementation.

In addition, the evidence suggested that the autonomy, recognition, and access to resources enjoyed by HR professionals of Firms A, D, F, G, and I, provided them motivation and confidence to design and develop HR innovations.

If you present something in a logical way and you can ensure return on investment or the benefits, it'll be approved in a really fast and efficient way...there's no resource that I've requested and that has been refused. — Firm A

Autonomy has never been an issue... you have to prove to people (top management) that you are able to handle the role and that you can work autonomously. — Firm I

This evidence coincided with SHRM literature (e.g. Taylor et al., 1996) which suggests a positive relationship between the perceived support by top management and initiatives taken by HR professionals. Based on the above discussion the relationships between top management support and HR innovation were advanced as follows:

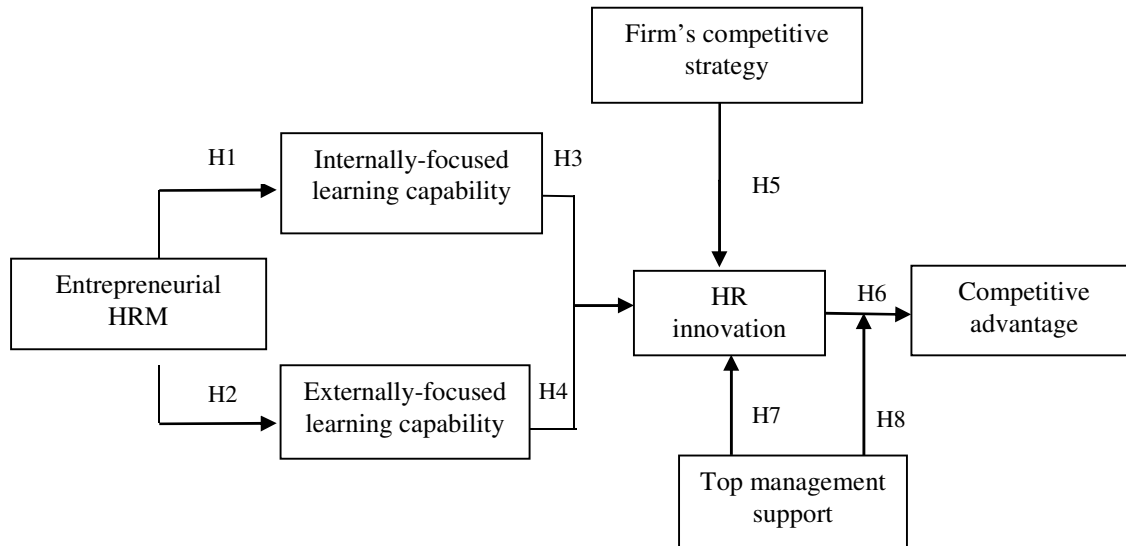
Hypothesis 7: Top management support is positively related to HR innovation.

Hypothesis 8: Top management support moderates the relationship between HR innovation and competitive advantage.

Based on refined hypotheses, the refined conceptual framework of HR innovation and competitive advantage is presented next.

5.8 Refined Conceptual Framework

Figure 5.3: The Refined Conceptual Framework of HR Innovation-related Competitive Advantage



The refined conceptual framework presented in Figure 5.3 suggests that firms pursuing HR innovation are characterised by entrepreneurial HRM. Those firms build and nurture a set of learning capabilities, instrumental in design and development of HR innovation. The overall competitive strategy of the firm influences the design, development, and implementation of HR innovation. In addition, this conceptual framework conjectures that both radical and incremental innovations can support firms gaining competitive advantage, which is manifested in employee behavioural (proximal) and firm-level performance (distal) outcomes. While top management support influences the degree and the number of HR innovations implemented by a firm, the relationship between HR innovation and competitive advantage is moderated by the top management support.

5.9 Conclusion

This chapter described qualitative data analysis and how the findings of this phase informed the initial conceptual framework that was built from extant literature. In this process, an iterative thematic analysis of qualitative data was first carried out. Second, based on emergent themes, dimensions of key constructs were refined. Third, using qualitative evidence, the theoretical relationships established between constructs were re-examined simultaneously refining hypotheses among constructs. As such, this framework provides a foundation for examining the research problem of this research. The refined conceptual framework is tested in a quantitative study which

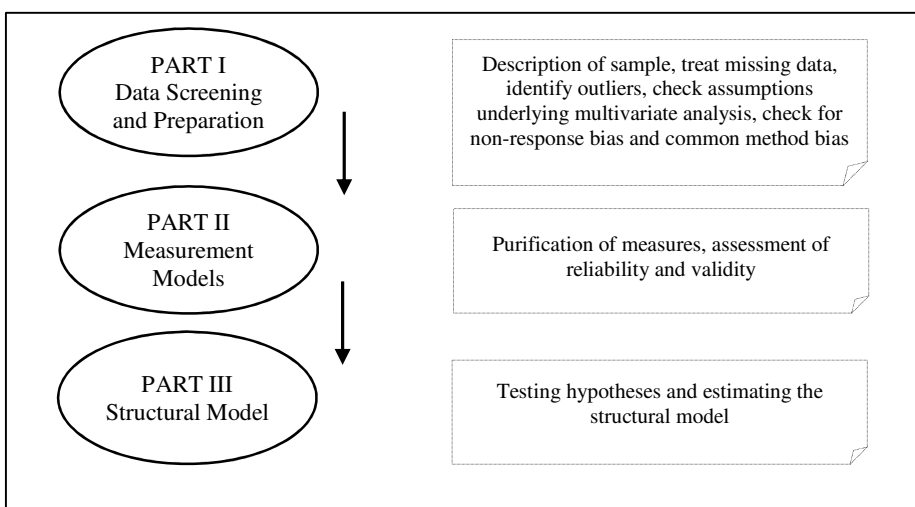
is the next phase of the two-stage research design. The next chapter describes the quantitative data analysis.

CHAPTER SIX: QANTITATIVE DATA ANALYSIS

6.1 Introduction

The previous chapter described the analysis of qualitative data. It presented a refined conceptual framework and measures for constructs. This chapter focuses on analysis of quantitative data. The outline of this chapter is presented in Figure 6.1

Figure 6.1: Chapter Outline



Part I presents the data screening and preparation process, which includes a description of sample, the treatment of missing data, identification of outliers, checking for assumptions underlying multivariate analysis, and checking for non-response and common method biases. Part II of this chapter focuses on purification of measures, which is the first stage of a two stage model estimation process used in structural equation modelling. It also presents tests for reliability and validity. Part III involves estimating the structural model to test the hypothesised relationships from the refined conceptual framework presented in Chapter Five.

PART I: DATA SCREENING AND DATA PREPARATION

6.2 Description of Sample

Table 6.1: Descriptive Statistics of the Sample

Characteristics of the Sample	Descriptive Statistics					
	Frequency	Percentage	Min	Max	Mean	SD
Age of the firm			6	177	56.57	38.44
Size (Full-time employees)			50	42000	1239	3676.87
< 100 employees	22	10.9				
101- 1000 employees	135	67.2				
1001 – 10000 employees	41	20.4				
>10000 employees	3	1.5				
Ownership						
Public Company	49	24.4				
Foreign-owned Subsidiary	42	20.9				
Domestic Private Firm	85	42.3				
Other	25	12.4				
Industry						
Accommodation, Food, Beverage	17	8.5				
Construction	2	1				
Communication	3	1.5				
Electricity, Gas, Water	6	3				
Finance, Insurance	8	4				
Health and Community Services	14	7				
Mining	11	5.5				
Manufacturing	47	23.4				
Other	84	41.8				
Manufacturing/Service						
Manufacturing	86	42.8				
Service	115	57.2				
Competitive Position						
Market leader	68	33.8				
Market Challenger	50	24.9				
Market Follower	35	17.4				
Niche Marketer	40	19.9				
Turnover						
<\$2 million	1	0.5				
\$2million - \$20 million	30	14.9				
\$20 million - \$100 million	91	45.3				
> \$100 million	71	35.3				

Paper-based survey responses were checked for errors, date stamped, numbered, and entered to an excel spread sheet. Conditional formulae were created to highlight cells with either missing values or univariate outliers, which were subsequently cross-checked for data entry errors. The data in the excel spread sheet were then merged with the responses from the online survey and transferred to SPSS 22.0 to carry out the initial analysis. After eliminating surveys with missing data, there were 201 usable responses (refer to Section 6.2.1 for details). The descriptive statistics from respondents' firms are presented in Table 6.1. The statistics show that the majority of the firms in the sample had between 101 and 1000 full-time employees (67.2%), followed by firms with 1001 to 10000 employees (20.4%). The smallest and largest firms had 50 and 42000 employees respectively and the mean was 1239 employees. While the mean age of firms was around 56 years, it ranged from six to 177 years. The majority of firms was domestic private firms (42.3%), followed by public (24.4%) and foreign owned subsidiaries. While these firms represented a wide variety of industry sectors, most firms were from service sectors (57.2%). More than 80 percent of the firms had an annual turnover above \$20 million dollars and around 55 percent of the firms were either a market leader (33.8%) or a niche marketer (19.9%).

6.2.1 Data Collection and Sample Size

As discussed in Chapter Four, the sampling frame consisted of medium to large manufacturing and service firms operating in Australia. A database consisting of 3000 randomly selected medium to large firms was purchased from a commercially available database service provider. The database included information about the firm (*i.e.* industry, size, and location) and its top most HR professional (*i.e.* designation and contact information). While the cases represented a wide variety of industries, geographical locations, and firm sizes, and the designations of HR professionals ranged from HR manager to vice president HR.

A survey packet, containing the questionnaire and a reply paid envelope, was mailed to the aforementioned 3000 senior HR professionals. Three weeks after the first mail-out, a follow up telephone call was made to those who had not returned their surveys to check if they have received it, and to remind them to complete the survey. At this stage, the link to the online version of the survey was emailed to those who either had not received the initial survey (which included a link to the online version of the survey) or preferred receiving a reminding email with the link to the online survey. This process took a little more than eight weeks. Out of the initial 3000 surveys sent, 284 were returned to sender (RTS) because of incorrect addresses and/or the person contacted leaving the firm. Three months after the initial posting of survey packets, 147 completed surveys (mail-based) were returned and 119 responded the online survey, resulting in a total of 268 responses. Considering 2716 (*i.e.* 3000 minus 284 RTSs) surveys had reached potential respondents, 268

responses indicate a response rate of 9.9 per cent. This response rate is in line with similar studies in the Australian context (e.g. Sheehan, Holland & De Cieri, 2006 – response rate 11 %), especially considering that it was an unsponsored study (*i.e.* not sponsored by professional bodies such as Australian Human Resource Institute). The relatively poor response rate, despite multiple procedures adopted to improve it (as presented in Chapter Four) can be attributed to several factors beyond the control of the researcher. These include, (a) some firms having a policy of not taking part in similar studies (42 potential respondents mentioned this as a reason during follow up calling stage), and (b) survey fatigue (potential respondents explicitly mentioned that they receive many surveys every month). In two instances during follow-up calling stage, potential respondents revealed that they have a negative attitude towards taking part in surveys conducted by universities as a result of not knowing the outcomes of such surveys in which they had participated in the past. Baruch (1999) found that individual characteristics of a population also may contribute to a reduced response rate such that representatives of a firm (e.g. senior managers) having a lower response rate than employees or professionals.

Out of 119 online responses, only 80 were complete (*i.e.* reached the final section of the survey), and the remaining 39 were either 50 per cent or less completed. Such cases were removed from subsequent analysis. Due to anonymity of online responses, it was not possible to follow up with those who have started but not completed the online survey. Twenty-five of the remaining cases indicated that they did not have a profit making motive (*i.e.* not-for-profit, charity, certain governmental departments) and were therefore removed from the subsequent analysis. As a result only 201 responses were used in subsequent analysis of this study.

Despite the general rules-of-thumb such as, (a) ten cases per variable (Nunnally, 1967), and (b) five to ten observations per estimated parameter (Bentler & Chou, 1987), Boomsma and Hoogland (2001) suggest that structural equation models with latent variables collapse in samples with fewer than 100 cases. A sample size of 200 is suggested to ensure stable weight matrix when Maximum Likelihood Estimate (MLE) procedure is used (Boomsma & Hoogland, 2001; Hair et al., 2010; Kelloway, 1998). Therefore, a sample size of 201 was considered adequate and appropriate in this study.

6.2.2 Treatment of Missing Data

Missing data, where valid responses of one or more variables were not available for analysis, can pose problems in multivariate data analysis (Hair et. al., 2010:41). Rubin (1976) argued that missing data can be replaced with unbiased estimates under two conditions: (a) Missing Completely At Random (MCAR) – data missing on a variable Y such that missing-ness is independent of other variables observed and the values of Y itself, and (b) Missing At Random (MAR) – data missing on

a variable Y such that missing-ness may depend on other variables observed, but independent of values of Y itself. After examining the dataset of this study, it was revealed that missing data percentage for any particular scale item was two percent (2.0%) or less except for one item which was 3.5 percent. This relatively higher missing value rate for one item can be attributed to measurement instrument failure as this item was placed at the end of page in the mail-based survey. However, this item had zero per cent missing value rate in online responses. Due to the low missing value rate, data were deemed to be missing at random (Cohen & Cohen, 1983). In addition, the non-significant Little's MCAR estimation statistic ($p > 0.01$) further confirmed that values were missing at random (Little's MCAR test: Chi-Square = 2112.398, DF = 2170, Sig. = .808). Therefore, missing data were unlikely to be an issue in this study. As such, the expectation maximisation (EM) imputation available in SPSS 22.0 was used to replace missing values.

6.2.3 Outliers

Outliers are the observations that are distinctly different from other observations (Blunch, 2008; Hair et. al., 2010). Outliers have the potential to distort the representativeness of the population and can have a profound effect on fit indices and parameter estimates (Hair et. al., 2010). Outliers may sometimes be real data points or occur due to, (a) errors in measurement, observation, (b) recording errors in data collection, and/or (c) errors that occur during coding and entry (Cooper & Schindler, 2001). Univariate outlier detection involves examining extreme values and these can be easily identified looking at the frequency distributions or box plots of each variable (Hair et. al., 2010). The frequency distributions of scale items in this study revealed that values for any particular scale item were in between 1 and 5. Therefore, no univariate outliers were found in the dataset.

Multivariate outliers are the cases in which combination of scores is unusual. Multivariate outlier detection involves calculating Mihalolobi's squared distance – D^2 (Blunch, 2008; Hair et. al., 2010). Unlike univariate outliers, there is no absolute cut off point for multivariate outliers. According to Hair et al. (2010) if D^2/df value for a case in a large sample is greater than three or four, it is considered a multivariate outlier. There were a few cases with D^2/df values above three, but lower than four. However, unless the evidence substantiates that an outlier is unquestionably atypical and not representative of any observations in the population, outliers should be retained (Hair et. al., 2010). Deleting outliers unnecessarily may improve multivariate analysis but may limit generalizability (Hair et. al., 2010). Therefore, after careful examination of each case, the observations were identified to represent feasible characteristics of the population and were retained for subsequent analysis. Furthermore, the Standardised Root Mean Residual (SRMR) values that indicate the average standardised residual for each measurement model (presented in Part II of this

chapter), were lower than 0.08. Therefore, outliers did not have a significant impact in the analysis (Hair et al., 2010).

6.2.4 Assumptions of Multivariate Analysis

The dataset was also examined to assess if it conforms to assumptions underlying multivariate analysis.

Normality – This refers to the degree to which sample data corresponds to the normal distribution. Violations of multivariate normality can lead to biased parameter estimates, inaccurate significance tests of the estimated parameters and inaccurate interpretations and conclusions (Hair et al., 2010). In the process of assessing normality, standardised kurtosis and standardised skewness scores were examined for each measurement item. Standardized values showed that the data were non-normal (*i.e.* presence of values higher than three standard deviations). Therefore, “Booten-Stine bootstrap p ” available in AMOS 22.0 was used to account for non-normality in subsequent structural equation modelling. The Booten-Stine bootstrap is a bootstrap modification of model chi-square adjusting for distributional misspecifications of the model (Bollen & Stine, 1992). Booten-Stine p value for each measurement models and subsequent structural models were not significant (*i.e.* $p > 0.05$). Therefore, transformed data were not significantly different from input data.

Homoscedasticity/ Heteroscedasticity – This refers to the assumption that dependent variables exhibit equal level of variance across the range of predictor variables (Hair et al., 2010:73). In other words, when the variance of error terms appears constant over a range of predictor variables, the data is considered to be homoscedastic (Hair et al., 2010:34). Heteroscedasticity is usually a result of non-normality of variables. Therefore, correction of non-normality also remedies the unequal dispersion of the variance (Hair et al., 2010:74).

Linearity – Linear models predict the values that fall in a straight line. In other words, a constant unit of change in the independent variable would have a constant unit of change in the dependent variable. Linearity is an underlying assumption in all multivariate techniques based on correlational measures of association (Hair et al., 2010). The presence of non-linear patterns in data results in underestimation of the actual strength of a relationship, and therefore requires non-linear techniques (Hair et al., 2010:75). Linearity can be assessed by examining either scatter plots, residuals of a simple regression analysis, or explicitly modelling a non-linear relationship (also known as curve fitting) (Hair et al., 2010). However, it is practically difficult to carry out any of the above techniques to every item in combination with every other item. Therefore, scatter plots of some

selected combinations of items were examined and those represented linear relationships. Furthermore, correlation coefficients between variables (presented in Part II of this chapter) could adequately represent the relationships between variables, and therefore suggested one-dimensional relationships (Hair et al., 2010).

6.2.5 Non-response Bias

Non-respondents may have different response profiles compared to those who have responded. As a result, the remaining sample may no longer be random or representative of the population from which it was randomly drawn (Hair et. al., 2010). Considering the relatively low response rate in this study, it is important to assess the non-response bias (Ward & Zhou, 2006). Potential non-response bias in this study was assessed by comparing the profiles of early respondents with late respondents, a procedure widely adopted in literature (e.g. Armstrong & Overton, 1977; Doney & Cannon, 1997). Accordingly, the first 30 responses were coded as '1' and last 30 responses were coded as '2'. A series of Mann-Whitney U tests were conducted between the two groups using demographic and non-demographic variables to assess if there were differences between the two groups. As shown in Table 6.2, no significant differences (*i.e.* $p > 0.05$) were evident between the two groups. Therefore, non-response bias was not considered to be an issue in this study.

Table 6.2: Mann-Whitney U Test Statistics for Early and Late Respondent Groups

Item	Mann-Whitney U	<i>p</i> Values
Year established (Age)	412.5	0.584
No of Employees	445.0	0.994
Industry	410.0	0.543
Turnover	437.5	0.868
Sum_EntHRM	424.0	0.705
Sum_IntLrn	401.0	0.472
Sum_ExtLrn	438.0	0.863
Sum_TMS	397.0	0.437
Sum_CompStr	376.0	0.277
Sum_HRIInnov	430.0	0.772
Sum_CompAdv	390.5	0.382

6.2.6 Common Method Bias

Common method variance is the variance attributed to the measurement method (e.g. data collection method or rating scale, item characteristics, and item context) rather than the construct of interest (Bagozzi & Yi, 1990) and contributes to systematic measurement error (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This study carried out the *Harman's single factor test* (Podsakoff et al., 2003) to assess if majority of the variance can be explained by a single factor. Accordingly, exploratory factor analysis (EFA) was carried out (including all variables in this study in one analysis) constraining the number of factors extracted to be one. The un-rotated factor solution showed that the single factor could explain only 24 percent (< 50%) of the variance. Therefore, common method variance was not a likely explanation for the results in this study.

PART II – MEASUREMENT MODELS

As indicated earlier structural equation modelling (SEM) was used to analyse survey data. Hair et al. (2010) discusses SEM as a six-stage decision process which involves; (i) defining individual constructs, (ii) developing the overall measurement model, (iii) designing a study to produce empirical results, (iv) assessing the measurement model validity, (v) specifying the structural model, and (vi) assessing structural model validity. The initial three stages were completed and discussed in Chapters Three, Four and Five. The process of completing the last three stages is presented in this chapter. In this process, the refined conceptual framework presented in Chapter Five is estimated using the two step approach to model estimation in structural equation modelling (Anderson & Gerbing, 1988). The sections below estimate measurement models for the key theoretical constructs identified in the conceptual framework, followed by assessment of reliability and validity of measures. Part III estimates the structural model(s), followed by hypotheses testing. To estimate the measurement models and structural model, SEM software AMOS 22.0 was used.

6.3 Measurement Model Estimation

A measurement model presents connections between latent variables and their manifest indicators (Blunch, 2008). Therefore, to estimate the measurement model the indicator items that constitute the model should be clearly specified (Hair et al., 2010). Once each model was specified, the *t-rule* (Bollen, 1989), which assesses whether the number of unknown parameters to be estimated were less than or equal to the number of non-redundant elements in the sample variance-covariance matrix of observed items/variables, was used (Bryne, 2001). Meeting the t-rule is an essential prerequisite for model estimation. Next, *confirmatory factor analysis* (CFA) for each model was carried out to estimate the factor loadings and variance of and covariance between factors. As presented in previous chapters, the measurement models were developed based on extant literature and qualitative evidence, and therefore the researcher had prior knowledge of the underlying latent variable structure. Hence, CFA was deemed appropriate (Blunch, 2008; Bryne, 2001; Hair et al., 2010) and used *Maximum Likelihood* (ML) iteration (Jöreskog, 1967) for parameter estimation. Furthermore, this study used individual questionnaire items as indicators of a latent construct (referred to as *total disaggregation method*), which allowed item level analysis of each construct (Williams, Vandenberg, & Edwards, 2009). Such detailed, item level analysis added rigor to the research method by looking in to psychometric properties of each indicator item (Bagozzi & Heatherton, 1994; William et al., 2009).

