EFFECTIVENESS OF RISK MANAGEMENT STRATEGIES ON THE PRODUCTION AND MANUFACTURING SMALL-MEDIUM ENTERPRISES IN BHUTAN

TSAGAY -

A Thesis Submitted to the Graduate School of Naresuan University
in Partial Fulfillment of the Requirements
for the Doctor of Philosophy in Business Administration
2021

EFFECTIVENESS OF RISK MANAGEMENT STRATEGIES ON THE PRODUCTION AND MANUFACTURING SMALL-MEDIUM ENTERPRISES IN BHUTAN

TSAGAY -

A Thesis Submitted to the Graduate School of Naresuan University
in Partial Fulfillment of the Requirements
for the Doctor of Philosophy in Business Administration
2021

Thesis entitled "Effectiveness of Risk Management Strategies on the Production and Manufacturing Small-Medium Enterprises in Bhutan"

By TSAGAY -

has been approved by the Graduate School as partial fulfillment of the requirements

for the Doctor of Philosophy in Business Administration of Naresuan University

Oral Defense Committee

..... Chair
(Professor Amir Mahmood, Ph.D.)

..... Advisor
(Associate Professor Vichayanan Rattanawiboonsom, Ph.D.)

..... Co Advisor
(Kritcha Yawised, Ph.D.)

..... Internal Examiner
(Kanokkarn snae Namahoot, Ph.D.)

..... Internal Examiner
(Sukij Khorchurklang, Ph.D.)

Approved

.....
(Professor Krongkarn Chootip, Ph.D.)

Dean of the Graduate School

Title	EFFECTIVENESS OF RISK MANAGEMENT STRATEGIES ON THE PRODUCTION AND MANUFACTURING SMALL-MEDIUM ENTERPRISES IN BHUTAN
Author	TSAGAY -
Advisor	Associate Professor Vichayanan Rattanawiboonsom, Ph.D.
Co-Advisor	Kritcha Yawised, Ph.D.
Academic Paper	Ph.D. Dissertation in Business Administration, Naresuan University, 2021
Keywords	Enterprise Risk Management, Small-medium Enterprises, Performance, Bhutan, Production and Manufacturing Industry, Structural Equation Modeling

ABSTRACT

The small-medium enterprises (SMEs) are well known in all economies for their socio-economic role of job creation, import-substitution, and poverty alleviation. Apart from their importance to the economy, SMEs are also known for higher failure rates than their bigger counterparts and the SMEs in Bhutan are no exception in this globalized world. However, no formal studies have been published about the effectiveness of enterprise risk management (ERM) on SME performance for a small economy like Bhutan. Thus, the primary objective of this study is to investigate the use of ERM in the production and manufacturing SMEs in Bhutan and their impact on performances.

The study uses a convergent mixed methods design and collected both quantitative and qualitative data. The study surveyed about 300 production and manufacturing SMEs using close-ended structured questionnaires and interviewed 15 SMEs using a semi-structured interview method to answer the research questions and test the hypotheses. Structural Equation Modeling (SEM) and thematic analysis are used to analyze the two types of data.

The analysis of the data showed that the personal entrepreneurial competency of the owner/manager and the SME size have a statistically significant influence on the

ERM while their impact on the performance isn't established. However, it can be concluded that the Bhutanese SMEs are aware of risk and their impacts including the risks posed by technology and globalization although they do not have a formal ERM in place. Owing to the limited availability of reliable data, it is recommended that the SMEs and relevant agencies maintain reliable and up-to-date data to correctly measure the impact on their performances.

ACKNOWLEDGEMENTS

Many great individuals and made great institutions it possible for me to realize the biggest dream of my life, and the least I could do is to express my heartfelt gratitude for them on these several pages. I would like to seize the opportunity to express my gratitude to all those who have been instrumental in making my doctoral degree journey a success.

First and foremost, I would like to offer my utmost gratitude to my unwaveringly supportive advisors, Professor Dr. Vichayanan Rattanawiboonsom and Dr. Kritcha Yawised. Professor Vichayanan has not only supported me as my main advisor but also in the capacity of the Dean of the Faculty of Business, Economics and Communications (BEC), Naresuan University. Starting from the formulation of the thesis proposal to the final defense, she has been highly instrumental and supportive. In addition to the tremendous help rendered as the main advisor, I would also like to thank Professor Vichayanan for approving my request for stipend and accommodation compensation after my scholarship tenure expired. For these kind gestures, I am forever indebted to the Dean and the BEC faculty.

I would also like to state my heartfelt gratitude to my co-advisor, Dr. Kritcha, for always being there as a mentor and willing to share his experiences and recommendations from the onset of my degree. I really appreciate the prompt responses with logical and appropriate suggestions that Dr. Kritcha has given me both online and in person. His zeal to help is phenomenal. Despite their busy schedules, both my advisors have given me not only timely but also straightforwardly honest feedbacks whenever I sought their advice.