6.4 Model Evaluation Criteria

Model evaluation involves checking whether or not the model fits the data. In other words, it assesses if the specified model is a reasonable representation of the data. This study used *goodness-of-fit* statistics and multiple indices provided by AMOS 22.0 to evaluate models. One of the key fit statistics χ^2 is a measure of discrepancy between the implied variances and covariances matrix and that of empirical data (Bryne, 2001). If the *p*-value associated with χ^2 is greater than 0.05, it indicates that the discrepancy between the two is non-significant and therefore the specified model is a tenable representation of the data it purports to portray. However, χ^2 or the resulting *p*-value is suggested to be less meaningful as the sample size becomes large or the number of observed variables becomes large (Hair et al, 2010). Therefore, Hair et al. (2010) recommend researchers to complement χ^2 with three or four other fit indices that are less sensitive to sample size such as, comparative fit index (CFI), root mean square error approximation (RMSEA) and root mean square residual (RMR). They also provide some guidelines to apply fit indices in different sample sizes and model complexities. As the sample size of this study is 201, Table 6.3 presents their guidelines for sample sizes of fewer than 250. Overall, their guidelines suggest that simpler models with smaller samples should be subjected to strict evaluation compared to complex models with larger samples.

Table 6.3: Guideline for Evaluating Model Fit across Different Model Situations

Number of variables (m)	N < 250		
	m ≤ 12	12 < m < 30	m ≥ 30
χ^2	Insignificant <i>p</i> -values expected	Significant <i>p</i> -values even with good fit	Significant <i>p</i> -values expected
CFI or TLI	0.97 or better	0.95 or better	Above 0.92
RNI	May not diagnose misspecification well	0.95 or better	Above 0.92
SRMR	Biased upward, use other indices	0.08 or less (with CFI of 0.95 or higher)	Less than 0.09 (With CFI above 0.92)
RMSEA	Values < 0.08 with CFI = 0.97 or higher	Values < 0.08 with CFI of 0.95 or higher	Values < 0.08 with CFI above 0.92

Note: *m* – number of observed variables; *N*- number of observations (sample size)

Source: Reproduced from Hair et al, 2010:647

Based on the above discussion and extant literature (e.g. Hair et al., 2010; Hu & Blenter, 1999; Kline, 1998), the criterion presented in Table 6.4 was used in model evaluation.

Table 6.4: Measures used in Model Evaluation

Symbol or Abbreviation	Measure	Acceptable Level
Absolute Fit Indices		
χ^2	Chi-Square	$p > 0.05$
GFI	Goodness-of-Fit Index	> 0.90
RMSEA	Root Mean Square Error of Approximation	< 0.08
SRMR	Standardised Root Mean Residual	< 0.08
Incremental Fit Indices		
CFI	Comparative Fit Index	> 0.90
TLI	Tucker-Lewis Index	> 0.90
Parsimony Fit Index		
χ^2/df	Normed Chi-Square	$> 1 < 3$
Assessment of Measurement Model		
λ	Path Estimate; Lambda Coefficient; Completely Standardised Factor Loading Estimate	> 0.70 ideal > 0.50 acceptable
SR	Standardised Residual	< 1.96 ideal < 4.00 acceptable
MI	Modification Index	< 4.0
Assessment of Structural Model		
β	Parameter Estimate; Standardised Path Coefficient; Regression Coefficient; Beta Weight	< 0.10 small effect ≈ 0.30 medium effect > 0.50 large effect
R^2	Coefficient of Determination; Squared Correlation Coefficient; Total Variance Explained	> 0.50

6.5 Evaluating Measurement Models

This section focuses on evaluating measurement models based on the criteria discussed above. A measurement model specifies and assesses the ability of indicators to serve as measures of respective constructs (Hair et al., 2010). As mentioned earlier, measurement models were specified (*i.e.* assigning indicator variables to the respective construct) based on the literature and evidence of the qualitative phase of this research. CFA was used for assessing the measurement models. CFA provides model diagnostic information such as, the fit indices discussed above, residuals (*i.e.* the difference between observed and estimated covariance terms), and modification indices (*i.e.* calculations for every possible relationship *not* specified in the model) which can be used to identify problems with measures (Hair et al., 2010). For example, in this study items were dropped if their standardised residuals associated with a single indicator variable were higher than $|1.96|$ ($p < 0.01$) in multiple instances or higher than $|4.0|$ in any instance (Hair, et al., 2010). Furthermore, modification indices higher than 4.0 were examined to identify model misspecifications. In addition, when estimating reflective measures, items were deleted from a measure if the standardised loadings linking the construct to the indicator variables were considerably below $|0.5|$ and/or beyond the $+1.0$ to -1.0 range (Hair, et al., 2010). However, when estimating formative

measures, items were dropped only if those were found to be insignificant ($p > 0.05$) (Diamantopoulos & Siguaw, 2006).

These changes were made, one change at a time with the aim of improving the measurement model (Jöreskog & Sörbom, 1996). However, model re-specifications for the sake of statistical fit is highly criticised in literature (e.g. Bryne, 2001; Hair et al., 2010; Jöreskog & Sörbom, 1996). Therefore, every model re-specification in this study was based on sound theoretical grounds. In addition, the three-indicator rule, which suggests that all factors in a congeneric model (*i.e.* indicator variables associated with only one factor) have at least three significant indicators (Hair et al., 2010), was followed.

Competing models – The accepted SEM procedure recommends estimating competing models (e.g. combining factors, all indicators loaded to one factor) and using the Chi-square different test (Hair et al., 2010) to evaluate those models. This test evaluates the difference in Chi-square ($\Delta \chi^2 = \chi^2A - \chi^2B$) and degree of freedom ($\Delta df = dfA - dfB$) values of competing models and examines if the change in Chi-Square is significant for the respective change in degrees of freedom (Hair et al., 2010). A significant difference (*i.e.* $p < 0.05$) rejects the null hypothesis that the models are equal and indicates that there is less than a five per cent probability that the change of values between the two models is due to chance alone (Hair et al., 2010). Thus, one model fits the data significantly better than the other. Accordingly, in addition to aforementioned fit indices, this study used the difference in Chi-square test for evaluating model fit. The process of evaluating each measurement model is presented next.

6.5.1 Entrepreneurial Human Resource Management

As discussed in Chapter Five, existing measures of entrepreneurship developed at firm/top management level were inadequate in capturing the unique characteristics of entrepreneurship at HR functional-level. Therefore this study specified entrepreneurial HRM as a four dimensional reflective latent construct comprising of 13 indicators to capture *pro-activeness*, *innovativeness*, *risk-management*, and *consensus seeking* dimensions. The model was estimated following the procedure outlined in earlier sections of this chapter. The process of model evaluation and re-specification suggested that a single-factor congeneric model was appropriate for capturing entrepreneurial HRM.

As presented in Figure 6.2, the suggested model comprised of three innovativeness items (Ent_2, Ent_4, and Ent_5), one pro-activeness item (Ent_6), one risk-management item (Ent_8), and one consensus-seeking item (Ent_10). Overall these indicator items cover the theoretical domain of Entrepreneurial HRM construct discussed in Chapter Five. The factor loading of all

except one indicator was higher than the minimum cut off level of 0.5. Although Ent_10 had a slightly lower factor loading (0.46), considering the exploratory nature of this measure (Hair et al. 2010) and the fact that other indicators had loadings well above the minimum cut-off, it was decided to retain this item.

Figure 6.2: Entrepreneurial HRM Construct

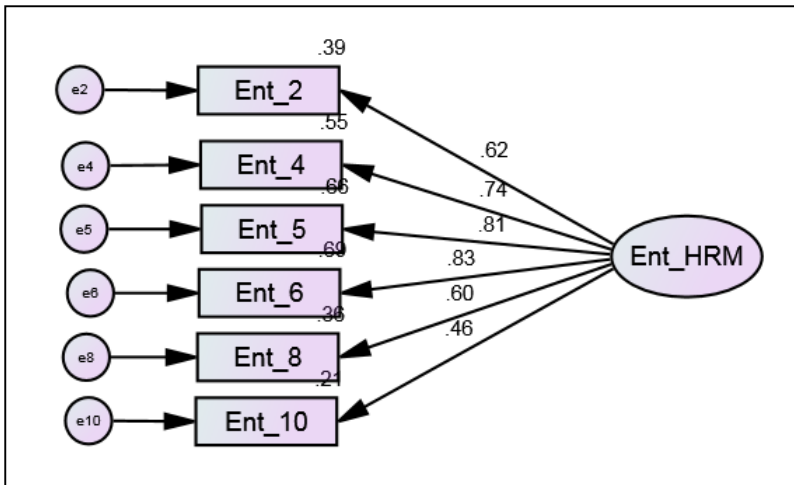


Table 6.5: Indicators of Entrepreneurial HRM

Item Label	Item
Ent_2	In general our HR function/department, views introduction of new HR practices as a way of adding business value
Ent_4	... is willing to introduce new HR practices that address business requirements
Ent_5	... explores new HR practices that add business value
Ent_6	... looks for opportunities to introduce new HR practices that add business value
Ent_8	... is open to introducing HR changes in areas where we have little past experience
Ent_10	... maintains relationships with other functional managers based on respect and confidence

Table 6.6: Fit Indices of Entrepreneurial HRM

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
12.148	0.421	1.350	0.981	0.993	0.988	0.0287	0.042

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

The fit indices presented in Table 6.6 shows that the single-factor model has adequate fit. The χ^2 , respective p , and χ^2/df (1.350) values were within the recommended limit. Other fit indices such as GFI (0.981), CFI (0.993), and TLI (0.988) were well above the recommended 0.9 and SRMR

(0.029) and RMSEA (0.042) values were below 0.08. Overall, the figures indicated that the estimates of entrepreneurial HRM construct were acceptable.

The seven items that were deleted from the initial measure during the model estimation process included three pro-activeness items, two risk-management items, and two consensus-seeking items. Brockbank (1999) suggests that HR professionals can be proactive both in strategic (*i.e.* focus on creating future strategic alternatives such as creating a culture of innovation and creativity, creating internal capabilities to align with marketplace) and operational ways (*i.e.* focus on improving design and delivery of HR basics). However, both the SHRM literature (e.g. Ulrich & Brockbank, 2005) and qualitative evidence suggested that HR professionals were often only operationally proactive, but were strategically reactive (*i.e.* support implementation of business strategy). Therefore, dropping items that were intended to capture strategic-level pro-activeness of HR professionals in this study made theoretical sense. Furthermore, the qualitative evidence suggested that HR professionals in sampled firms were very cautious in taking risk, and thus provided the theoretical ground for dropping two of the risk-management items. As mentioned in Chapter Five, clear communication of a consistent message to internal clients is a vital component of consensus-seeking behaviour (Bowen & Ostraff, 2004). The qualitative evidence suggested that clear consistent communication resulted in improved trust and confidence of internal clients. Therefore, dropping two consensus-seeking items were not likely to have a significant theoretical impact.

6.5.2 Internally-focused Learning Capability

Internally-focused learning construct was conceptualised to have three routines/processes namely *create*, *extend* and *modify* (Helfat et al., 2007). To capture these processes in HR functional/departmental context, this study developed 11 indicator items based on the extant literature and qualitative evidence. The subsequent model estimation process suggested internally-focused learning as a single-factor congeneric, reflective latent construct. As presented in Figure 6.3, the suggested model comprised of four indicators with factor loadings above 0.7 for all except one, but all factor loadings were well above the recommended minimum cut off of 0.5. The respecified model had two 'create' items (Int_2 and Int_4), one 'extend' item (Int_3) and one 'modify' item (Int_9), and therefore covered the theoretical domain of internally-focused learning construct. In other words, dropping items did not result in any changes in the initial conceptualisation of internally-focused learning construct, and therefore the respecified model was theoretically sound.

Figure 6.3: Internally-focused Learning Capability Construct

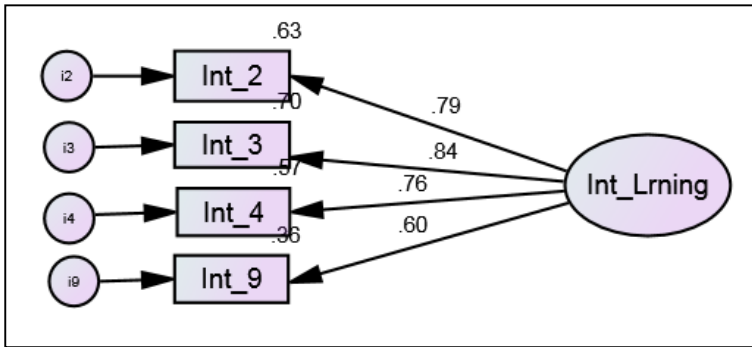


Table 6.7: Indicators of Internally-focused Learning Capability

Item Label	Item
Int_2	Our HR function/department has, sought constant feedback on HR practices from internal clients
Int_3	... incorporated feedback from internal clients to improve HR practices
Int_4	... regularly shared information collected from internal clients within the HR function
Int_9	... incorporated feedback from internal clients to address HR competency gaps

The fit indices presented in Table 6.8 shows that χ^2 , respective p , and χ^2/df (1.192) values were within the recommended limit. Other fit indices such as GFI (0.994), CFI (0.999), and TLI (0.996) were well above the recommended 0.9 and SRMR (0.015) and RMSEA (0.031) values were below 0.08. Therefore, the overall estimates of internally-focused learning suggested an adequate fit.

Table 6.8: Fit Indices of Internally-focused Learning Capability

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
2.383	0.380	1.192	0.994	0.999	0.996	0.0150	0.031

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

6.5.3 Externally-focused Learning Capability

Similar to internally-focused learning capability, externally-focused learning capability was conceptualised to consist of three processes namely, *create*, *extend*, and *modify* (Helfat et al., 2007). Based on extant literature and qualitative evidence, this study developed 11 indicators to capture these three processes in HR functional/departmental context. As presented in Figure 6.4, the model evaluation and re-specification suggested that a six indicator congeneric, reflective latent factor was appropriate in capturing externally-focused learning in HR context. The respecified model

comprised of, one indicator capturing ‘create’ (Ext_6), one indicator capturing ‘extend’ (Ext_4), and four indicators capturing ‘modify’ (Ext_7, Ext_8, Ext_9, and Ext_10). The factor loading of these items were well above the recommended cut off of 0.5. Overall these six indicators covered the theoretical domain of externally-focused learning construct. Therefore, similar to the case of internally-focused learning, dropping items did not result in any changes in the initial conceptualisation of externally-focused learning capability construct.

Figure 6.4: Externally-focused Learning Capability Construct

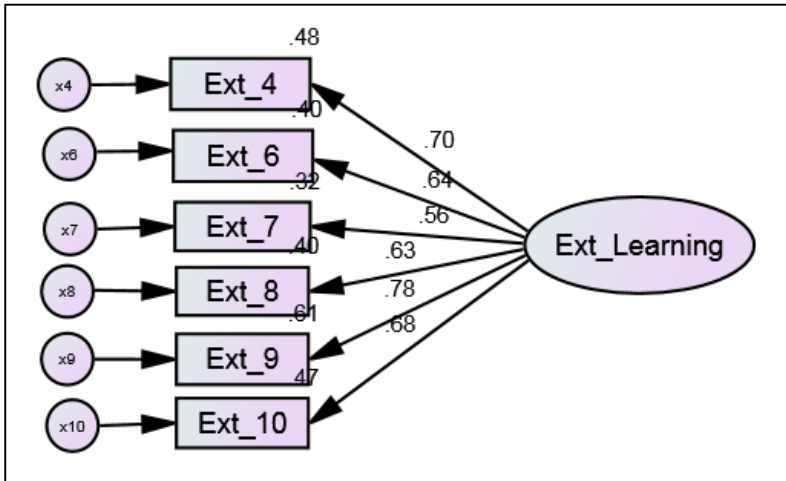


Table 6.9: Indicators of Externally-focused Learning Capability

Item Label	Item
Ext_4	Our HR function/department has, used knowledge from external sources to improve competencies of HR professionals
Ext_6	... shared knowledge acquired from external sources among HR staff regularly
Ext_7	... developed industry best practices, through joint-consultation with other organisations (<i>e.g. OH&S practices</i>)
Ext_8	... used the knowledge from external sources to predict future HR requirements
Ext_9	... transformed knowledge acquired from external sources to address issues within the organisation
Ext_10	... combined knowledge from external sources with existing knowledge to introduce new HR practices

Furthermore, the fit indices presented in Table 6.10 suggest that χ^2 , respective p , and χ^2/df (1.245) values were within the recommended limit. Other fit indices such as GFI (0.982), CFI (0.994), and TLI (0.99) were well above the recommended 0.9 and SRMR (0.029) and RMSEA (0.034) values were below 0.08. Therefore, the overall estimates of externally-focused learning suggested an adequate fit.

Table 6.10: Fit Indices of Externally-focused Learning Capability

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
11.204	0.521	1.245	0.982	0.994	0.990	0.0288	0.034

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

6.5.4 Human Resource Innovation

This study attempted to capture innovations in six HR practices namely, *recruitment and selection, training and development, performance management, compensation and reward, internal communication* and *organisational design*. The literature (Ulrich & Brockbank, 2005) and evidence from both qualitative and quantitative phases of this study suggest that these six practices comprehensively capture all types of innovation within a firms HR function. In contrast to reflective measurement models in this study, HR innovation construct was formed by innovations in these six practices and adding or removing any of these practices would change the conceptual interpretation of the construct. Hence, as discussed earlier, the nature of construct, direction of causality, and characteristics of the items capturing the construct suggested that HR innovation construct was best conceptualised as a formative measurement model (Blunch, 2008; Coltman et al., 2008; Jarvis et al., 2003; Venaik et al., 2004). The process of evaluation of a formative model significantly differs from that of a reflective model (Diamantopoulos & Siguaw, 2006). For instance, estimation of reflective measures aims at minimising inter-correlations among measure items (De Vellis, 2012), while it aims at retaining items with distinct influence on the latent construct, in formative measures (Diamantopoulos & Siguaw, 2006). Unlike the case in reflective measures, dropping an item from a formative measure alters the meaning of the construct, and thus the decision to drop an item has to be accessed carefully (Jarvis et al., 2003).

A formative measurement model, taken in isolation, is under identified and therefore cannot be estimated (Bollen, 1989). The literature suggest estimating a formative model using the 2+ estimated paths rule, which refers to adding (a) two reflective indicators, (b) two reflective constructs, or (c) a reflective construct and an indicator (Bollen & Davis, 1994; Diamantopoulos, Riefler, & Roth, 2008). However, the choice of the reflective indicator or construct should be theoretically justifiable (Diamantopoulos et al., 2008). As discussed in previous chapters, HR innovation comprised of newness of innovations in each HR practice, their intended value addition, and the number of innovations introduced. Accordingly, this study conceptualised HR innovation to have six formative indicators to capture the newness of HR innovation in each of the six HR practices mentioned above, along with two reflective indicators; one capturing the degree of total intended value addition of HR innovations namely *HRI_ValueAddtn*, and the other capturing the

number of innovations introduced namely *HRI_Breadth*. The composite scores for *HRI_ValueAddtn* and *HRI_Breadth* were computed by taking the sum of value additions, and number of innovations respectively.

The standardised factor loadings presented in Figure 6.5 were significant for formative indicators (Diamantopoulos et al., 2008), and were above the 0.5 cut-off value for reflective indicators (Hair et al., 2010). As a result, all items were retained in the measure, and therefore the indicators of HR innovation cover the overall theoretical domain of the construct.

Furthermore, the fit indices presented in Table 6.12 suggest that χ^2 , respective p , and χ^2/df (1.666) values were within the recommended limit. Other fit indices such as GFI (0.990), CFI (0.995), and TLI (0.970) were well above the recommended 0.9 and SRMR (0.019) and RMSEA (0.058) values were below 0.08. Therefore, the overall estimates of HR innovation construct suggested an adequate fit.

Figure 6.5: HR Innovation Construct

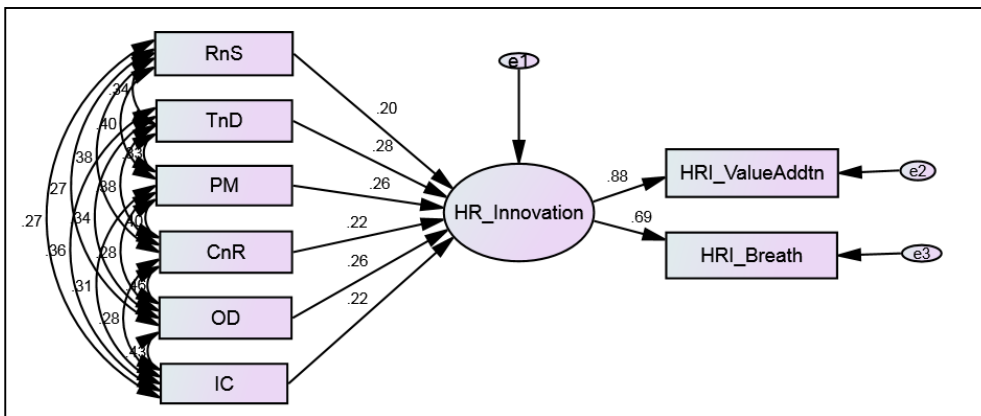


Table 6.11: Items of HR Innovation Construct

Item Label	Item
RnS	The degree of newness of recruitment and selection practices introduced over the last three years
TnD	... training and development practices introduced over the last three years
PM	... performance management practices introduced over the last three years
CnR	... compensation and reward practices introduced over the last three years
OD	... organisational development practices introduced over the last three years
IC	... internal communication practices introduced over the last three years
HRI _ValueAddtn	The degree of intended direct and indirect value addition of HR practices introduced over the last three years
HRI_Breath	The number of HR innovations in HR practices over the last three years

Table 6.12: Fit Indices of HR Innovation

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
8.332	0.156	1.666	0.990	0.995	0.970	0.019	0.058

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

6.5.5 Top Management Support

Top management support was conceptualised as the *recognition, autonomy, and resources* the HR professionals received in designing and developing of HR innovation. This study generated eight indicators to capture top management support. As presented in Figure 6.6, the model evaluation process resulted in a six item congeneric reflective latent construct to capture top management support. The modification indices suggested covariance among error terms of Tms_5 and Tms_6, Tms_6 and Tms_7, and Tms_7 and Tms_8. However, these model re-specifications were carried out only because those made theoretical sense. For instance, both the literature and qualitative evidence presented in Chapter Five suggest that if the top management of a firm is confident in HR professionals' capacity to design and develop value adding HR changes, HR professionals get a higher degree of recognition which may result in a higher degree of autonomy for HR and acknowledgement of HR professionals' efforts (Elenkov & Manev, 2005; Ulrich & Brockbank, 2005). Similarly, it was suggested that the degree of autonomy exercised by HR professionals was positively related to their resource allocation decisions (Elenkov & Manev, 2005; Taylor et al., 1996; Wright et al., 2001; Ulrich & Brockbank, 2005). Hence, the covariance between Tms_5 and Tms_6, Tms_6 and Tms_7, and Tms_7 and Tms_8 were theoretically supported.

Figure 6.6: Top Management Support Construct

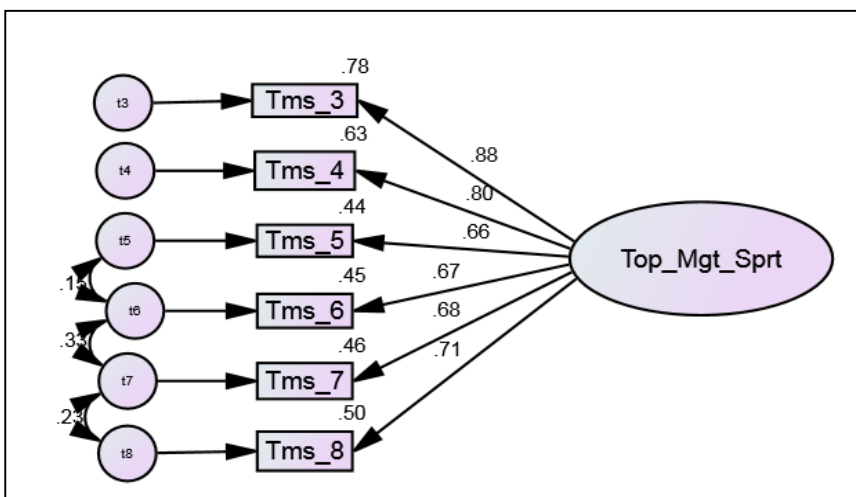


Table 6.13: Indicators of Top Management Support

Item Label	Item
Tms_3	In our organisation, when formulating organisational strategies, top management consults HR professionals
Tms_4	... our HR function has the opportunity to discuss with/consult top management, when HRM changes are planned
Tms_5	... our HR function is allocated required resources for the implementation of planned HRM changes
Tms_6	... our HR function has substantial autonomy in designing strategically important HRM changes
Tms_7	... top management has confidence in our HR professionals' ability to effect radical HRM changes
Tms_8	... when HRM practices that have organisation-wide implications are introduced, the top management openly endorses these in their communication

The fit indices of top management support construct presented in Table 6.14 suggest that χ^2 , respective p , and χ^2/df (1.13) values were within the recommended limit. Other fit indices such as GFI (0.989), CFI (0.999), and TLI (0.997) were well above the recommended 0.9 and SRMR (0.019) and RMSEA (0.026) values were below 0.08. Therefore the overall estimates of top management support construct suggested an adequate fit.

Table 6.14: Fit Indices of Top Management Support

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
6.806	0.539	1.134	0.989	0.999	0.997	0.0187	0.026

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

6.5.6 Firm's Competitive Strategy

Using Porter's (1985) definition, this study conceptualised competitive strategy as a two factor, reflective, congeneric construct. As presented in Chapter Five, this study generated four indicator items to capture *cost leadership* and five indicator items to capture *differentiation*. Similar to other constructs, the model estimation/ re-specification was carried out, one at a time, by examining standardised residuals and modification indices. The estimation /re-specification process suggested that a two-factor model of competitive strategy construct had an adequate fit. The respecified model, presented in Figure 6.7, comprised of two three-indicator factors, one with three differentiation indicators (CompSt_3, CompSt_4, and CompSt_8) and the other with three cost leadership indicators (CompSt_2, CompSt_6, and CompSt_7). Therefore, the respecified model covered the theoretical context of competitive strategy construct. Furthermore, dropping one cost leadership item and two differentiation items was not likely to create any significant impact on the initial conceptualisation of competitive strategy.

The examination of the fit indices presented in Table 6.16 suggested that χ^2 , respective p , and χ^2/df (2.413) values were within the recommended limit. Other fit indices such as GFI (0.970), CFI (0.966), and TLI (0.936) were well above the recommended 0.9 cut off and SRMR (0.045) value was below 0.08. However, RMSEA (0.084) value was slightly above the recommended cut off of 0.08. Overall estimates of the competitive strategy construct suggested an adequate fit.

Figure 6.7: Firm’s Competitive Strategy Construct

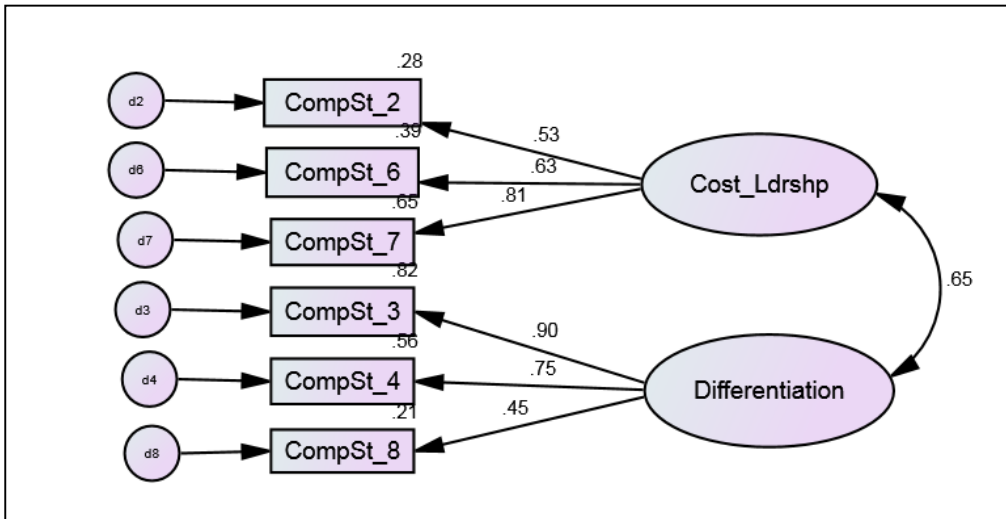


Table 6.15: Indicators of Competitive Strategy

Item Label	Item
CompSt_2	Our organisation has been, trying to achieve lower costs than our competitors
CompSt_6	... seeking opportunities to achieve economies of scale
CompSt_7	... seeking opportunities to improve productivity leading to cost advantages
CompSt_3	... trying to outperform competitors by introducing unique product/service features
CompSt_4	... trying to outperform competitors in the quality of our product/service
CompSt_8	... using intensive marketing communication to highlight our unique product/service features to targeted customers

The examination of the fit indices presented in Table 6.16 suggested that χ^2 , respective p , and χ^2/df (2.413) values were within the recommended limit. Other fit indices such as GFI (0.970), CFI (0.966), and TLI (0.936) were well above the recommended 0.9 cut off and SRMR (0.045) value was below 0.08. However, the RMSEA (0.084) value was slightly above the recommended cut off of 0.08. Overall estimates of the competitive strategy construct suggested an adequate fit.

Table 6.16: Fit indices of Competitive Strategy

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
19.3	0.703	2.413	0.970	0.966	0.936	0.04	0.084

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

6.5.7 Competitive Advantage

As discussed in previous chapters, both the SHRM literature and qualitative evidence suggest that HR innovation can lead to proximal and distal advantages. Therefore, this study conceptualised competitive advantage as a two factor, reflective, congeneric construct and developed six and five indicator items to capture *proximal* and *distal* advantages respectively. The outcome of the model evaluation process is presented in Figure 6.8. The proximal and distal advantage factors were respecified to have three (ComAdv1, ComAdv2, and ComAdv3) and four (ComAdv8, ComAdv9, ComAdv10, and ComAdv11) indicator items respectively, and each indicator item had factor loadings higher than the recommended cut off value of 0.5. Out of the four items dropped, three were proximal advantage items focused on improving employee engagement and relationships, and one was a distal advantage item focused on productivity improvement. The qualitative evidence suggested that HR professionals have a relatively low level of understanding of their close competitors' performance in these four items, compared to other items. For instance, not all firms measure employee engagement and those who do measure it may also use different measurement tools. In addition, as mentioned earlier, the nature of relationships within a firm is socially complex making it difficult for competitors to understand. Therefore, dropping these items made theoretical sense. Overall, the respecified model covered the theoretical context of competitive advantage construct.

The examination of the fit indices presented in Table 6.18 suggested that χ^2 , respective p , and χ^2/df (1.832) values were within the recommended limit. Other fit indices such as GFI (0.996), CFI (0.981), and TLI (0.97) were well above the recommended 0.9 and SRMR (0.045) and RMSEA (0.065) values were below 0.08. Therefore, overall estimates of the competitive advantage construct suggested an adequate fit.

Figure 6.8: Competitive Advantage Construct

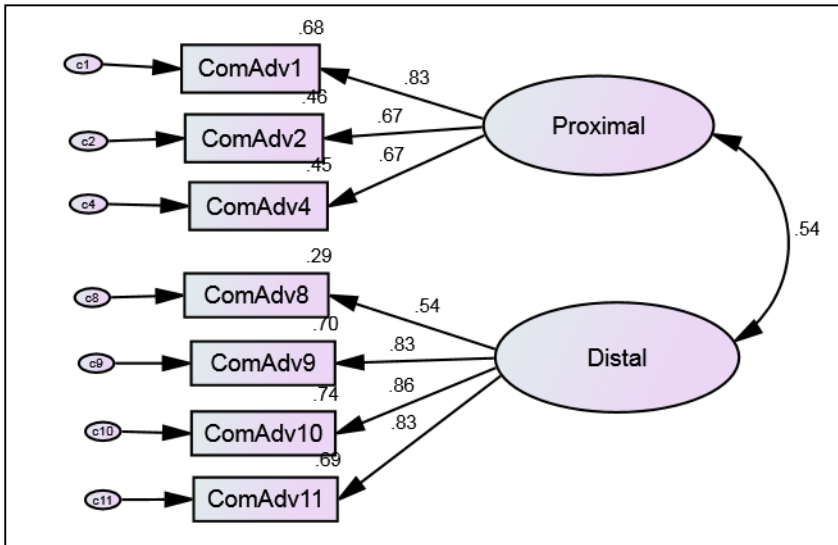


Table 6.17: Indicators of Competitive Advantage

Item Label	Item
ComAdv_1	Over the last <i>three years</i> our organisation has outperformed our closest competitor in, attracting essential employees
ComAdv_2	... retaining essential employees
ComAdv_4	... improving the overall talent pool
ComAdv_8	... improving quality of products and services
ComAdv_9	... growth in sales
ComAdv_10	... growth in profitability
ComAdv_11	... improving the overall competitive position of the organisation

Table 6.18: Fit Indices of Competitive Advantage

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
23.819	0.123	1.832	0.966	0.981	0.970	0.0449	0.065

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

Overall, the measurement model evaluation process provided strong support for the constructs and respective indicator items included in this study. The next section focuses on evaluating the validity and reliability of these constructs.

6.6 Validity and Reliability

6.6.1 Validity

Validity of a construct refers to the extent to which a set of measured items represent the theoretical latent construct those items are intended to measure (Blunch, 2008; Hair et al., 2010). As suggested by Hair et al. (2010), this study evaluated four components of construct validity namely, *convergent validity*, *discriminant validity*, *face validity*, and *nomological validity*.

Convergent validity – Convergent validity refers to the extent to which indicator items of a specific construct share variance in common. The convergence is understood based on the variance extracted (VE), which is the square of the standardised factor loading (λ_i^2) of indicator items. A construct will have adequate convergence if the average variance extracted (AVE) for the construct is at least 0.5 (*i.e.* 50% or more of the variance in the latent construct is explained by the items) (Fornell & Larcker, 1981; Hair et al., 2010). The convergent validity of the constructs in this study was determined by calculating AVEs for each construct. As presented in Table 6.19, all except three constructs had AVE values higher than the recommended 0.5 level. The AVE values for Entrepreneurial HRM (Ent_HRM), externally-focused learning (Ext_Lrning), and cost leadership (Cost_Ldrshp), were slightly lower than the recommended level, at 0.47, 0.45, and 0.44 respectively. However, the literature suggests a slightly relaxed cut-off of 0.45 as reasonable for newly developed scales (Fornell & Larcker, 1981; Netemeyer, Bearden, & Sharma, 2003). As discussed in Chapter Five, majority of the measures used in this study have either been refined or newly developed to match the HR innovation context. Therefore, despite slightly lower than recommended AVEs for a few constructs, all constructs in this study were considered to have adequate convergent validity (Hair et al., 2010).

Discriminant validity – Discriminant validity is the extent to which a construct is truly distinct from other constructs (Bollen, 1989; Fornell & Larcker, 1981; Page & Meyer, 2000; Hair et al., 2010). The most rigorous way to assess discriminant validity is suggested by Fornell and Larcker (1981). Accordingly, if a pair of latent constructs has adequate discriminant validity, the AVE values of both constructs should be greater than the squared correlation between the pair. Table 6.20 presents correlation and squared correlation values along with respective AVEs for all constructs in this study. The squared correlation between cost leadership and differentiation constructs was higher than the respective AVEs, suggesting discriminant validity issues. Therefore, these two constructs were not used together in subsequent analysis and replaced these two with the higher order construct, ‘competitive strategy’. None of the other constructs in this study had discriminant

validity issues. Establishing discriminant validity at this stage minimises possible multi-collinearity / linear dependency issues likely to arise in subsequent estimation of the structural model.

Table 6.19: Average Variance Extracted (AVE) and Construct Reliability (CR) Values

Latent Construct	Average Variance Extracted (AVE)	Construct Reliability (CR)
Ent_HRM	0.47	0.84
Int_Lrning	0.57	0.80
Ext_Lrning	0.45	0.80
Cost_Ldrshp	0.44	0.75
Differentiation	0.52	0.74
Proximal	0.53	0.75
Distal	0.6	0.80
Top_Mgt_Sprt	0.54	0.86

Note: Cells are highlighted if the values are lower than the recommended cut-off

Face validity – Face validity, which is generally referred to as content validity, is one of the most important validity tests that should be carried out prior to any other validity tests (Hair et al., 2010). Content validity is the extent to which items adequately represent all the possible items related to the area of interest. As discussed in Chapter Four, this study incorporated expert reviews in measurement development process and thereby improved content validity (Churchill, 1979; De Vellis, 2012).

Nomological validity – Nomological validity is tested by examining whether correlations among constructs make theoretical sense (Hair et al., 2010). Table 6.20 below presents correlations among constructs in this study. However, as discussed in Chapter Three, the objective of this study is to develop a parsimonious framework of HR innovation-related competitive advantage. Those relationships that are of interest in this study have been theoretically established in previous chapters and also have correlations higher than 0.3. Furthermore, there were not any theoretically insensible correlations in this study and therefore the constructs were considered to have adequate nomological validity.

The literature has little consensus on the assessment of validity of formative measures (Diamantopoulos et al., 2008; Jarvis et al., 2003). While some scholars argue that no quantitative tests are usable for assessing the appropriateness of formative indices, some suggest limited applicability of statistical procedures (e.g. Bollen, 1989; Diamantopoulos & Winklhofer, 2001). For instance, Bollen (1989) suggests that significant standardised factor loadings, which reflect the

impact of the formative indicators on the latent construct, is an assessment of individual item validity. As mentioned earlier, the standardised factor loadings of all indicators of HR innovation construct were significant, and therefore considered to have adequate validity at individual item level. Furthermore, nomological validity assessment is suggested as the common approach to assess construct validity of formative constructs (Diamantopoulos et al. 2008). Therefore, this study evaluated the correlation values among indicators and found all to be positive (above 0.267) and make theoretical sense. In addition, bivariate correlation values among indicators were lower than 0.6, suggesting no multi-collinearity issues. Substantial multi-collinearity among indicators in formative models would affect the stability of indicator coefficients (Diamantopoulos et al., 2008). Overall, the HR innovation construct was considered to have adequate construct validity.

Table 6.20: Fornell's and Larcker's (1981) Test of Discriminant Validity

		Ent_HRM	Int_Lrning	Ext_Lrning	Cost_Ldrshp	Differentiation	Top_Mgt_Sprt	Distal	Proximal
	AVEs	0.47	0.57	0.45	0.44	0.52	0.54	0.6	0.53
Ent_HRM	0.47		0.44	0.32	0.06	0.08	0.29	0.02	0.09
Int_Lrning	0.57	0.66		0.35	0.12	0.09	0.21	0.06	0.11
Ext_Lrning	0.45	0.57	0.59		0.06	0.1	0.14	0.05	0.1
Cost_Ldrshp	0.44	0.25	0.34	0.24		0.56	0.12	0.11	0.11
Differentiation	0.52	0.28	0.3	0.32	0.75		0.1	0.11	0.11
Top_Mgt_Sprt	0.54	0.54	0.46	0.37	0.35	0.32		0.13	0.35
Distal	0.6	0.15	0.24	0.22	0.33	0.33	0.36		0.4
Proximal	0.53	0.3	0.34	0.32	0.33	0.33	0.59	0.63	

Note : The lower triangular matrix presents correlation values

The upper triangular matrix presents squared correlation values

AVE values are presented in bold

The cells are highlighted if the squared correlation value is higher than the AVEs of the constituent pair.

6.6.2 Reliability

Reliability of an instrument refers to its internal consistency; in other words, ability to provide nearly identical results in repeated measurements under identical conditions (Blunch, 2008; Hair et al, 2010). If an instrument is not reliable, it measures *uncertainty* or *noise*. Reliability is also an indicator of convergent validity (Hair et al., 2010). Although coefficient alpha remains the commonly used measure of reliability, construct reliability (CR) is recommended to be used in

conjunction with SEM (Hair et al., 2010). It is computed from squared sum of standardised factor loadings (λ_i) and the sum of error variance (EV) terms (e_i) for each construct as:

$$CR = \frac{(\sum_{i=1}^n \lambda_i)^2}{(\sum_{i=1}^n \lambda_i)^2 + (\sum_{i=1}^n e_i)}$$

where, n is the number of indicator items in the construct of interest.

CR estimates of 0.7 or higher suggests good reliability and estimates between 0.6 and 0.7 are acceptable provided that the construct's validity estimates are good (Hair et al., 2010). CR estimates for each contrast in this study are presented in Table 6.19. All CR values were between 0.74 and 0.86, and therefore suggested good reliability. The literature suggests that the reliability of formative indicators does not make sense in terms of internal consistency, as correlations between formative indicators may be positive, negative or zero (Bollen, 1989; Diamantopoulos & Winklhofer, 2001). Therefore, the reliability of HR innovation was not likely to be an issue in this study.

Part II of this chapter presented measurement model estimation process along with assessment of their validity and reliability. Part III presents the estimation of structural model.

PART III – STRUCTURAL MODEL

Once the measurement models are estimated to have acceptable fit and construct validity and reliability are established, the next step in the two-stage approach to the modelling process is to test the full structural model (Anderson & Gerbing, 1988). This involves specifying the structural model by assigning relationships from one construct to another based on the proposed conceptual framework presented in Chapter Five, and estimating the structural model and its corresponding hypothesised relationships. Part III of this chapter focuses on the process of testing the structural model.

6.7 Estimating the Structural Model

A structural model is a conceptual representation of structural relationships between constructs of interest. Testing the structural model has three key differences compared to testing measurement models (Hair et al., 2010). First, the emphasis moves from the relationships between latent constructs and its indicator items to the nature and magnitude of relationships between latent constructs. Therefore, in addition to assessing the overall model fit of a structural model, structural parameter estimates are examined. Second, estimated parameters for the structural relationship provide direct empirical evidence relating to the hypothesised relationships. Third, comparative structural models are encouraged to support model superiority. However, alternative models should be tested to see if those have better fit and if the relationships make theoretical sense. Overall, a model is supported if it shows good fit and if the hypothesised relationships are significant in the direction hypothesised (*i.e.* positive or negative) (Hair et al., 2010).

Accordingly, the guideline used in Part II of this chapter to evaluate fit indices of measurement models were used to assess the structural model's fit. Similar to re-specification of measurement models, standard residuals of the predicted covariance matrix and modification indices were used to re-specify the structural model and thereby improve the model fit. However, all modifications were theoretically justifiable. Hypothesised relationships were assessed based on respective standardised coefficients (β) and coefficient of determination (R^2). The model was then compared with alternative models prior to deciding on the final structural model.

Due to limited sample size and non-normal data in this study, composite scores were used to represent latent constructs in the structural model (Coffman & MacCallum, 2005; Williams et al., 2009). Accordingly, this study used the *partial disaggregation* approach, which combines items from each scale into subsets called parcels to be used as indicators of the latent construct (Williams et al., 2009). Although summing or averaging items to create parcels has been recommended by some scholars (e.g. Bandalos, 2002; Bandalos & Finney, 2001), these methods give equal weight to factors regardless of their factor loading (DiStefano, Zhu, & Mindrila, 2009). This study therefore

used 'data imputation' function available in AMOS 22.0 to impute weighted composite scores for latent constructs. The composite scores compared to items, (a) result in a fewer parameters to be estimated, and thus appropriate for small sample sizes, (b) are more likely to be normally distributed, and thus less likely to violate the normality assumption, and (c) minimise issues associated with shared error variances among items, and thus produce more stable estimates (Coffman & MacCallum, 2005; Williams et al., 2009).

6.7.1 Testing for Moderation

Moderation enables a more precise explanation of the variance in a dependent variable (Y), not only *how* one predictor variable (X) relates to another variable (Y), but also *under what circumstances* the relationship changes depending on a moderating variable (Z) (Hair et al., 2010). This study tested the moderation effects of a continuous (*i.e.* top management support) and a categorical (*i.e.* industry type – manufacturing / service) variable.

Moderation effect of continuous variables (Interaction effect) – This relationship is generally modelled by creating a new product variable to show the *joint effects* of two predictor variables, in addition to the individual main effects (Hair et al., 2010:347; Little, Bovarid, & Card, 2007:216) and therefore referred to as an *interaction effect*. As discussed in previous chapters, this study tested for the interaction effect of top management support on the relationship between HR innovation and competitive advantage. Hence a product term namely 'TMS_x_HRI' was created. In order to address possible multi-collinearity issues resulted from the product variable being highly collinear with constituent variables, the standardised scores of all variables were used in subsequent analysis (Edwards, 2009). The moderation relationship was considered to be significant if the *p* values associated with the product terms were significant (<0.05) (Hair et al., 2010).

Moderation effect of categorical variables – This study estimated if the relationships of the structural model were different for manufacturing and service industries. In order to test the moderation effect, the first two groups were created (1- Manufacturing; 2- Service). Second, prior to computing composite scores, an invariance test was carried out for the full CFA model (*i.e.* unconstrained model) to examine if the measures capture the same in all groups (Milfont & Fischer, 2010). Only if the invariance assumption is upheld (*i.e.* there is no difference in measures between the two groups), valid comparisons between the groups can be carried out and the differences/similarities can be meaningfully interpreted (Milfont & Fischer, 2010). The measures in this study met both configural (testing the unconstrained model) and metric (testing the fully constrained model) invariance, and therefore suggested to be stable across the two groups (Milfont

& Fischer, 2010). Finally, the estimates of the structural model were examined to identify if the differences in critical ratios between the two groups were significant.

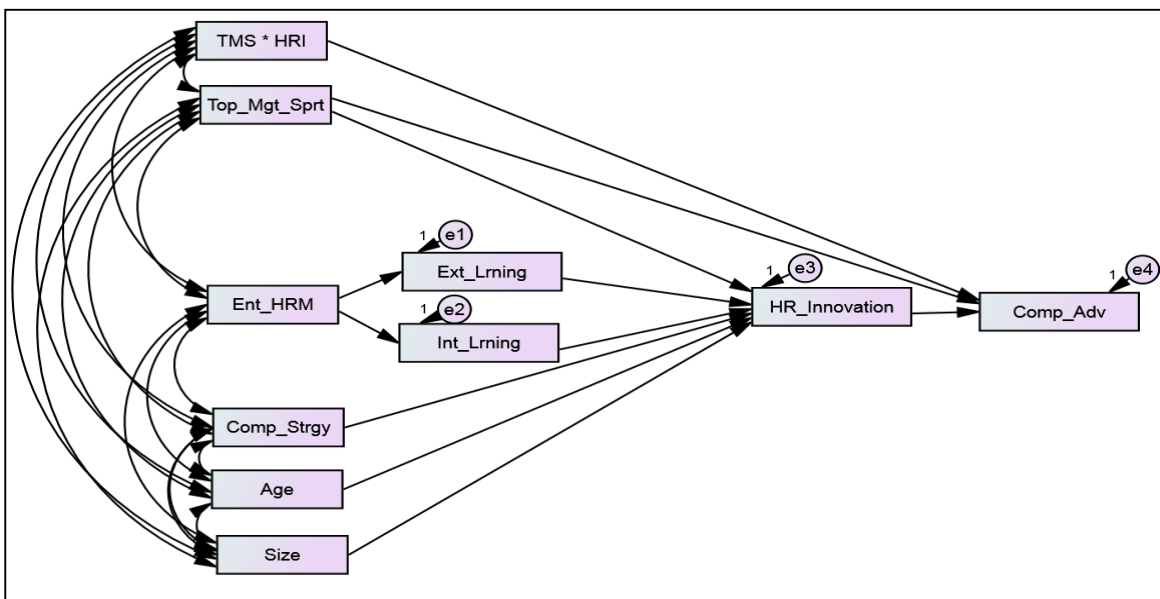
6.7.2 Testing for Mediation

Mediation is used to explain a chain of causation. For example, a third explanatory variable (M) is used to explain inconsistencies in the relationship between the independent variable (X) and the dependent variable (Y) (Hair et al., 2010). This study used bootstrapping with bias-corrected confidence intervals method, which is highly recommended for testing mediation (Hayes, 2009), to identify the mediation effect between variables.

6.8 Estimating the Hypothesised Model

The Figure 6.9 presents the structural model of the refined conceptual framework of HR innovation-related competitive advantage discussed in Chapter Five.

Figure 6.9: The Hypothesised Structural Model



Note: Latent constructs have been replaced by composite variables.

As discussed earlier, latent constructs were replaced by associated composite variables and thus presented in rectangles. The single-headed arrows between constructs indicate interrelationships between *entrepreneurial HRM*, *externally-focused learning*, *internally-focused learning*, *firm's competitive strategy*, *HR innovation*, *top management support*, and *competitive advantage* presented as hypotheses (H1-H8). Two of the control variables, *age* and *size*, were also incorporated in the structural model. However, the *industry type* was not included here as it was tested in subsequent multi-group analysis.

After examining standardised residuals and modification indices, the structural model was respecified, making one theoretically justifiable change at a time to arrive at the structural model presented in Figure 6.10. Two of the relationships hypothesised (*i.e.* internally-focused learning capability and HR innovation, moderation relationship of top management support between HR innovation and competitive advantage) were insignificant and therefore removed from the structural model. The qualitative evidence in this research suggested that HR functions of all sampled firms created internal knowledge. However, not all firms extended and/or modified internal knowledge for HR innovations (e.g. Firm E and Firm I). Not having a direct relationship between internally-focused learning and HR innovation was therefore supported by the qualitative evidence.

Moreover, as discussed in previous chapters, the top management support towards HR function plays two key roles; (a) facilitates design and development of HR practices by providing autonomy and resources (Elenkov & Manev, 2005; Taylor et al., 1996; Wright et al., 2001), and (b) contributes to implementation of HR practices by fostering consensus among employees (Bowen & Ostroff, 2004). In other words, top management support, in addition to influencing design and development of HR innovation, is suggested to influence HR outcomes. Therefore, the emergent direct relationship between top management support and competitive advantage, instead of the moderation role hypothesised, was supported by the SHRM literature. The emergent relationship between internally-focused learning and externally-focused learning was supported by the ‘absorptive capacity’ view (Cohen & Levinthal, 1990), which suggests a positive correlation between internally-focused learning and the acquisition and assimilation of external knowledge (Cohen & Levinthal, 1990; Zollo & Winter, 2002). The qualitative evidence in this research suggested that the firm’s competitive strategy influenced the learning capabilities of the HR function, internally-focused learning in particular. The HR functions of firms with stronger competitive strategy focus (e.g. Firm D and Firm G) in an attempt to align HR strategies with the competitive strategy, undertook higher levels of learning compared to those with relatively low level of competitive strategy focus (e.g. Firm E). Hence the emergent relationship between competitive strategy and internally-focused learning was supported. The age and the size of the firm had no significant relationship with HR innovation. Overall, the respecified model was not substantially different from the hypothesised model. A detailed discussion on path relationships is presented in Chapter Seven.

The fit indices presented in Table 6.21 suggest that χ^2 , respective p (0.156), and χ^2/df (1.432) values were within the recommended limit. Other fit indices such as GFI (0.975), CFI (0.990), and TLI (0.976) were above the recommended cut off of 0.9 and SRMR (0.0473) and RMSEA (0.033) values were below 0.08. Therefore overall estimates of the respecified structural model suggested an adequate fit.

Figure 6.10: Respecified Structural Model

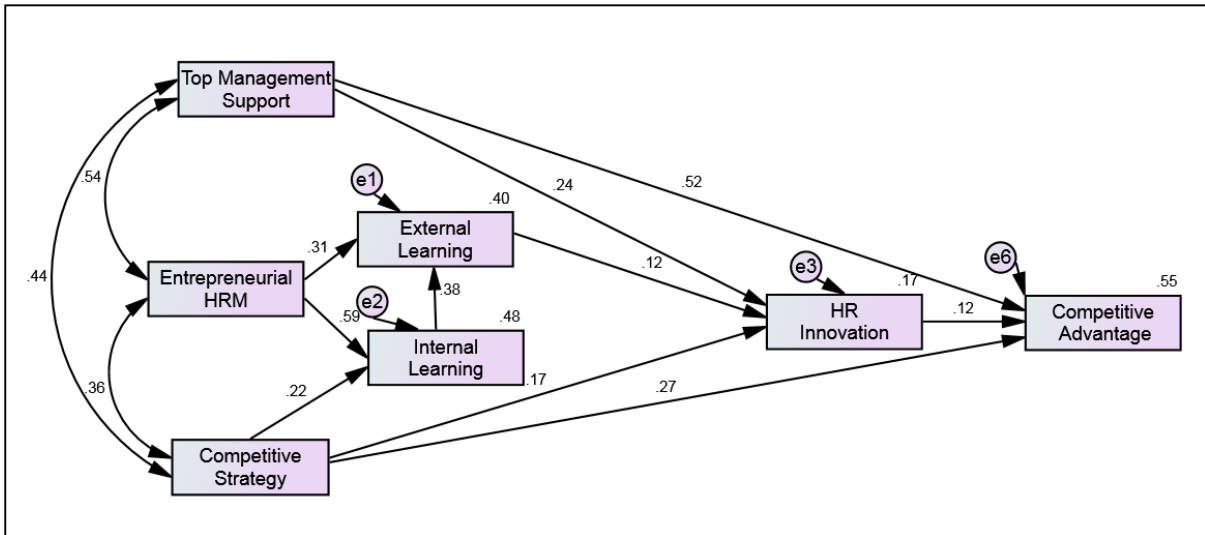


Table 6.21: Fit Indices of the Respecified Structural Model

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
34.377	0.156	1.432	0.976	0.990	0.976	0.0473	0.033

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

Effect of industry type – In order to estimate the influence of industry type on structural relationships specified above, the sample was grouped based on the industry type. The ‘Manufacturing’ group had 86 cases while the ‘Services’ group had 115 cases.

Table 6.22: Effect of Industry Type

			Manufacturing		Service		z-score
			Estimate	p	Estimate	p	
Int_Lrning	<---	Ent_HRM	0.645	0.000	0.602	0.000	-0.383
Int_Lrning	<---	Comp_Strgy	0.177	0.039	0.153	0.030	-0.220
Ext_Lrning	<---	Ent_HRM	0.463	0.000	0.218	0.019	-1.649
Ext_Lrning	<---	Int_Lrning	0.202	0.062	0.507	0.000	2.102**
HR_Innovation	<---	Ext_Lrning	0.126	0.243	0.187	0.037	0.435
HR_Innovation	<---	Top_Mgt_Sprt	0.287	0.006	0.315	0.000	0.201
Comp_Adv	<---	HR_Innovation	0.107	0.194	0.161	0.016	0.513
Comp_Adv	<---	Top_Mgt_Sprt	0.635	0.000	0.505	0.000	-1.162
Comp_Adv	<---	Comp_Strgy	0.182	0.029	0.229	0.000	0.438

Notes: *** p -value < 0.01; ** p -value < 0.05; * p -value < 0.10

The regression weights and pairwise critical ratios were examined to identify differences between the two groups. The results of the comparison presented in Table 6.22 suggested that the influence of internally-focused learning on externally-focused learning was significantly higher in service industry compared to manufacturing industry. Although differences in other relationships were not significant, overall the model fit was better in service industry compared to that of manufacturing industry.

6.9 Testing Hypotheses

The standardised β values presented in Table 6.23 suggested that entrepreneurial HRM has a large positive effect on internally-focused learning ($\beta = 0.583$), and therefore supported H1. The relationship between entrepreneurial HRM and externally-focused learning was indicated to be a positive moderate effect ($\beta = 0.311$), supporting H2. The direct relationship between internally-focused learning and HR innovation was not supported in the respecified model, and therefore H3 was rejected. H4 was supported as the relationship between externally-focused learning and HR innovation was positive and significant ($\beta = 0.122$). The revised model suggested a direct relationship between internally-focused learning and externally-focused learning ($\beta = 0.384$).

Table 6.23 – Path Estimates and Hypotheses Testing

Path Relationship	β value	Hypotheses	Supported/Rejected/ Partially Supported
Hypothesised Relationships			
Entrepreneurial HRM → Internally-focused Learning	0.586	(H1)	Supported
Entrepreneurial HRM → Externally-focused Learning	0.311	(H2)	Supported
Internally-focused Learning → HR Innovation	NS	(H3)	Rejected
Externally-focused Learning → HR Innovation	0.122	(H4)	Supported
Competitive Strategy → HR Innovation	0.175	(H5)	Partially Supported
HR Innovation → Competitive Advantage	0.123	(H6)	Supported
Top Management Support → HR Innovation	0.224	(H7)	Supported
TMS_x_HRI → Competitive Advantage	NS	(H8)	Rejected
Emergent Relationships			
Internally-focused Learning → Externally-focused Learning	0.384		
Competitive Strategy → Internally-focused Learning	0.216		
Competitive Strategy → Competitive Advantage	0.274		
Top Management Support → Competitive Advantage	0.518		

Note: NS indicates insignificant path relationships that were removed from the respecified model

Accordingly, internally-focused learning indicated an indirect relationship with HR innovation through externally-focused learning (discussed in detail in section 6.10). The direct relationship

between competitive strategy and HR innovation ($\beta = 0.175$), was supported. However, due to discriminant validity issues, detailed level analysis of different strategic focuses (*i.e.* differentiation and/or cost leadership) on HR innovation could not be tested. Hence, H5 was partially supported. Furthermore, HR innovation indicated positive, significant relationship with competitive advantage ($\beta = 0.123$) and therefore H6 was supported. The relationship between top management support and HR innovation ($\beta = 0.224$) was supported, thus H7 was supported. However, the hypothesised moderating role of top management support in the relationships between HR innovation and competitive advantage was not supported. Therefore, H8 was rejected. Moreover, both top management support ($\beta = 0.518$) and competitive strategy ($\beta = 0.274$) indicated significant positive relationships with competitive advantage.

Table 6.24: Coefficients of Determination - Respecified Structural Model (R^2)

Construct	Coefficient of Determination (R^2)
Internally-focused Learning	0.48
Externally-focused Learning	0.40
HR Innovation	0.17
Competitive Advantage	0.55

The Table 6.24 presents coefficient of determination or squared multiple correlations for endogenous constructs. Accordingly, the refined structural model could explain 48 per cent of the variance in internally-focused learning and 40 per cent variance in externally-focused learning. It could explain 55 per cent of the variance in competitive advantage. However, the model could explain only 17 per cent of the variance in HR innovation.

6.10 Indirect, Direct, and Total Effects

The path estimates presented earlier relates to direct relationships between constructs. However, the total effect on a construct is the sum of direct and indirect effects (Bollen, 1989, Hair et al., 2010). A direct effect links two constructs with one arrow, while an indirect effect involves a sequence of relationships with at least one intervening construct (Hair et al., 2010). The table 6.25 presents direct, indirect, and total effects of constructs. Overall, the total effects reinforced the direction of initially conceptualised relationships. However, all indirect effects except the indirect effect of entrepreneurial HRM on externally-focused learning (0.120) were below 0.10 and therefore may not have a significant influence on respective constructs.

Table 6.25: Direct, Indirect and Total Effects

	Entrepreneurial HRM	Competitive Strategy	Top Management Support	Internally-focused Learning	Externally-focused learning	HR Innovation
Internally-focused Learning						
Direct	0.574	0.234				
Indirect	0	0				
Total	0.574	0.234				
Externally-focused learning						
Direct	0.449	0		0.209		
Indirect	0.120	0.049		0		
Total	0.569	0.049		0.209		
HR Innovation						
Direct	0	0.162	0.235	0	0.084	
Indirect	0.048	0.04	0	0.018	0	
Total	0.048	0.166	0.235	0.018	0.084	
Competitive Advantage						
Direct	0	0.204	0.585	0	0	0.138
Indirect	0.005	0.016	0.022	0.002	0.008	0
Total	0.005	0.220	0.607	0.002	0.008	0.095

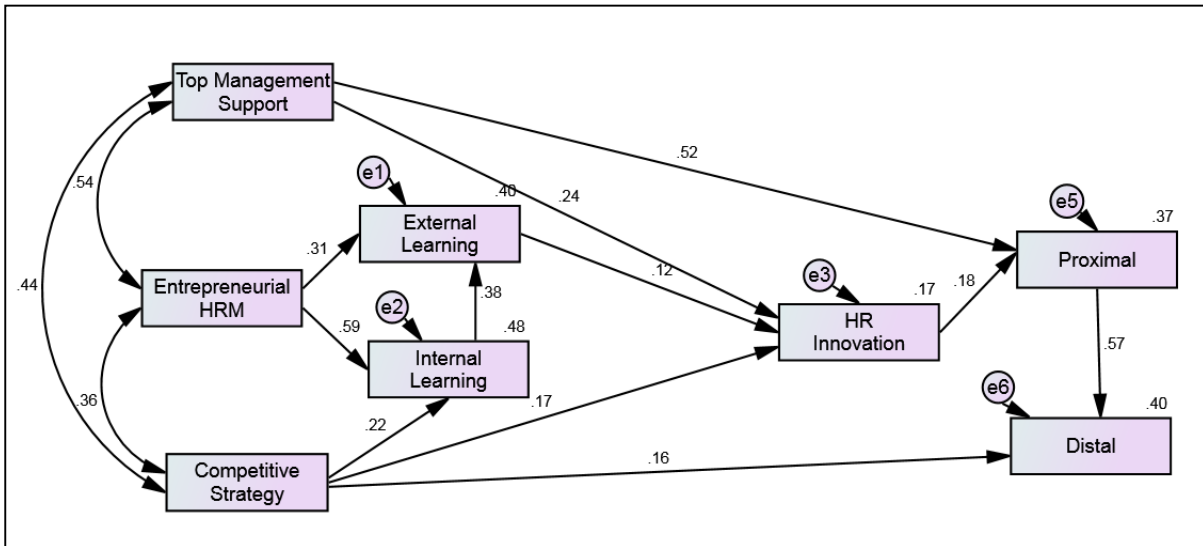
Furthermore, as discussed in Section 6.7.2, bootstrapping with bias-corrected confidence intervals method was used to test the mediation effect among variables. The analysis carried out with 2000 bootstrap samples and 95 percent bias-corrected confidence interval suggested that indirect (mediated) effect of entrepreneurial HRM on externally-focused learning was statistically significant (*i.e.* $p < 0.01$, lower - 0.047, upper - 0.200, and zero not included in the range). The indirect relationship could explain 49.9 percent of the relationship between the two variables, thus internally-focused learning was found to partially mediate the relationship between entrepreneurial HRM and externally-focused learning.

6.11 Competing Model

SEM can only assess if the hypothesised/ respecified model fits the data, but does not suggest if another model fits the data better or equally well (Hair et al., 2010). Therefore, it is recommended to identify and test competing models that represent different structural relationships (Hair et al., 2010). These competing models provide alternative formulations of underlying theory. Therefore this study revisited SHRM literature to identify alternative formulations for the relationship between HR innovation and competitive advantage. As discussed in previous chapters, the SHRM literature and qualitative evidence suggest that effective HR systems and practices lead to proximal,

attitudinal and behavioural outcomes (Huselid, 1995; Richard & Johnson, 2004), through which those influence organisational profitability and competitive position (Guest, 1997; Guest & Conway, 2011; Wright et al., 2005). Accordingly this study theorised that HR innovation influences proximal advantage through which it influences distal advantage. The estimates of the alternative structural model presented in Figure 6.11.

Figure 6.11: Competing Structural Model



The fit indices of the competing model presented in Table 6.26 suggest that χ^2 , respective p (0.49), and χ^2/df (1.768) values were within the recommended limit. Other fit indices such as GFI (0.966), CFI (0.978), and TLI (0.961) were above the recommended cut off of 0.9 and SRMR (0.059) and RMSEA (0.062) values were below 0.08. Therefore overall estimates of the competing structural model suggested an adequate fit.

Table 6.26: Fit Indices of the Competing Structural Model

χ^2	p^*	χ^2/df	GFI	CFI	TLI	SRMR	RMSEA
69.212	0.029	1.648	0.959	0.977	0.954	0.0564	0.040

Note: As the data was non-normal, Boolean-Stine p was reported (Bryne, 2001)

The next step was to evaluate the better fitting model based on the difference of Chi-squared test discussed in Part II of this chapter. The Chi-square difference between the two models was 34.835 (i.e. 69.212-34.377) with 18 (i.e.42-24) degrees of freedom and the respective p value was 0.01 (< 0.05). The difference between the respecified model and the competing model was significant (Hair

et al., 2010), therefore the competing model was a better approximation of the data than the respecified model.

The path estimate between HR innovation and primal advantage ($\beta = 0.18$) was slightly better than that of HR innovation and competitive advantage in the previous model ($\beta = 0.12$). The estimates for the relationship between top management support and proximal advantage ($\beta = 0.52$) was similar to that of top management support and competitive advantage in the previous model. Instead of the direct relationship between competitive strategy and competitive advantage ($\beta = 0.27$) in the previous model, a direct relationship between competitive strategy and distal advantages ($\beta = 0.16$) was supported in the competing structural model. As anticipated, proximal advantage had a strong positive relationship with distal advantage ($\beta = 0.57$).

Table 6.27: Coefficients of Determination - Competing Structural Model (R^2)

Construct	Coefficient of Determination (R^2)
Internally-focused Learning	0.48
Externally-focused Learning	0.46
HR Innovation	0.17
Proximal Advantage	0.37
Distal Advantage	0.40

As indicated in Table 6.27, the model could explain 37 percent and 40 percent of variation in proximal and distal advantages respectively. Although a direct relationship between HR innovation and distal advantage was tested, it was not supported in the competing model. The indirect (mediation) effect of HR innovation on distal advantage was 0.012 (i.e. $p < 0.01$, lower - 0.005, upper - 0.022, and zero not included in the range). Therefore, proximal advantage fully mediates the relationship between HR innovation and distal advantage. The theoretical implications of this structural model are discussed in detail in the next chapter.

6.12 Conclusion

This chapter focused on analysing the quantitative data. The chapter was structured in to three parts. Part I reported on the preliminary data analysis. Part II presented and discussed the estimation of measurement models for the key theoretical constructs in this study. In Part III, the structural model was estimated, hypotheses were tested, and a competing model was examined to identify the model that fits the data best. Overall, the hypothesised structural model was supported. The next chapter focuses on discussing the implications of these findings.

CHAPTER SEVEN: DISCUSSION AND CONCLUSION

7.1 Overview of the Research

The aim of this research was to examine the role of HR innovation in competitive advantage of Australian manufacturing and service firms. Specifically this research sought to answer the following research problem:

How do firms design and develop HR innovations and to what extent do such innovations support firms' competitive advantage?

In this context, the thesis was structured into seven chapters. Chapter One presented the background and justification of the research problem along with an outline of the thesis. The chapter provided the rationale for this research and established the significance of HR innovation in firm's competitive advantage. It reflected on the limited scholarly attention to HR innovation, compared to technical innovation. Despite evidence that HR innovation can support firm's competitive advantage (e.g. Barney & Wright, 1998, Wolfe, 1996; Wolfe et al., 2006), attention to identify antecedent factors of HR innovation and how those factors interact to support firm's competitive gains is limited. Overall, Chapter One highlighted the need for a well-founded conceptual framework that can be successfully operationalised to explain how firms design and develop HR innovation to support competitive advantage. The unavailability of an empirically founded body of knowledge on how firms design and implement HR innovation to gain competitive advantage has resulted in limitations in (a) practice - a significant heterogeneity among firms in the extent of HR innovation utilised for value creation, and (b) policy planning - limited attention to develop firm level policies to encourage HR innovation, in spite of the greater emphasis on innovation in government policy planning in Australia. This chapter concluded by setting the agenda to address this knowledge gap.

Chapter Two critically reviewed the literature relating to HR innovation and competitive advantage to identify knowledge gaps, and provided a justification for the research questions presented in Chapter One. Reviewing the innovation literature, this chapter highlighted the limited attention to non-technical innovation, particularly HR innovation, as a source of competitive advantage. It reflected on two streams of literature, namely, organisational learning approaches to innovation, and the dynamic capabilities view (DCV) of competitive strategy that have gained prominence as potential explanation of firm performance heterogeneity. However, these two complementary streams of literature have escaped empirical scrutiny in a HR innovation context. This chapter further highlighted the fragmented nature of extant literature in HR innovation-related competitive advantage. Overall, Chapter Two provided a basis for the development of the conceptual framework presented in Chapter Three.

Chapter Three provided a detailed discussion on the theoretical foundation on which the conceptual framework was built. Building on the DCV and organisational learning approaches to innovation, and drawing on the extant SHRM literature, the initial conceptual framework proposed that firms pursuing HR innovation should build and nurture a set of learning capabilities. These were conceptualised to be built and nurtured by entrepreneurial HR professionals who intend to use the new knowledge configurations acquired through learning capabilities to pursue greater HR innovation. A firm's competitive strategy and top management's support for HR innovation were suggested to influence the design and implementation of HR innovations. It was proposed that entrepreneurial HR professionals undertake both radical and incremental HR innovations, which directly relate to firm's competitive advantage. Overall, this chapter presented the initial conceptual framework of HR innovation-related competitive advantage and built on relationships mentioned above.

The discussion in Chapter Four examined the philosophical underpinnings of the research design and the research method. It justified the post-positivist standpoint taken by this research. Furthermore, it provided justification for the mixed-method approach, consisting of a qualitative and a quantitative study, adopted in this research. In addition to discussing the qualitative and quantitative studies in detail, this chapter described the procedure adopted to develop measures for the constructs in the conceptual framework and the survey instrument. This chapter concluded with a discussion on the ethical considerations governing this research.

Chapter Five described the qualitative data analysis. The chapter first presented profiles of the nine participant firms, followed by the basis of sampling, the data collection, and the data analysis processes. In an effort to refine the conceptual framework, this chapter then systematically compared the initially developed conceptual framework with emergent qualitative evidence. This process enabled confirmation of the key constructs and refinement of the suggested theoretical relationships between constructs. Simultaneously hypotheses were built incorporating both literature and case evidence. The chapter presented the refined conceptual framework, which was subsequently tested in a larger quantitative survey of HR firms.

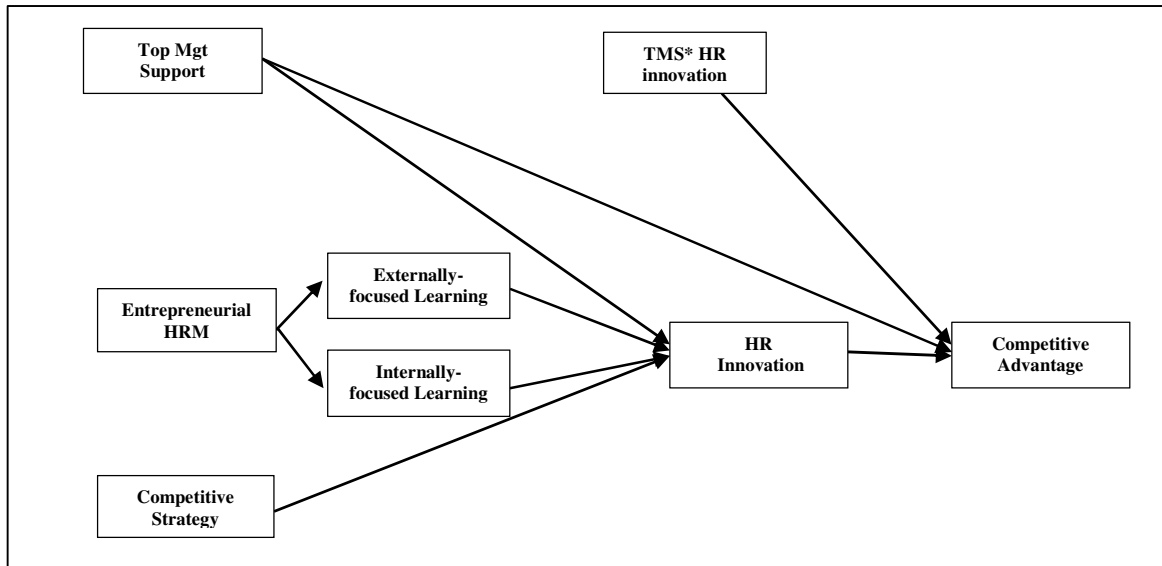
The results of the quantitative data analysis were presented in Chapter Six. Initially the discussion focused on preliminary data examination which included treatment of missing data, non-response bias, common method bias, and testing for assumptions of multivariate analysis. This chapter then presented the results of the two-stage model estimation where the estimation of measurement models was followed by the estimation of structural models. Overall, the chapter presented the results of model estimation indicating the extent to which data supported the hypothesised theoretical relationships, in detail.

This chapter, Chapter Seven, presents the discussion and conclusions of the hypotheses testing undertaken in Chapter Six, along with implications of the findings for theory, practice, and policy planning. The chapter concludes with a discussion of the limitations of this research and presents directions for future research.

7.2 Discussion on Research Hypotheses

This section presents the results of hypotheses testing. To improve the clarity of the discussion the conceptual framework that was used for the quantitative study is presented in Figure 7.1. Figure 7.2 indicates the paths that were supported and new paths suggested by the data analysis. Results of hypotheses testing are presented in Table 7.1, followed by a detailed discussion on the hypothesised relationships.

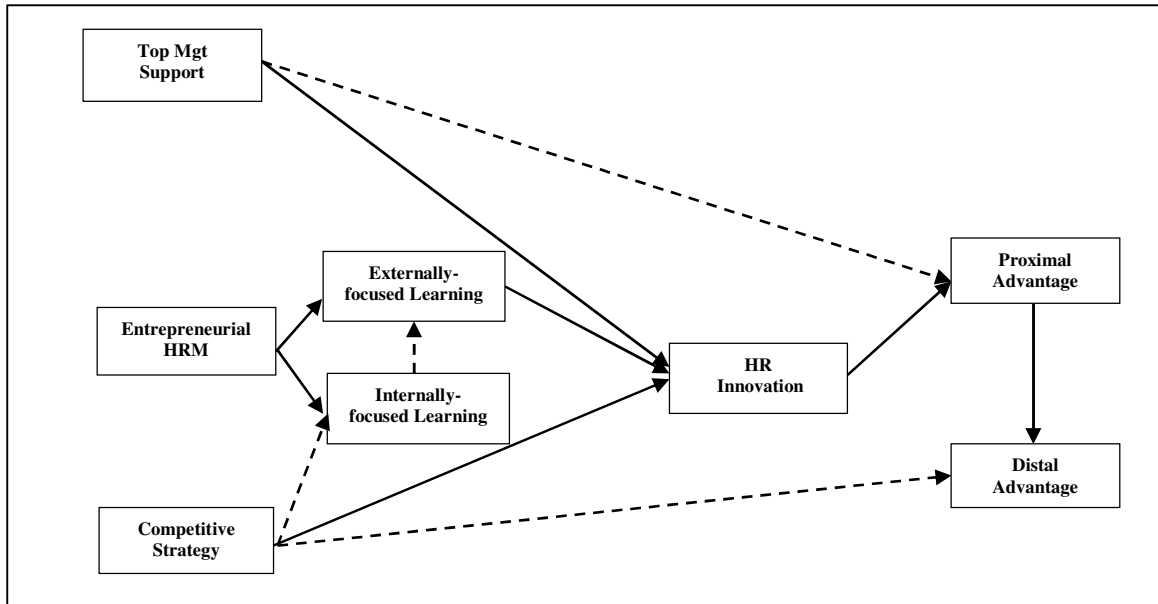
Figure 7.1: Conceptual Framework of HR Innovation-related Competitive Advantage



The conceptual framework that was used in the quantitative study theorised that firms pursuing HR innovation to support its competitive advantage are characterised by entrepreneurial HR professionals who build and nurture a set of internally and externally focused learning capabilities. The new knowledge resources acquired through these learning capabilities enable the HR professionals to design and implement HR innovations. While this process is influenced by the firm's competitive strategy, both radical and incremental HR innovations support firms gaining proximal (employee behavioural) and distal (firm-level performance) competitive advantage. Top management support influences the degree and the number of HR innovations implemented by a firm, and moderate the relationship between HR innovation and competitive advantage.

In general, the results of the data analysis supported the hypothesised relationships, explaining 37 percent of the variance of proximal advantages and 40 percent of the variance of distal advantages.

Figure 7.2: Conceptual Framework Emergent from Data Analysis



Note: Emergent relationships are presented in dotted arrows

7.2.1 Entrepreneurial HRM and Learning Capabilities

Table: 7.1: Results of Hypotheses Testing

Hypotheses		Supported/ Not Supported
H1	<i>Entrepreneurial HRM is positively related to internally-focused learning capability</i>	Supported
H2	<i>Entrepreneurial HRM is positively related to externally-focused learning capability</i>	Supported
H3	<i>Internally-focused learning capability is positively related to HR innovation</i>	Not Supported
H4	<i>Externally-focused learning capability is positively related to HR innovation</i>	Supported
H5	<i>A firm's competitive strategy is positively related to its HR innovation such that cost leadership focus has a stronger positive relationship with HR innovation compared to the relationship with differentiation focus and HR innovation</i>	Partially Supported
H6	<i>HR innovation (radical and incremental) is positively related to competitive advantage</i>	Supported
H7	<i>Top management support is positively related to HR innovation</i>	Supported
H8	<i>Top management support moderates the relationship between HR innovation and competitive advantage</i>	Not Supported

The relationships between entrepreneurial HRM and internally-focused (H1) and externally-focused (H2) learning capabilities were hypothesised to be positive. As indicated in Table 7.1, the data analysis supported these hypotheses. The findings suggest that the higher the intensity of entrepreneurial HRM demonstrated by HR professionals, the higher the HR functional-level learning will be. HR functional-level learning involves creating, extending and modifying knowledge from internal and external sources (Helfat et al., 2007). While the sampled firms build internal knowledge by seeking internal clients' feedback on HR practices, they extend and modify such knowledge resources by incorporating such feedback to improve existing HR practices and competencies. Similarly, they build externally focused knowledge resources by acquiring knowledge from external sources and constantly sharing such knowledge within the HR function. They extend and modify external knowledge by combining existing knowledge with new knowledge gained from external sources to improve HR practices, collaborating with other firms to develop industry best practices, and using such knowledge to predict future HR requirements. The positive relationship between entrepreneurial HRM and learning capabilities found in this research concurs the general understanding in extant literature (discussed in Chapter Two), in that entrepreneurial behaviour demonstrated by firm/key decision-makers can be a potential driver of dynamic capability building process (Teece et al., 1997; Weerawardena et al., 2007; Zahra et al., 2006). As noted earlier, the notion that entrepreneurial managers build and nurture learning capabilities has escaped empirical scrutiny in HR innovation context.

The emergent direct positive relationship between internally-focused learning and externally-focused learning indicated in Figure 7.2 concurs with absorptive capacity view (Cohen & Levinthal, 1990), suggesting that internally-focused learning undertaken correlates positively with the acquisition and assimilation of external knowledge (Cohen & Levinthal, 1990; Zollo & Winter, 2002). As a result of this direct relationship, internally-focused learning capability partially mediates the relationship between entrepreneurial HRM and externally-focused learning. This finding suggests that entrepreneurial HR professionals who intend to add value initially utilise internally-focused learning to proactively identify opportunities for HR value addition. Having identified such opportunities, they undertake systematic and more specific knowledge acquisitions from external sources to enhance HR value addition. What is implied here is that entrepreneurial HR professionals effectively utilise firm's knowledge resources by focusing on specific, requirement-driven knowledge acquisition from external sources, but not just latest HR fads. Overall, the above findings advance the existing knowledge on entrepreneurship and learning capabilities in HR innovation context.

7.2.2 Learning Capabilities and HR Innovation

H3, which hypothesised a positive relationship between internally-focused learning capability and HR innovation, was found to be insignificant and therefore not supported. This departs from the past literature particularly from the product innovation literature that assign a dominant role to R&D-based internal learning and innovation (Weerawardena et al., 2007) and some evidence from SHRM literature that suggests HR professionals utilise multiple types of internal knowledge in their value-adding strategies (Barney & Wright, 1998; Ulrich, 1997; Ulrich et al., 2013). In addition, externally-focused learning capability was tested for mediating the relationship between internally-focused learning capability and HR innovation, and found to be insignificant. Therefore, internally-focused learning capability was not found to directly or indirectly relate to HR innovation in sampled firms.

Externally-focused learning capability was found to positively relate to HR innovation, thus as indicated in Table 7.1, H4 was supported. This concurs with past literature on non-technical innovation that suggests participation in external organisational networks and communication with prior adopters (Damanpour & Schneider, 2006; Kimberly & Evanisko, 1981), and previous work experience, and professional and educational qualification of managers involved in innovation (Damanpour & Schneider, 2006), are significant predictors of non-technical innovation. This relationship was found to be stronger in non-technical innovations compared to its technical counterpart (Damanpour & Schneider, 2006).

As noted above although the hypothesised relationship between internally-focused learning and HR innovation was not supported the results suggest that internal learning directly relate to externally-focused learning capability. This suggests that the extent of internal knowledge acquired from internal stakeholders or internal customers (operational level HR needs, feedback on HR practices) will require HR professionals to look for solutions from their external networks.

A probable explanation for the relationship between HR innovation and learning capabilities found in this study is that firms in the external network of a firm are likely to have already experienced similar HR issues and may have made efforts to address those. Therefore, a firm can learn from successes and/or failures of firms in its external network. Such learning, in addition to providing new knowledge resources required for HR innovation, will better assist HR professionals in convincing internal stakeholders. The literature suggests HR professionals' inability to convince internal stakeholders as one of the key reasons for their limited attention to HR innovations (e.g. Barney & Wright, 1998). Overall, the findings suggest that HR functional-level learning, from external sources in particular, positively relates to HR innovation, an area that has escaped empirical attention in extant literature.

7.2.3 Firm's Competitive Strategy and HR Innovation

As indicated in Table 7.1, H5 has two parts. The first part focuses on the relationship between firm's competitive strategy and HR innovation. The second part focuses on the relationship between competitive strategic focus (cost leadership, differentiation, or both) and the associated degree and the number of HR innovations implemented. The analysis found a positive relationship between firm's competitive strategy and HR innovation, and therefore first part of H5 was supported. However, the hypothesised difference in the degree and number of HR innovations implemented based on the degree of cost-leadership or differentiation focus of the firm, could not be tested. Although cost-leadership focus and differentiation focus were conceptualised as two dimensions of firm's competitive strategy (Gopalakrishna & Subramanian, 2001; Proff, 2000), these two dimensions reported poor discriminant validity. Therefore, a higher order composite construct was used in subsequent analysis, which resulted towards limitations in testing the second part of H5. Overall, as indicated in Table 7.1, the findings partially support H5 suggesting that the higher the degree of competitive strategic focus (differentiation, cost-leadership, or both) of the firm, the higher the degree and number of HR innovations implemented.

Interestingly, results suggested two new paths from competitive strategy construct that were not originally envisaged. First, it was found that firm's competitive strategy positively relates to internally-focused learning capability such that the higher the firm's competitive strategic focus, the higher the degree of internally-focused learning at HR functional-level. This coincides with the general consensus in the competitive strategy literature suggesting that firm's strategic focus partly depends on its internal resources and capabilities. As discussed in Chapter Three, the behavioural view of HR strategy (Arthur, 1994; Becker & Huselid, 2006; Huselid, 1995) suggests that successful implementation of competitive strategy requires a firm to create/maintain a unique set of HR practices eliciting a unique set of employee behaviours and attitudes. A higher degree of competitive strategic focus demands HR professionals to better understand the ways in which HR strategies should be aligned with its competitive strategy, and hence resulting in a higher degree on internally-focused learning. Second, concurring with competitive strategy literature (Gopalakrishna & Subramanian, 2001; Porter, 1980; 1985; 1990; Proff, 2000), it was found to have a positive relationship with firm's competitive strategic focus and its competitive gains. Overall, these findings advance the understanding of the relationship between firm's competitive strategy and functional-level innovation and learning, in HR innovation context.

7.2.4 HR Innovation and Competitive Advantage

The analysis found a positive relationship with HR innovation and competitive advantage and therefore, as indicated in Table 7.1, H6 was supported. In addition, and as indicated in Figure 7.2,

HR innovation was found to positively relate to proximal advantages such that the higher the degree and number of HR innovations implemented, the higher the proximal advantages. Furthermore, proximal advantages fully mediated the relationship between HR innovation and distal advantages. This concurs with SHRM literature suggesting that effective HR systems and practices lead to proximal, attitudinal and behavioural outcomes (Huselid, 1995; Richard & Johnson, 2004), which in turn influence organisational profitability and competitive position (Guest, 1997; Guest & Conway, 2011; Wright et al., 2005).

In addition, the analysis generally supported the notion that both radical and HR innovations relate to competitive advantage. As radical and incremental innovations in each type of HR practices were captured together, the explicit distinction between the two during quantitative data analysis was not possible.

7.2.5 The Role of Top Management Support

The direct positive relationship between top management support and HR innovation was supported by the quantitative study. The finding suggest that the higher the top management's support in terms of resources, recognition and autonomy for HR function, the higher the degree and the number of HR innovations implemented and therefore, as indicated in Table 7.1, H7 was supported. As discussed earlier, this positive relationship concurs with SHRM literature (Bowen & Ostroff, 2004; Elenkov & Manev, 2005; Taylor et al., 1996; Wright et al., 2001).

However, the moderating role of top management support in the relationship between HR innovation and competitive advantage was found to be insignificant. Therefore, as indicated in Table 7.1, H8 was not supported. Instead, a direct positive relationship between top management support and proximal advantages emerged during data analysis assigning a stronger role for top management support in effective implementation of HR innovations. This finding coincides with SHRM literature suggesting that top management support improves the effectiveness of HR change (Elenkov & Manev, 2005) and therefore results in improved HR outcomes. Overall, the findings of this research advance SHRM literature on the importance of top management support for design and effective implementation of HR innovation.

7.3 Conclusion about the Research Problem

As indicated at the beginning of the chapter, this research sought to develop a well-founded conceptual framework that can be successfully operationalised to explain, *How do firms design and develop HR innovations and to what extent do such innovations support firms' competitive advantage?* This research problem was expanded using four research questions.

With a view to address these research questions, a conceptual framework of HR innovation-related competitive advantage was proposed from which several testable hypotheses were generated. The initial conceptual framework was refined based on qualitative evidence. The refined framework and hypotheses were tested subsequently in a quantitative study. The findings of the quantitative analysis in general provided support for the hypotheses. As mentioned earlier, out of the eight hypotheses, five were supported, One was partially supported, and only two were not supported. In the light of the above, this section examines if the findings of this research have addressed the research questions.

RQ 1 - *What are the antecedent factors that facilitate HR innovation?* - The findings suggest that firms characterised by entrepreneurial HRM build and nurture a set of learning capabilities. These learning capabilities, externally-focused learning in particular, provide HR functions with new knowledge resources required for HR innovation. Firm's competitive strategy and top management support significantly contributes to the number and degree of HR innovations implemented by firms. In the light of these findings, HR functional-level learning capabilities, firm's competitive strategy and top management support are considered to be antecedent factors that facilitate HR innovation. Overall, the findings have addressed RQ1.

RQ 2 - *What are the strategic behaviours demonstrated by HR professionals when pursuing HR innovation?*- As mentioned earlier, the findings suggest that firms characterised by HR managers who intend to add value through HR innovation demonstrates innovative, proactive, risk-management, and consensus-seeking behaviour in their strategic decision making. These behavioural dimensions are consistent with entrepreneurial behaviour. Therefore, drawing on the findings, this research concludes that HR professionals demonstrate entrepreneurial behaviour when pursuing HR innovation.

RQ 3 - *Do both radical and incremental HR innovations support competitive advantage?* HR innovation was found to be a significant predictor of competitive advantage. Although outcomes of radical and incremental innovations could not be differentiated in quantitative analysis, the qualitative analysis provided multiple examples of incremental innovations that had assisted firms to outperform their competitors. Interestingly, qualitative findings suggested that continuous incremental innovations have a substantial effect on firm's performance outcomes. Due to the lower resource allocation, risk, and resistance associated with incremental innovations compared to its radical counterpart, HR professionals were found to undertake continuous incremental HR innovation to make innovation a part of firm's culture. Overall, drawing from qualitative and

quantitative findings, it can be concluded that both radical and incremental HR innovations support firm's competitive advantage.

RQ 4 - *To what extent do HR innovations support firm's competitive advantage?* HR innovation was found to be a significant predictor of proximal advantages. It was found that HR innovation, along with top management support could explain 37 percent of the variation in proximal advantages. Proximal advantages along with firm's competitive strategy could explain 40 percent of the variation in distal advantages.

Overall, the findings support the premise on which this research is based, in that firms characterised by entrepreneurial HRM build and nurture a set of learning capabilities. The new knowledge resources acquired from those learning capabilities, along with firm's competitive strategy and top management support, assists HR professionals in design and implementation of HR innovations that support firm's competitive advantage. The contribution of the findings of this research to advancement of theory is discussed next.

7.4 Implications for Theory

Revisiting the knowledge gaps within the focal research problem, the literature review revealed that extant literature on HR innovation and competitive advantage are limited and fragmented. First, despite general consensus in the innovation literature that both technical and non-technical innovation enables firms to outperform competitors, the literature focusing on non-technical innovation, HR innovation in particular, is limited (Hailey et al., 2005; Hamel, 2006). Second, although organisational learning capabilities have emerged as an antecedent for innovation and competitive advantage (O'Cass & Weerawardena, 2010; Porter, 1990; Sinkula, 1994; Sinkula et al., 1997), those have escaped empirical scrutiny in HR innovation context. Third, while SHRM literature that recognises the importance of HRM related competitive advantage has grown in significance (e.g. Barney & Wright, 1998; Carrig, 1997; Chang et al., 2011), the literature focusing on ways in which HR professionals design and develop HR innovations to support competitive advantage is limited and fragmented. Overall, the literature highlights the need for a conceptual framework that can be successfully operationalised to explain how firms design and develop HR innovations to support competitive advantage.

This research attempted to address the aforementioned knowledge gaps by developing and testing a conceptual framework of HR innovation-related competitive advantage. The proposed framework conceptualised and operationalised key theoretical constructs and relationships that explain the pursuit of HR innovation and competitive advantage. The findings of this research

contribute to theory by advancing the knowledge on HR innovation and competitive advantage. The following section first discusses the contribution of the findings to SHRM literature, the arena in which the HR innovation-competitive advantage link has received primary attention. Next, it discusses implications of the findings to several streams of literature which provided the conceptual foundation for this research.

7.4.1 Contribution to SHRM Theory

The findings of this research make several contributions to SHRM theory. First, this research identifies the antecedents of HR innovation and the nature of their interaction in designing and developing HR innovation. As noted earlier, although the SHRM literature in a limited way has identified HR innovation as a driver or facilitator of firm's competitive advantage process (e.g. Barney & Wright, 1998; Becker & Huselid, 2006; Wolfe, 1995; Wolfe et al., 2006), the literature has primarily focused on types and outcomes of HR innovation. In a theoretical advancement, this research examined the antecedent factors that facilitate HR innovation and how those factors interact to create HR innovation-related competitive advantage.

Second, extant empirical studies on HR innovation primarily focus on radical innovations and their outcomes (e.g. Barney & Wright, 1998; Wolfe, 1995; Wolfe et al., 2006). The role of incremental HR innovations on firm performance and/or competitive advantage has received scant attention. As discussed in Chapter Two, the innovation literature in general suggests that many firms pursue incremental innovations, which over a period will have a substantial effect on performance outcomes (Davenport, 1993). Similarly, the findings, qualitative findings in particular, suggest that incremental HR innovations can support competitive advantage. Advancing the knowledge on HR innovation-competitive advantage link, the findings suggest that multiple incremental HR innovations together or continuous incremental HR innovations over a period of time have created substantial improvements in innovation outcomes at relatively lower levels of resistance to change compared to its radical counterpart.

Third, despite the wide recognition of the role HR professionals play in HR value creation process (e.g. Barney & Wright, 1998; Wolfe, 1995; Wolfe et al., 2006; Ulrich & Beatty, 2001; Ulrich & Brockbank, 2005), how they create such value, in particular develop and deploy knowledge resources to create value adding HR strategies, has received limited empirical attention. As noted earlier, the broader entrepreneurship literature that has primarily evolved within manufacturing contexts suggests that firms pursuing innovation display three characteristics in their strategic decision-making, namely, innovativeness, pro-activeness and risk-taking (Covin & Slevin, 1991; Shane & Venkataraman, 2000; Zahra et al., 2006). This discussion has escaped empirical scrutiny in HR innovation context. In a novel conceptualisation aimed at capturing HR functional-

level entrepreneurship, based on the findings of qualitative phase, the above dimensions were strengthened by adding a consensus-seeking dimension. This additional dimension captures the need for HR professionals to have a greater rapport and involvement with internal stakeholders in HR decision process. This novel conceptualisation advances both entrepreneurship and SHRM literature.

Fourth, drawing from literature on SHRM, dynamic capabilities, and organisational learning approaches to innovation, this research developed and tested a conceptual framework that captures the key constructs impacting on HR innovation-related competitive advantage, namely, HR functional-level entrepreneurship, learning capabilities, HR innovation, firm's competitive strategy, top management support, and competitive advantage. The framework proposes that firms characterised by entrepreneurial HRM build and nurture externally and internally focused learning capabilities. These capabilities provide HR professionals with new knowledge resources to effect value adding HR changes and in turn gain competitive advantage. A firm's competitive strategy and top management support plays a significant role in the above process. A well-founded framework clearly explaining how firms design and develop HR innovation to support competitive advantage is a long felt need in SHRM literature (e.g. Becker & Huselid, 2006), and thus contribute to theoretical advancement of SHRM literature. As discussed in Chapter Three, the approach adopted to develop the conceptual framework conforms to criteria for building concise and testable models in social sciences (Bacharach, 1989; Christensen & Sundahl, 2001; Doty & Glick, 1994; Keats & Bracker, 1988; Whetten, 1989) in that it incorporates the constructs that exerts the greatest influence on the phenomena under investigation (*i.e.* HR innovation-related competitive advantage).

7.4.2 Contribution to Entrepreneurship Theory

The manner in which the entrepreneurship construct was conceptualised and incorporated in the framework contributes to both SHRM and entrepreneurship literature. Although entrepreneurial process can take place at multiple levels, including individual, team, unit, firm, inter-organisational, network, industry or even country level (Luke, Verreynne, & Kearins, 2007; Shane & Venkataraman, 2000), the existing literature has primarily focused on entrepreneurship at individual or firm/top management levels (e.g. Covin & Slevin, 1989; Lumpkin & Dess, 1996), neglecting entrepreneurship at functional-level in general (R&D function being the only exception) or the HR function specifically. As discussed earlier, this research sought to examine the role of HR innovation in a firm's competitive advantage. This necessitated setting the unit of analysis as the HR function-level, where HR innovation initiatives occur. This departure from existing research opened up opportunities to explore many HR functional-level constructs related to innovation and competitive advantage including entrepreneurship.

As mentioned above, in a novel conceptualisation of HR functional-level entrepreneurship, the conventional behavioural entrepreneurship construct (Covin & Slevin, 1986; 1989; Naman & Slevin, 1993) was strengthened with an additional dimension of ‘consensus-seeking’. The consensus-seeking dimension facilitated capturing the unique nature of entrepreneurship in a HR functional context. This is the first known attempt to conceptualise HR functional-level entrepreneurship as a distinctive construct. This finding in addition to advancing behavioural entrepreneurship theory will encourage researchers to explore appropriateness of the conventional entrepreneurship construct to fully capture entrepreneurship in multiple levels and contexts.

7.4.3 Contribution to Dynamic Capabilities View and Organisational Learning Theory

Although organisational learning has been identified as an essential prerequisite for innovation and value creation (O’Cass & Weerawardena, 2010; Senge, 1990; Slater & Narver, 1995; Sinkula, 1994), its application to explain HR innovation-related competitive advantage is limited. This research examined the knowledge routines that HR professionals bring into the HR function from multiple external and internal sources, which constituted the building blocks of HR functional-level learning capabilities. For this purpose the dynamic capabilities view (DCV) that has gained prominence in the competitive strategy literature as a viable explanation of superior firm performance, was adopted. The DCV suggests that firm’s dynamic capabilities enable it to create new knowledge, resource combinations, and operational capabilities, and thereby provide a platform for innovation and competitive advantage (Eisenhardt & Martin, 2000; Teece et al., 1997). However, similar to learning capabilities, DCV has escaped empirical investigation in HR innovation context. This research therefore is the first known attempt to adopt DCV and learning capabilities to explain how HR professionals deploy resources to create and adopt new knowledge resources for HR value creation. These findings deepen the understanding of the relationship between learning capabilities, HR innovation, and competitive advantage.

7.4.4 Contribution to Innovation Theory

The findings reveal that HR innovation is a viable source of, or support for, firm’s competitive advantage. Although innovation has long been identified as a vital source of competitive advantage, the innovation literature primarily focuses on technical innovations. The efforts to identify the role of non-technical innovations, HR innovation in particular, are limited and fragmented (Hailey et al., 2005; Hamel, 2006) and therefore theories developed in technical innovation context are adopted across all types of innovations (Damanpour & Aravind, 2011). The findings revealed the antecedents, process, and outcomes of HR innovation are substantially different from its technical counterparts. For instance, as mentioned earlier, it was found that entrepreneurship in HR

innovation context is unique and different from conventional entrepreneurship observed in technical innovation context. Similarly, although new knowledge resources acquired from both internal and external sources have found to contribute to technical innovation, at least in Australian manufacturing and service firm context the knowledge from external sources alone was found to significantly relate to HR innovation. Furthermore, unlike technical innovation context, top management support was found to be a significant contributor towards design and effective implementation of HR innovations. In contrast to firm-level outcomes associated with technical innovations, HR innovation was found to directly relate to employee behavioural outcomes. These finding in addition to advancing the understanding of HR innovation will encourage future research to explore innovation in different contexts.

7.4.5 Conceptualisation and Operationalisation of Key Constructs

A major contribution of this research is the conceptualisation and development of measures for the theoretical constructs proposed in the conceptual framework. As indicated in Chapter Four, out of the seven constructs included in the conceptual framework, two constructs (*i.e.* firm's competitive strategy, and competitive advantage) had pre-tested measures that could be suitably adapted to the context of this research. The remaining five constructs, entrepreneurial HRM, internally-focused learning capability, externally-focused learning capability, HR innovation, and top management support, required developing new measures. These contributions are discussed below:

Entrepreneurial HRM – As mentioned above, entrepreneurial HRM construct was operationalised as unique to HR context, adding a consensus-seeking dimension. This is a novel approach that has not been attempted in previous research. This operationalisation therefore contributes to SHRM and entrepreneurship literature by developing and validating a measure to capture the distinct nature of entrepreneurship in HR innovation context.

Learning capabilities – The measurement of internally and externally focused learning capabilities was grounded in the DCV literature that captures key processes of dynamic capabilities namely, create, extend, and modify (Helfat et al., 2007). This operationalisation allowed capturing detailed activities associated with learning in HR functional context and therefore contributes to SHRM and learning capabilities literature.

HR innovation – With a view to address measurement misspecifications in extant literature (Diamantopoulos & Siguaw, 2006; MacCallum & Browne, 1993), this research conceptualised HR innovation as a formative construct. Therefore, HR innovation construct was conceptualised to be

caused by innovations in different HR practices which are not interchangeable and/or may not necessarily co-vary with each other. This construct captured the degree and number of innovations undertaken in six different types of HR practices namely, recruitment and selection, training and development, performance management, compensation and rewards, organisation design, and internal communication (Ulrich & Brockbank, 2005; Ulrich & Lake, 1990). Developing and validating this novel conceptualisation of HR innovation construct contributes to the SHRM and innovation literature, and also to the measure development literature, by providing a detailed example of estimating a formative measurement model.

Top management support - This construct was conceptualised to capture top management support in terms of recognition, autonomy, and resource allocation for HR function. Although these factors have been identified to be important components of top management support in extant SHRM literature (e.g. Bowen & Ostroff, 2004; Elenkov & Manev, 2005; Taylor et al., 1996; Wright et al., 2001), there is no known attempt to develop and validate a unified measure to capture top management support. This measure addressed the aforementioned gap in SHRM literature.

7.5 Implications for Practice

As discussed earlier, this research is the first known attempt to develop a well-founded framework of HR innovation-related competitive advantage. Therefore, the findings, subject to the limitations of this research, will have important implications for HR practitioners and guide HR professionals in undertaking innovation.

The research in the recent past has paid increased attention to enhancing the usefulness and relevance of academic research to practice (e.g. Ulrich et al., 2013; Mowday, 1997). According to Shrivastava (1987), the usefulness of academic research for practice depends on its ability to facilitate informed, evidence-based decision making, and thereby promote action within organisations. This research adopts Shrivastava's (1987) five criteria for evaluating usefulness of research (built on Thomas and Tymon (1982)) discussed below.

Meaningfulness - Evaluates if the research is understandable and if it adequately captures organisational reality. Implementing a systematic approach to develop the conceptual framework, this research attempted to capture the most important constructs that exert the greatest influence on HR innovation and competitive advantage. In addition to using qualitative data, the key constructs and the relationships among them were refined and appropriately adapted to match the context of this research. Therefore, the proposed conceptual framework and the findings in this research conform to the meaningfulness criterion.

Goal relevance - Examines if the key constructs used in the framework contains performance indicators that are relevant to managerial goals. The constructs chosen in the proposed framework relates to competitive advantage, an important goal pursued by Australian firms.

Operational validity - Refers to the extent to which the results have clear action implications that can be implemented using causal variables of the proposed conceptual framework. The findings of this research suggest that firms undertaking HR innovation are characterised by entrepreneurial HR professionals who build and nurture learning capabilities. The new knowledge acquired through these capabilities, along with firm's competitive strategy and top management support drives design and implementation of HR innovation. HR innovation results in proximal advantages through which it influences firm's distal advantages. These findings are operationally valid and actionable by Australian manufacturing and service firms.

Innovativeness – Evaluates if the research provides novel, non-obvious insights into practical problems. This research provides new understanding by validating constructs and relationships in HR innovation-related competitive advantage context. The operationalisation of the conceptual framework revealed new relationships that are of practical relevance.

Cost of implementation - Evaluates if the solutions suggested by the research are feasible based on its costs and timelines. HR innovation in general involves less capital investments compared to its technical counterparts. In addition, the findings of this research suggest that the benefits of implementing HR innovation far outweigh its implementation costs. Overall, the finding of this research conforms to practical usefulness criteria and therefore provides a feasible path for practitioners to gain HR innovation-related competitive advantage.

Having established broader value of this research to practitioners, the following section discusses the specific implications which will provide a feasible guide to firms pursuing/intending to undertake HR innovation to support superior firm performance.

HR Innovation and Competitive Advantage

HR innovations were found to range in terms of their *type* (recruitment and selection, training and development, performance management, compensation and reward, internal communication, and organizational design) and *degree of change* (incremental or radical). HR innovations led to both *proximal outcomes* (improvements in attraction, commitment, engagement, and retention of

employees) and *distal outcomes* (improvements in productivity, market performance, and financial gains). Interestingly, all HR innovations delivered positive outcomes. In addition, the advantage gained over complex HR innovation was found to be not easily imitated by competitors.

Moreover, the qualitative findings suggested that many firms pursued incremental innovations, which over a period resulted in substantial effects on performance outcomes (Davenport, 1993). By engaging in continuous and incremental innovation HR professionals were found to not only minimize risks, but also make innovation a part of firm's culture. The findings further suggested that benefits associated with HR innovation can far outweigh its implementation cost. As mentioned earlier, HR innovation often involves less investment compared to its technical counterparts. Given that Australian businesses who innovate are 78 percent more likely to gain productivity improvements compared to those who did not innovate (AISR, 2012), HR innovation can be a good stepping stone towards other types of innovation. Overall, the findings of this research suggest that at a time when firms strive for competitiveness, HR innovation can serve as a non-traditional, but a vital source of competitive advantage.

New Knowledge Resources as a Prerequisite for HR Innovation

HR professionals can only pursue new HR initiatives if they have new knowledge to do so (Ulrich & Brockbank, 2005). For this, they must build and develop externally-focused and internally-focused learning capabilities. They must not only acquire knowledge but also reconfigure it to suit the purposes at hand. This is achieved through three core activities associated with dynamic capabilities, namely, *creation*, *extension* and *modification* of knowledge. Learning from internal sources plays a critical role in developing a sound understanding of firm's HR requirements and aligning HR innovations with firm requirements. Similarly, they engage in externally-focused learning activities to keep abreast of changes in HR practices in other firms and to choose innovative ideas. Learning from external environment was found to significantly influence HR innovation in Australian manufacturing and service firm context.

However, the findings suggest that HR professionals must maintain an appropriate balance of sources of learning. An overemphasis of one source will not only hinder innovations, but also lead to wastage of their firm's efforts and resources. For instance, too much focus on external learning will lead to acquisition of new knowledge for which the HR function may not yet be ready to absorb. Similarly, an over-emphasis on learning from internal sources will result in knowledge obsolescence. How HR professionals can best use and leverage their knowledge resources in a distinctive process is a critical determinant of heterogeneity of advantage across firms. Overall, the findings of this research provide a useful guide for HR professionals in utilising HR functional-level knowledge resources for competitive advantage.

The Role of HR Entrepreneurship

Findings suggest that firms pursuing HR innovation must adopt an entrepreneurial posture in their strategic decisions. HR innovations are enacted by entrepreneurial HR managers who display *pro-active, innovative, risk-management, and consensus-seeking* behaviour in their strategic decision making. The findings of this research suggest that entrepreneurial HR managers continually seek opportunities for performing HR practices in innovative ways. This opportunity-seeking behaviour is supported by their long-term orientation and tendency to manage the possible risks associated with the proposed changes. Furthermore, prior to implementation of HR innovations, entrepreneurial HR professionals seek consensus of internal stakeholders by constantly communicating with them and involving them in HR innovation process. Once the HR innovation implementation decision is made, entrepreneurial HR professionals are found to provide ongoing implementation support. Overall, the findings emphasise that, pursuing HR innovation requires the HR professionals to adopt an entrepreneurial posture, which constitutes pro-active, innovative, risk-management, and consensus-seeking behaviour, in their strategic decisions.

Top management support

As the findings suggest, HR innovation is an inclusive process which requires input and consensus from line management and recognition from the top management. HR innovations in general and radical HR innovations involving substantial changes to established practices and procedures in particular, encounter higher degree of resistance (Wolfe, 1995). As revealed by qualitative findings, such resistance can be minimized through involvement of and constant reliable communication with relevant stakeholders (e.g. line managers, unions, employees) in the new HR practice design and development stage. Most importantly, top management support is found to create consensus among internal stakeholder regarding HR initiatives, which is a vital prerequisite for the success of such initiatives.

When embarking on new initiatives HR professionals must convince the top management of the potential business gains of the proposed HR innovation. If HR innovation is not clearly linked to business requirements and/or HR function has not delivered promised results in the past, getting top management support can be increasingly challenging. Therefore, HR professionals intend undertaking HR innovation should not only clearly understand business requirements from the perspectives of its multiple stakeholders, but also create realistic expectations of innovation outcomes and consistently deliver what they have promised.

Firm's competitive strategy and HR innovation

The findings of this research suggest that firm's competitive strategy influences HR innovation. The successful implementation of competitive strategy requires a firm to create/maintain an exceptional set of HR practices eliciting a unique set of employee behaviours and attitudes. Therefore, firm's competitive strategy guides the HR function to develop the required competencies or to manage the overall change resulting from the strategic move. The economic conditions within which firms operate today demands HR professional to move beyond their conventional role of managing basic HR functions to act strategically and in anticipation of future (Brockbank, 1999).

Contrary to the general understanding that investments in new HR practices negatively relates to a cost-leadership focus and positively relates to a differentiation focus (Michie & Sheehan, 2005), this study found both cost-leadership and differentiation foci to positively relate to investments in new HR practices. Interestingly, HR innovations associated with differentiation focus were mainly aimed at improving effectiveness of HR outcomes (e.g. performance-based pay, improved training and development), while HR innovations associated with a cost-leadership focus were primarily aimed at improving efficiency of HR outcomes (e.g. standardising HR practices, training to minimise wastages). HR innovation is an opportunity for value addition in terms of providing differentiated products/services or improving productivity (minimising wastages).

Overall, the HR profession has often been criticised for having self-doubt, repeatedly re-evaluating HR's role, value and competencies, and being unable to convince internal stakeholders on the importance of HR functions (Barney & Wright, 1998; Ulrich et al., 2013). The emergent conceptual framework, subjected to limitations discussed in Section 7.7, provides informed insights. It will also serve as a useful guide for practitioners in adopting HR innovation in their firms' efforts to outperform competitors. Understanding prerequisites for HR innovation, in particular the new knowledge resources needed for innovative HR initiatives will assist HR professionals to adopt an entrepreneurial posture in their strategic decisions, choose appropriate and synergistic learning mechanisms to foster and nurture innovation, and implement HR innovation to bring in competitive gains to the firm.

7.6 Implications for Policy Planning

The absence of a well-founded body of knowledge has hindered government policy planners to develop policies stimulating HR innovations which will support the overall government aim of encouraging innovation-based competitiveness of the Australian industry. As indicated in Chapter One, compared internationally Australian organisations face cost disadvantages, and quality and service advantages are rapidly eroding (AIM, 2013). Therefore, innovation has become central to economic development in Australia (AIM, 2013; Culter, 2008). Highlighting the importance of

innovation in economic policy planning, Senator Kim Carr (2008) stated *'In today's economy, innovation is industry policy'*. Encouragingly, the percentage of innovation-active businesses reached its recorded highest value of 46.6 percent in 2011–12 (AISR, 2013).

Although innovation is widespread, 'occurring every day in the way business enterprises operate, meet the needs of customers, organise their people and processes' (Cutler, 2008:17), it is often seen synonymous with science and technological advancements in government policy in particular. Australia's national innovation system (NIS) is disproportionately focusing on science and technology as opposed to other types of innovation (Dodgson, Hughes, Foster, & Metcalfe, 2011). This is surprising given the fact that only 30 percent of major innovating firms (as defined by Australian Bureau of Statistics) undertake formal research and development (R&D) activities (Cutler, 2008). Furthermore, the formal R&D investment accounts only for one third of total investments in innovations in Australian firms (Cutler, 2008). The non-technical aspects of business innovation have been a vital source of productivity growth and competitive advantage (Cutler, 2008). Given the heightened attention in government policy planning for science and technology (technical) innovations, this highlights the need to strengthen policy planning efforts directed at non-technical innovations.

Irrespective of innovation type, a firm's HR is identified to be critical for its innovation performance (AISR 2013; Cutler, 2008). Highlighting the importance of HR in firm's innovation process, Cutler (2008:17) states:

"...high quality human capital is critical to innovation. Equipping our people with the skills to innovate is essential, not only for the generation and application of new knowledge, but also to use and adapt the knowledge produced elsewhere."

The ability of the firm's HR function to acquire, develop, engage, and retain the right talent and creating an innovation supportive culture, therefore plays a significant role in firm's innovation performance (AISR, 2012; 2013). As suggested by Cutler (2008):

"...innovative enterprises and innovative workplaces are inextricably intertwined. Australia's innovation policy must act on the twin goals of both investing adequately in our people and their skills and in making our business enterprises the best they can be — innovative, globally competitive and sustainable."

Concurring with the above, the findings of this research suggest that innovations in HR practices of a firm can significantly support its competitive advantage. In addition, this research provides detailed understanding of how HR innovation can be used to attain aforementioned goals. As mentioned earlier, the findings suggest that HR functional-level entrepreneurship drives learning

capabilities which provide new knowledge resources required for HR innovation. The top management support was found to be a significant predictor of successful design and implementation of HR innovation. However, as mentioned earlier, government policy planning pays limited attention to non-technical areas including HR innovation. As per the findings of this research, government policy level initiatives to encourage HR functional-level entrepreneurship and learning, and top management support, will have significant impact in improving firm-level innovation and competitive performance. Overall, the findings of this research will provide valuable insights to policy planning aimed at improving firm competitiveness.

7.7 Limitations

This research is the first known attempt to conceptualise the HR innovation-related competitive advantage process. However, some limitations should be noted pertaining to generalizability, research design, and the key informants used.

7.7.1 Generalizability

This research is based on medium to large manufacturing and service firms operating in Australia. This choice was necessitated by the requirement for the availability of a dedicated HR department and a senior HR position. According to AISR (2013) the size of the firm positively relates to its innovation investments. Although the finding of this research suggests that the firm size has no significant relationship with its HR innovation, caution needs to be exercised when generalising these findings to smaller firms, especially those without dedicated HR functions/departments.

In addition this research is based on empirical evidence from Australian firms. As the setting for the findings are limited to one cultural setting, Australia, the findings may have limitations in their applicability in different cultural settings. In addition, as mentioned earlier, innovation is a high priority in economic development in Australia, which may influence innovation efforts of firms. As such, caution needs to be exercised in applying these findings in different cultural settings.

7.7.2 Research Design

The cross-sectional nature of the research design limits the extent to which causal inference can be drawn from the data (Guest, 2011). Scholars have also criticised the possibility of capturing dynamic capabilities in a cross-sectional study. The learning capability based HR innovation, which is central to this study, is likely to be enhanced with the continuous use of learning (Grant, 1991); thus the study reflects dynamism. In addition, the study evidence was based on events in history (e.g., HR innovation), (retrospective reporting) which may be subject to recall bias. However, over

the recent years there have been several studies examining dynamic capabilities using cross-sectional designs (e.g. Morgan, Kaleka & Katsikeas 2004; Weerawardena et al., 2014; 2007).

Similarly, the majority of HRM and firm performance related research are cross-sectional (Boselie et al., 2005; Combs et al., 2006; Guest, 2011). However, longitudinal studies on HRM and firm performance shows that the significance of HRM's impact on firm performance ceases to exist when controlled for past performance (e.g. Wright et al., 2005). Therefore, SHRM literature emphasises the need for longitudinal studies (Combs et al., 2006; Guest, 2011) that draw clear causal inferences of HRM, in evaluating the effect size of HRM on firm performance in particular. Hence it is advised to test the conceptual framework in a longitudinal study.

7.7.3 Key Informants

As discussed in Section 4.5, data collection from a single-source/respondent, the approach frequently used in HRM and firm performance research (Boselie et al., 2005; Combs et al., 2006), is however criticised for its perceptual bias and noise raising reliability issues (Boselie et al., 2005; Gerhart et al., 2000; Guest, 2011; Purcell, 1999). For instance, a senior HR professional, in a large firm in particular, may not be able to provide accurate information about local practice, in terms of whether practices are implemented or whether they are effective (Guest, 2011). Furthermore, there is a general assumption that HR professionals give invariably high ratings of HR practices or their department compared to other stakeholders. However, Tsui's (1990) findings and the multiple respondent reliability values obtained by some studies report the responses of multiple respondents to be similar (e.g. Guest & Convey, 2011; Lepak & Snell, 2002).

Single respondent approach has advantages of (a) reduced strain on the research budget and therefore can improve the sample size, and (b) having a relatively higher rate of participation (Lyon et al., 2000). Consequently, considering aforementioned pros and cons of single respondent approach as well as time and resource constrains associated with this research, the single informant approach was opted for in this research. As discussed in Section 6.2.6, Harman's single factor tests (Podsakoff et al., 2003) was carried out to assess the common method bias and found common method variance was not a likely explanation for the results in this study. However, future research is advised to consider multiple informants/sources in data collection.

7.8 Directions for Future Research

The limitations indicated above provide important directions for future research. First, future research can build on the findings of the current research by validating the conceptual framework in different settings. For instance, the findings suggested that HR functional-level learning is higher in service firms compared to manufacturing firms. In addition, the overall model fit was better in

service setting than in manufacturing setting. Therefore, future research can validate the framework in different industries. In addition, as mentioned earlier the study is based on empirical data from medium to larger Australian firms. Future research can improve the generalizability of the framework by validating it in smaller firms and also in different cultural contexts.

Second, as mentioned in Section 7.4.5 this research develops five HR-functional level measures (*i.e.* entrepreneurial HRM, internally and externally focused learning capabilities, HR innovation, top management support) and adapt two measures to HR innovation context (*i.e.* firm's competitive strategy and competitive advantage). While this promotes future research to develop contextual measures, the new measures developed in the current research can be validated in different contextual setting. Developing a formative measure for HR innovation in particular will assist future research in addressing model misspecifications.

Finally, this research captured HR innovation of a firm as a whole (average main effect), and capturing the variation of HR innovations among different employment categories (*e.g.* strategic and non-strategic jobs) was not the focus of this research (Huselid & Becker, 2011). Given that firms invest disproportionately across employment categories, future research can focus on understanding how HR innovations differ across employment categories and the impact of such practices on proximal and distal outcomes. Since the process through which firms implement differentiated workforce strategies is not well understood (Becker, Huselid, & Beatty, 2009), this would require illustrative longitudinal case studies (Siggelkov, 2007).

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APPENDIX A: INTERVIEW PROTOCOL

INTERVIEW PROTOCOL

Study on Human Resource Innovation and Competitive Advantage

Thank you very much for consenting to take part in this interview. I am Upamali Amarakoon, and am undertaking PhD research at the University of Queensland Business School. This research study intends to develop a deeper understanding of the role of the Human Resource (HR) innovation in overall strategic direction and performance of your organisation. The information you provide will contribute significantly to the outcomes of this research and your participation will be greatly appreciated. The findings of this study will facilitate designing innovative HR strategies to support organisational competitive advantage.

Your responses will be kept confidential and you or the organisation will not be identified in any form. You may choose not to answer any question(s) or withdraw at any time.

The interview should take about an hour. I will be audio recording the interview to avoid missing any of your valuable comments. I will send you a full transcript of this interview for your comments before it is used for analysis, at which point you will have the opportunity to review your comments.

Are you happy for me to start recording the interview?

Background questions

I would like to ask some general information about your organisation

1. What is the nature of business of this organisation (e.g. product and services offered)?
2. a.) How do you compete in the market? Can you please give examples?
b.) Does that mean that you identify your competitive strategy to be differentiating or being cost effective or focusing on niches?
3. How many employees do you have? How many employees are there in the HR department?
4. a.) What is the structure of the HR department?
b.) How is HR represented at strategic level?
5. What are the key functions in your HR department?

Let's talk about you

6. How long have you been with this organisation? What is your title or designation (*if not known yet*)?
7. How long have you been working in HR? Tell me more about your background (in terms of educational and/or professional qualifications and previous work experience)?

Can we talk about the innovations that have taken place in your organisation?

8. a.) What do you think are the innovations that have taken place in your organisation in the recent past?
 - b.) Where did the idea come from?
 - c.) Why were those adopted? How important was it?
 - d.) What were the objectives of those innovations?
9. Compared to initial objectives, what do you think of the outcomes?
10. Do you think of anything that could have been done differently? Why?

Let's talk about HR function and innovation

11. What role did the HR department play in the innovations mentioned above? Please elaborate.
12. a.) Did you implement any changes in any of the HR practices recently? Why? Give examples.
 - b.) Are those modifications to existing practices or newly introduced to your organisation?
 - c.) Who were affected by the practices introduced (entire organisation or selected employees)?
13. Do you have any other practices implemented differently among different employee groups? If so, why is that? What is the basis of differentiation?
14. The changes introduced to one or more HR practices of an organisation create inconsistencies among its HR practices in general.
 - a.) How was it in your organisation?
 - b.) How did you handle it?
15. What were the key challenges you had? How did you handle it?
16. What was your role in the whole process of implementation of HR changes?

Let's discuss the outcomes of these changes in more detail

17. Compared to initial objectives, what do you think of the outcomes of above mentioned HR changes?
18. a.) According to your perception, how did those HR changes affect the organisational bottom-line?
- b.) What do you think is the impact on non-financial indicators (absenteeism, turnover, productivity, market share, customer satisfaction)?

Can we focus on the support the HR department receives from various stakeholders in the organisation?

19. How did other departments react to the changes introduced by HR? What do you think are the reasons *(if not answered earlier)*?
20. How did the top management respond? What do you think are the reasons? *(if not answered earlier)*
21. Do you think of anything that could have been done differently? Why?

I would like to know more about how you got the required knowledge for HR functionality

22. a.) How do you choose the HR practices for your organisation? From where do you get the knowledge?
- b.) What is the involvement of HR staff in the above processes?
23. Do you consider HR staff to be learning from the external environment? Why? Any examples?
24. Do you consider HR staff to be learning from the internal environment? Why? Please elaborate.
25. How do you utilize knowledge and learning acquired by HR staff? Is it a frequent formal process or done as and when required? Please elaborate with examples.

Let me ask your general opinion on the role of the HR innovation

26. In your opinion, can HR innovation (i.e. changes you introduce to HR practices) support your organisation to compete better?

27. Is there anything you would like HR to do differently to support your organisation to compete better in future? Why?
28. Is there anything more you would like to add?

Thank you very much for your time and support. As I mentioned earlier, I'll send you a copy of your interview transcript for your comments. After finishing the interviews the data collected from all organisations taking part in this study will be analysed and a report compiled. I am happy to send you a copy of that for your reference, if you are interested.

APPENDIX B: EXPERT EVALUATION OF THE SURVEY QUESTIONNAIRE

EXPERT EVALUATION OF THE SURVEY QUESTIONNAIRE

Research Title: The Role of Human Resource Innovation in Competitive Advantage of Australian Firms

I am a PhD candidate of The University of Queensland Business School. My research seeks to examine how firms gain competitive advantage through human resource (HR) innovation in the Australian manufacturing and service firm context.

The purpose of this letter is to seek your views on the measurement items that I have developed, based on literature and findings from a preliminary qualitative study. Your comments will assist me in my effort to develop well-founded scales to measure the constructs: *entrepreneurial HR management, externally-focused learning, internally-focused learning, top management support, firm's competitive strategy, HR innovation, and competitive advantage*. The construct definitions and proposed measure items are provided below.

Having identified you as an expert in this field, I would request you to comment on the suitability of the suggested measure items to capture each of the intended constructs. I estimate that the completion of this form will take around 30 minutes. If you have any further questions or comments, please email or call me.

Your consent to support this phase of my study and provide detailed feedback is much appreciated.

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Section 1: Entrepreneurial HR Management

Definition: A behavioural orientation in which the human resource professionals of a firm, collectively display innovativeness, pro-activeness, risk taking, and consensus seeking in their strategic decision-making.

Please pick (✖) the appropriate response based on how well each item represents the given dimension. Your comments are highly appreciated.

Scale – 5 point Likert scale ranging from ‘Strongly disagree’ to ‘Strongly agree’

In general, HR professionals of our organisation	Source	Clearly representative	Somewhat representative	Not representative	Comments
Pro-activeness – forward looking perspective in seeking opportunities for HR value addition					
1. Actively invest in developing a comprehensive understanding of future HR requirements of the organisation	Qualitative findings				
2. Seek out opportunities to introduce new HR practices that add business value	Ulrich & Brockbank, 2005				
3. Always try to understand how external realities (e.g. technology, economic, and demographic changes) affect our industry and business	Ulrich & Brockbank, 2005				
4. Typically initiate unique HR strategies to which other organisations respond	Covin & Slevin, 1989				
Innovativeness – willingness to innovate to affect opportunities for HR value addition					
5. Believe in introducing new HR practices as a way of adding business value	Qualitative findings				
6. Actively explore new HR practices that add business value	Covin & Slevin, 1989				
7. Passionately commit to introduce new HR practices that address business requirements	Lumpkin & Dess, 1996				
8. Frequently introduce new HR practices and/or change existing HR practices	Covin & Slevin, 1989				
Risk assessing – willingness to try out new HR practices with uncertain outcomes					
9. Typically introduce HR changes in areas where we have little past experience	Qualitative findings				
10. Have a strong proclivity for high risk HR initiatives with chances of very high returns	Covin & Slevin, 1989				
11. Develop an understanding of possible implementation failures before implementing new HR practices	Qualitative findings				
12. Owing to the nature of changes happening in our industry, bold, wide ranging acts are necessary to achieve HR objectives	Covin & Slevin, 1989				
Consensus seeking – seek for agreement among key internal clients likely to be affected by new HR practices					
13. Maintain strong relationships with internal clients (e.g. operational managers and employees) based on respect and confidence	Ulrich & Brockbank, 2005				
14. Extensively communicate (written and oral) with internal clients before introducing HR changes	Ulrich & Brockbank, 2005				

In general, HR professionals of our organisation	Source	Clearly representative	Somewhat representative	Not representative	Comments
15. Frequently involve internal clients in designing and introducing HR changes	Qualitative findings				
16. Always emphasise the importance of feedback from internal clients when designing and implementing new HR practices	Qualitative findings				
Any other suggestions					

Section 2: Learning from Internal Sources

Definition - *The capacity of HR professionals to collectively create, extend, and modify knowledge acquired through internal sources to address changing business requirements of the firm through HRM.*

Scale – 5 point Likert scale ranging from ‘Strongly disagree’ to ‘Strongly agree’

HR professionals of our organisation collectively	Source	Clearly representative	Somewhat representative	Not representative	Comments
Create – generate new knowledge resources from internal sources					
1. Gathered knowledge from direct interactions with internal clients	Adopted from Weerawardena, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
2. Sought constant feedback on HR practices					
3. Often introduced changes to one unit/section, before extending them to the whole organisation					
4. Maintained a consistent flow of information with internal clients					
Extend – apply new knowledge from internal sources to existing knowledge resources					
5. Incorporated feedback from internal clients to improve existing HR practices	Adopted from Weerawardena, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
6. Used learning from success/failure of implemented HR practices to improve existing HR practices					
7. Incorporated feedback from internal clients to improve competencies of HR professionals					
8. Had regular meetings/discussions within the HR function to share information collected from internal clients					

HR professionals of our organisation <i>collectively</i>	Source	Clearly representative	Somewhat representative	Not representative	Comments
Modify – Develop new knowledge configurations					
9. Combined existing knowledge with new learning from success/failure of HR practices to develop new HR practices	Adopted from Weerawardena, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
10. Recombined existing knowledge in new ways to develop new HR practices					
11. Rearranged underutilized knowledge resources (people and equipment) to strategically important areas					
12. Transformed knowledge generated for one purpose into multiple other purposes when improving existing HR practices					
Any other suggestions					

Section 3: Learning from External Sources

Definition - *The capacity of HR professionals to collectively create, extend, and modify knowledge acquired through external sources to address changing business requirements of the firm through HRM.*

Scale – 5 point Likert scale ranging from ‘*Strongly disagree*’ to ‘*Strongly agree*’

HR professionals of our organisation <i>collectively</i>	Source	Clearly representative	Somewhat representative	Not representative	Comments
Create - generate new knowledge resources from external sources					
1. Gathered knowledge through links with external agencies (e.g. industry associations, professional bodies)	Adopted from Weerawardena, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
2. Acquired knowledge through formal education (e.g. university degree) and professional training/qualifications					
3. Recruited HR professionals with a wide array of previous work experience					
4. Had put in place mechanisms to constantly acquire knowledge from various external sources					
Extend - apply new knowledge from external sources to existing knowledge resources					
5. Integrated knowledge acquired from previous work experience to improve existing HR practices					
6. Improved existing HR practices after benchmarking against organisations with the best HR outcomes					

HR professionals of our organisation collectively	Source	Clearly representative	Somewhat representative	Not representative	Comments
7. Constantly shared knowledge, acquired from various external sources through regular meetings within the HR function	Adopted from Weerawardena a, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
8. Used learning from various external sources to improve competencies of HR professionals					
9. Integrated knowledge from external sources to improve existing information flows and practices					
Modify – Develop new knowledge configurations					
10. Updated existing knowledge with the knowledge acquired from links with external agencies	Adopted from Weerawardena, 2003 and qualitative findings; Supported by Helfat et al., 2007; Helfat & Peteraf, 2009; Teece et al., 1997; Teece, 2007				
11. Transformed knowledge acquired from external sources to match the requirements of our organisation					
12. Constantly reassessed and improved HR practices to match changing external conditions (e.g. changing labour market conditions, legislative framework)					
13. Used collaborative learning arrangements with other organisations in the same industry to advance current knowledge and practices (e.g. formulating industry best practices)					
14. Used the knowledge from external sources to anticipate future HR requirements					
Any other suggestions					

Section 4: Top Management Support

Definition – *The degree of autonomy, resources, and explicit recognition extended by the top management towards effective implementation of HR innovation(s).*

Scale – 5 point Likert scale ranging from ‘*Strongly disagree*’ to ‘*Strongly agree*’

In our organisation	Source	Clearly representative	Somewhat representative	Not representative	Comments
1. HR function is represented in the top management team	Qualitative findings				
2. The top-most HR professional directly reports to the CEO	Qualitative findings				

In our organisation	Source	Clearly representative	Somewhat representative	Not representative	Comments
3. When formulating organisational strategies top management consults HR professionals	Qualitative findings				
4. When planned HRM changes require input from top management, HR function has the opportunity to discuss or present these changes to top management	Qualitative findings				
5. HR function is allocated required resources for the implementation of planned HRM practices	Taylor et al.,1996				
6. HR function has substantial autonomy in designing strategically important HRM changes	Taylor et al.,1996				
7. Top management has confidence in HR professionals' ability to effect value adding HRM changes	Qualitative findings				
8. When HRM practices that have organisation-wide implications are introduced, the top management openly endorses these in their communications	Taylor et al.,1996				
Any other suggestions					

Section 5: Firm's Competitive Strategy

Definition - *Deliberate and strategic focus on specific activities in a firm's value chain to achieve positional (cost and/or differentiation) advantages.*

Scale – 5 point Likert scale ranging from 'Strongly disagree' to 'Strongly agree'

Over the last three years our organisation	Source	Clearly representative	Somewhat representative	Not representative	Comments	
Cost leadership						
1. Focused on minimising operational costs	Adopted from Pertusa-Ortega, Molina-Azria, & Claver-Cortes, 2010 - originally adopted from Beal, 2000; Miller, 1988;1997					
2. Tried to strategically achieve lower costs compared to competitors						
3. Extensively sought opportunities to achieve economies of scale						
4. Extensively sought opportunities to improve productivity leading to cost advantages						
Differentiation						
5. Tried to be ahead of competitors by introducing unique product/service features						
6. Tried to be ahead of competition in the quality of product/service						

Over the last three years our organisation		Clearly representative	Somewhat representative	Not representative	Comments
7. Focused on improving our product/service delivery speed					
8. Focused on improving our distribution channels					
9. Used intensive marketing communication to highlight our unique product/service features to targeted customers					
10. Offered complementary services to enhance market offering					
Any other suggestions					

Section 6: HR Innovation

Definition - *New idea adopted in a firm's HR practices with an intention to directly/indirectly add value to the adopting firm.*

Scale – 5 point Likert scale; range for each item is provided within brackets.

HR innovations undertaken by our organisation over the past three years	Source	Clearly representative	Somewhat representative	Not representative	Comments
Recruitment and selection Examples may include (but are not limited to): (a) new sources of recruitment, (b) implementing a new selection method	Ulrich & Brockbank, 2005				
1. The number of innovations in recruitment and selection practices of our organisation were (<i>few – many</i>)					
2. The degree of newness of those recruitment and selection practices introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
3. The degree of value the new recruitment and selection practices added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
4. Of those new recruitment and selection practices implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				
Training and development Examples may include (but are not limited to): (a) new method for training employees, (b) introducing new training programmes, and (c) introducing career paths for employees	Ulrich & Brockbank, 2005				
5. The number of innovations in training and development practices of our organisation were (<i>few – many</i>)					
6. The degree of newness of those training and development practices introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
7. The degree of value the new training and development practices added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
8. Of those new training and development practices implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				
Performance management Examples may include (but are not limited to): (a) introducing a balanced score card, (b) introducing a new performance evaluation	Ulrich & Brockbank, 2005				

method					
9. The number of innovations in performance management practices of our organisation were (<i>few – many</i>)					
10. The degree of newness of those performance management practices introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
11. The degree of value the new performance management practices added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
12. Of those new performance management practices implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				
Compensation and reward Examples may include (but are not limited to): (a) new compensation schemes, (b) benchmarking with industry rates	Ulrich & Brockbank, 2005				
13. The number of innovations in compensation and reward practices of our organisation were (<i>few – many</i>)					
14. The degree of newness of those compensation and reward practices introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
15. The degree of value the new compensation and reward practices added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
16. Of those new compensation and reward practices implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				
Internal communication Examples may include (but are not limited to): (a) introducing new communication channels, (b) new communication methods	Ulrich & Brockbank, 2005				
17. The number of innovations in internal communication practices of our organisation were, (<i>few – many</i>)					
18. The degree of newness of the new internal communication practices introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
19. The degree of value the new internal communication practices added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
20. Of those new internal communication practices implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				
Organisational design Examples may include (but are not limited to): (a) designing new job roles, (b) organisational restructurings	Ulrich & Brockbank, 2005				
21. The number of innovations in our organisational design were, (<i>few – many</i>)					
22. The degree of newness of those new organisational designs introduced has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
23. The degree of value the new organisational designs added to our organisation has been mainly, (<i>incremental – radical</i>)	Damanpour, 1991; Wolfe, 1995				
24. Of those new organisational designs implemented, the degree of consistency between planned and implemented practices has been mainly, (<i>not consistent at all – very consistent</i>)	Becker & Huselid, 2006				

Section 7: Competitive Advantage

Definition - Superior proximal and distal HR performance of the firm compared to those of its closest competitor(s).

Scale- 5 point Likert scale ranging from 'Highly dissatisfied' to 'Highly satisfied'

Compared to our closest competitor, our organisation over the last <i>three years</i>	Source	Clearly representative	Somewhat representative	Not representative	Comments
Proximal outcomes - HR outcomes compared to that of the closest competitor					
1. Attracted essential employees	Delaney & Huselid, 1996				
2. Retained essential employees	Delaney & Huselid, 1996				
3. Improved employee engagement	Qualitative findings				
4. Improved relationships between management and other employees	Delaney & Huselid, 1996				
5. Improved relationships among employees in general	Delaney & Huselid, 1996				
Distal outcomes - firm level outcomes compared to that of the closest competitor					
1. Improved overall productivity	Guest & Conway, 2011				
2. Improved quality of products and services	Guest & Conway, 2011				
3. Growth in sales	Delaney & Huselid, 1996				
4. Growth in profitability	Delaney & Huselid, 1996				
5. Improved the overall competitive position of the organisation	Qualitative findings				
Any other suggestions					

APPENDIX C: SURVEY INSTRUMENT

[Date]



UQ Business School
Academic Dean and Head of School
 Professor Andrew Griffiths

[Title] [First] [Last]

[Job Title]

[Company]

[Address 1] [Address 2]

[Suburb] [State] [Postcode]

Dear [First],

Can firms compete better with HR Innovation?

Human resource (HR) innovation is often suggested as a source of sustained competitive advantage. Although many firms invest heavily in HR innovation to outperform their rivals, the link between HR innovation and firm performance is not clearly understood. Some of the questions that need answering are; what is the role of HR professionals? What capabilities are needed to be built and nurtured? How does the competitive strategy of the organisation interplay with HR innovation? How does HR innovation enable firms to compete better?

A study launched by the UQ Business School intends addressing these issues. After extensive interviews with senior HR managers, we have developed the attached survey. We invite you to participate in this survey which will take less than 15 minutes. The feedback received at the pilot testing stage indicates that the survey questions will serve as a platform for constructive internal management discussion.

We request you to return the completed survey in the reply paid envelope provided. Alternatively, if you wish to complete the survey online it is available at <http://tinyurl.com/HRInnovation2013>.

The findings of this study will provide valuable insights to firms such as yours as well as inform government policy. We will provide a summary of results to interested participants. For any clarification please feel free to contact me or the project coordinator, Upamali Amarakoon (Phone: +61 4 3054 1044; Email: u.amarakoon@business.uq.edu.au).

Sincerely,

A handwritten signature in black ink, appearing to read 'Jay Weerawardena'.

Dr Jay Weerawardena,

Associate Professor of Strategic Marketing

Project Advisor

Phone: 07 3346 8093, Email: j.weerawardena@business.uq.edu.au

Study on HR innovation and competitive advantage

Purpose of study

This research project conducted by The University of Queensland Business School seeks to examine how firms gain competitive advantage through human resource (HR) innovation.

Benefits of study

The findings of this study will improve our understanding on how firms can effectively use HR innovation to outperform competitors. In addition to providing valuable insights to firms such as yours in designing innovative HR practices, the findings will contribute to Strategic Human Resource Management (SHRM) theory and inform government policy aimed at facilitating greater firm-level innovativeness.

Confidentiality of Information

Information you provide will be treated confidentially – you and your firm will **NOT** be identified as an information source. The data collected will be stored secured in a de-identified manner. Information provided will only be used for the purpose of this study.

Consent and voluntary participation

Completion of the survey will be deemed to be consent to participate. Participation in this survey is voluntary. Participants are under no obligation to participate and may withdraw at any time.

Ethical considerations

This study adheres to the guidelines of the ethical review process of The University of Queensland. While you are welcome to discuss your participation in this study with the project staff (contact information given below), if you would like to speak to an officer of the University not involved in this study, you may contact the University's Ethics Officer on 07 3365 3924.

Contact details of the project team

Project Coordinator	e-mail	Phone
Upamali Amarakoon	<i>u.amarakoon@business.uq.edu.au</i>	04 3054 1044
Project Advisers		
Assoc. Prof. Jay Weerawardena	<i>j.weerawardena@business.uq.edu.au</i>	07 3346 8093
Dr. Martie-Louise Verreynne	<i>m.verreynne@business.uq.edu.au</i>	07 3346 8160

We appreciate your support for this study. The project team highly values your feedback and contribution.



CONFIDENTIAL

Please complete ALL questions

[Barcode]
[Record no]

We sincerely appreciate your assistance

Project Coordinator: **Upamali Amarakoon**

Project Advisers: **Associate Professor Jay Weerawardena**

Dr. Martie-Louise Verreyne

Instructions for respondents

- ✓ This survey should be completed by a **senior human resource professional** (e.g. HR manager, Senior HR Manager, General Manager HR, Director HR, Vice President HR)
- ✓ **This survey can be completed in two ways:**
 - **Mail:** Complete the survey and mail it in the reply paid envelope provided
 - **On line:** Complete the survey on <http://tinyurl.com/HRInnovation2013>

SECTION 1: ORGANISATIONAL AND RESPONDENT PROFILE

1. Our organisation started operating in Australia in (year)

2. Our organisation has full time equivalent employees in Australia.

3. In our HR function we have full time equivalent employees.

4. Our organisation is

Public company

Wholly foreign-owned subsidiary

Domestic private firm

Other:

5. We operate in the industry.

Accommodation, food, beverage

Construction

Communication

Electricity, gas, water

Finance, insurance

Health and community services

Mining

Manufacturing

Other:

6. In terms of the competitive position, our organisation is the:

Market leader (*having the highest market share*)

Market challenger (*challenging the market leader; second highest market share*)

Market follower

Niche marketer (*targeting a specific segment*)

7. Approximately our average annual turnover over the last three years is

< \$2million

\$2million - \$20million

\$20million - \$100million

> \$100million

8. The general perception towards introducing change in our organisation is

Not
supportive at all

₁

₂

₃

₄

₅

Very
supportive

9. I have been working as a HR professional for years (*including your employment with other organisations*).

10. I have been working for my current organisation for years.

11. How involved are you in strategically important HRM decision making within your organisation?

Little
involvement

₁

₂

₃

₄

₅

Heavy
involvement

SECTION 2: HR MANAGERIAL PROFILE

The following statements assess the **collective** management style of **HR function** of your organisation. Please pick (✕) the response that best reflects the extent to which your HR professionals collectively undertake the following.

In general, our HR function/department:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. Attempts to develop a comprehensive understanding of future HR requirements of the organisation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. Views introduction of new HR practices as a way of adding business value	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Tries to understand how external realities (<i>e.g. technology, economic, and demographic changes</i>) affect our industry and business	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Is willing to introduce new HR practices that address business requirements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Explores new HR practices that add business value	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Looks for opportunities to introduce new HR practices that add business value	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Emphasises building competencies of HR professionals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. Is open to introducing HR changes in areas where we have little past experience	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. Consults internal clients (<i>e.g. functional managers, unions, etc.</i>) in designing and introducing HR changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10. Maintains relationships with other functional managers based on respect and confidence	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11. Assesses possible implementation failures before implementing new HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
12. Discusses with relevant functional managers before introducing HR changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
13. Has a tendency to look for high risk HR initiatives with chances of high returns	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 3: LEARNING FROM INTERNAL SOURCES

The following statements assess the manner in which the **HR function** of your organisation **collectively** gathers and uses knowledge from **internal sources** to address changing business requirements.

The HR function/department <i>has collectively:</i>	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. Gathered knowledge from internal clients (<i>e.g. other functional managers, unions, etc.</i>)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. Sought constant feedback on HR practices from internal clients	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Incorporated feedback from internal clients to improve HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Regularly shared information collected from internal clients within the HR function	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Used learning from past success/failure to improve HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Often trialled planned HR changes, before extending them to the whole organisation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Used existing knowledge in new ways to develop new HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. Combined learning from past success/failure of HR practices with new knowledge	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. Incorporated feedback from internal clients to address competency gaps within the HR function	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10. Reallocated under-utilised knowledge resources (<i>e.g. people, equipment, etc.</i>) to new or more productive use	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11. Transformed knowledge from internal sources to address issues within the organisation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 4: LEARNING FROM EXTERNAL SOURCES

The following statements assess the manner in which the **HR function** of your organisation **collectively** gathers and uses knowledge from **external sources** (e.g. previous work experience, links with industry, etc.) to address changing business requirements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. Gathered knowledge from external agencies (e.g. industry associations, professional bodies, external consultants, supply chains)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. Acquired knowledge through formal education (e.g. university degree) and professional training/qualifications	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Integrated knowledge from previous work experience to improve existing HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Used knowledge from external sources to improve competencies of HR professionals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Benchmarked 'best practice HR organisations' to improve our HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Shared knowledge acquired from external sources among HR staff regularly	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Developed industry best practices, through joint-consultation with other organisations (e.g. OH&S practices)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. Used the knowledge from external sources to predict future HR requirements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. Transformed knowledge acquired from external sources to address issues within the organisation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10. Combined knowledge from external sources with existing knowledge to introduce new HR practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11. Integrated knowledge from external sources to improve existing information flows and practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 5: TOP MANAGEMENT SUPPORT

The following statements assess the recognition and **top management** support for HR function of your organisation.

In our organisation:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. The HR function is represented in the top management team	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. The most senior HR professional directly reports to the CEO	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. When formulating organisational strategies, top management consults HR professionals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Our HR function has the opportunity to discuss with/consult top management, when HRM changes are planned	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Our HR function is allocated required resources for the implementation of planned HRM changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Our HR function has substantial autonomy in designing strategically important HRM changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Top management has confidence in our HR professionals' ability to effect radical HRM changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. When HRM practices that have organisation-wide implications are introduced, the top management openly endorses these in their communication	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 6: ORGANISATIONAL COMPETITIVE STRATEGY

The following statements assess several competitive activities that might be emphasised in your organisation.

Our organisation has been:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. Focusing on minimising overall operational costs	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Our organisation has been:

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

2. Trying to achieve lower costs than our competitors	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Trying to outperform competitors by introducing unique product/service features	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Trying to outperform competitors in the quality of our product/service	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Trying to outperform competitors by improving the speed of our product/service delivery	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Seeking opportunities to achieve economies of scale	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Seeking opportunities to improve productivity leading to cost advantages	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. Using intensive marketing communication to highlight our unique product/service features to targeted customers	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. Offering complementary services to enhance our market offering	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 7: INNOVATION IN HR PRACTICES

HR INNOVATION refers to any **NEW IDEA** that you have adopted in your HR practices which directly or indirectly **ADD VALUE** to the organisation (*e.g. productivity improvement, improving effectiveness, etc.*).

Recruitment and Selection

Examples may include (but are not limited to): (a) new sources of recruitment (b) implementing new selection methods.

1. The number of innovations in recruitment and selection over the last three years	Few (1-2)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	Many (10+)
2. The degree of newness of those recruitment and selection practices has been	Incremental	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	Radical
3. The degree of intended value addition of new recruitment and selection practices has been	Incremental	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	Radical

Training and Development

Examples may include (but are not limited to): (a) new method for training employees (b) introducing new training programmes (c) introducing new career paths for employees.

4. The number of innovations in training and development practices over the **last three years** Few (1-2) ₁ ₂ ₃ ₄ ₅ Many (10+)
5. The degree of **newness** of those training and development practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical
6. The degree of intended **value addition** of new training and development practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

Performance Management

Examples may include (but are not limited to): (a) introducing balanced score card approach (b) introducing a new performance evaluation method.

7. The number of innovations in performance management practices over the **last three years** Few (1-2) ₁ ₂ ₃ ₄ ₅ Many(10+)
8. The degree of **newness** of those performance management practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical
9. The degree of intended **value addition** of new performance management practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

Compensation and Reward

Examples may include (but are not limited to): (a) new compensation schemes (b) benchmarking with industry rates.

10. The number of innovations in compensation and reward practices over the **last three years** Few (1-2) ₁ ₂ ₃ ₄ ₅ Many (10+)
11. The degree of **newness** of those compensation and reward practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical
12. The degree of intended **value addition** of new compensation and reward practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

Internal Communication

Examples may include (but are not limited to): (a) new communication channels (b) new communication methods.

13. The number of innovations in internal communication practices over the **last three years** Few (1-2) ₁ ₂ ₃ ₄ ₅ Many (10+)
14. The degree of **newness** of those internal communication practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical
15. The degree of intended **value addition** of new internal communication practices has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

Organisational Design

Examples may include (but are not limited to): (a) designing new job roles (b) organisational restructuring.

16. The number of innovations in organisational design over the **last three years** Few (1-2) ₁ ₂ ₃ ₄ ₅ Many (10+)

17. The degree of **newness** of those new organisational designs has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

18. The degree of intended **value addition** of new organisational designs has been Incremental ₁ ₂ ₃ ₄ ₅ Radical

Other Practices

If your HR function has introduced innovations in any other HR practices, please complete the following section.

Other HR practices within which you have introduced innovations over the last three years	Number of innovations introduced	Degree of newness					Degree of value addition				
		Incremental			Radical		Incremental			Radical	
1.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2.	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 8: HR INNOVATION IMPLEMENTATION

The following statements assess the environment **within which** HR innovations are implemented in your organisation

In general:	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. Our employees showed considerable resistance to HR changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. Our employees were sceptical about radical HR innovations	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Our employees showed high resistance to accept radical HR changes (e.g. introducing a performance-based pay)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. The culture of our organisation prefers less degree of HR changes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. The outcomes of our HR innovations were consistent with our initial objectives of implementation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

SECTION 8: HR INNOVATION IMPLEMENTATION

The following statements assess the **environment** within which **HR innovations are implemented** in your organisation

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
Over the last <i>three years</i> our organisation has outperformed our closest competitor in:					
1. Attracting essential employees	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
2. Retaining essential employees	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
3. Improving employee engagement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
4. Improving the overall talent pool	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
5. Improving relationships between management and other employees	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
6. Improving relationships among employees in general	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
7. Improving overall productivity	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
8. Improving quality of products and services	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
9. Growth in sales	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
10. Growth in profitability	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
11. Improving the overall competitive position of the organisation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

**WE SINCERELY APPRECIATE YOUR PARTICIPATION IN THIS STUDY.
PLEASE RETURN THE COMPLETED QUESTIONNAIRE IN THE PREPAID ENVELOPE PROVIDED.**

OPTIONAL

If you wish to receive an **executive summary** of the final report of this research, please provide the **name** and **email address** of a contact person.

Name	
email	