Secondly, I would not have had the opportunity had it not been for the farsightedness of our beloved fifth King. His Majesty's vision for human resource development in Bhutan led to the establishment of goodwill and relationship building with the government as well as the universities in Thailand. This particular scholarship is an evident outcome of the relationship. With this, I would like to offer my sincere gratitude to the Office of the Gyalpoi Zimpon, Bhutan and the Naresuan University, Thailand, for such noble initiatives. The scholarship has created a conducive learning environment for me as it eased my financial burdens. Had I not received such prestigious awards, my dream would have remained a dream. The Naresuan University had been and is still

instrumental in the human resource development of Bhutan, giving various undergraduate and postgraduate scholarship opportunities which are otherwise beyond the reach of many Bhutanese.

Thirdly, I would like to thank my employer, the Royal University of Bhutan, and the Gedu College of Business Studies (GCBS) in particular for allowing me to pursue my dreams. I would also like to thank Dr. Sonam Choiden, the President of GCBS for the encouragement and the help rendered during the application process as well as for supporting us financially during the unprecedented times of the COVID-19 pandemic. Supporting the hefty quarantine and COVID-19 insurance fees have really eased me off my financial burdens and made me focus on the task at hand. I also would like to express my gratitude to the President and the College Management Committee for the approval of my financial requests as well as the extension of my study leave and keeping me at peace and letting me focus on my thesis.

Fourth, my sincere appreciation to the staffs of BEC and DIALD for their continuous support. Starting from documentation, translation, interpretation to submission of documents, such as immigration and academic documents, the staffs have been very accommodating and helpful. Sincere thanks to Ms. Jeep and her office for taking care of the logistics of the Bhutanese students and keeping us well-informed about our status and the immigration laws. My heartfelt gratitude to the staffs of BEC. Special gratitude to Miss Piyapan Mukphet (Colli) and Miss. Thanawan Srisuwan (Tang) for always being there to help me and keeping me updated with my schedules and progress.

Fifth, I would like to extend my gratitude to my thesis proposal and final thesis defense committee members, Professor Dr. Amir Mahmood, Associate Professor Dr. Wai Chamornmarn, Assistant Professor Dr. Tummatinna Seesupan, Dr. Chatree Preedaanunthasuk and Dr. Sukij Khorchuklang for their valuable comments and suggestions that led to the successful completion of the study. Without their critical observations and valuable comments, this thesis would not have achieved its current form.

Finally, I would like to thank my dear wife for taking care of the kids while I am away and being very supportive of my endeavors. She bravely handled the family stress while I peacefully enjoyed my studies. Last but not the least, I would also like to express

my sincere gratitude to my family members, friends, and other well-wishers for their support and for always keeping me in their prayers. Thank you, one and all!

TSAGAY -

TABLE OF CONTENTS

Page

ABSTRACT C

ACKNOWLEDGEMENTS ..... E

TABLE OF CONTENTS ..... H

List of Tables ..... M

List of Figures ..... O

Chapter 1 Introduction 1

1.1 Introduction 2

1.2 Rationale of the Study 2

1.3 Statement of the Problems 4

1.3.1 Research Question 7

1.3.2 Research Objectives 8

1.4 Significance of the Study 8

1.4.1 For the P&M SMEs 8

1.4.2 For the relevant stakeholders 9

1.4.3 For the academics and practitioners 9

1.5 Scope of the Study 10

1.6 Definition of the Terms 10

1.6.1 Small and Medium Enterprises (SMEs) 10

1.6.2 Production and Manufacturing (P&M) 12

1.7 The Structure of the Thesis 13

Chapter 2 Literature Review 15

2.1 Introduction 16

2.2 Theoretical Background 16

2.2.1 Administrative Theory 16

2.2.2 The Theory of Growth of the Firm 18

2.2.3 Decision Theory 21
2.2.4 Entrepreneurial Competencies. 23
2.3 Concept of Risk 26
2.4 Concept of risk management 28
2.5 Effective risk management practices in SMEs 29
2.5.1 Internal environment 30
2.5.2. Objective setting 30
2.5.3. Risk identification 30
2.5.4. Risk assessments 32
2.5.5. Risk response. 33
2.5.6 Control activities 34
2.5.7. Information and communication 34
2.5.8 Monitoring 34
2.6 Factors affecting risk management and firm performance 35
2.6.1 Risk management, firm performance and the owner/manager characteristics 35
2.6.2 Risk management and the enterprise characteristics 37
2.7 The measure of enterprise performance 37
2.7.1 Financial performance 38
2.7.2 Nonfinancial performance 38
2.7.3 Risk management and the enterprise performance 39
2.8 Literature Gap 41
2.8.1 Theoretical Gap 41
2.8.2 Methodological Gap 42
2.8.3 Geographical Gap 42
2.9 The Conceptual Framework 43
2.10 Chapter Summary 44
Chapter 3 Research Design and Methodology 46
3.1 Introduction 47

3.2 Research Philosophy 47
3.3 Research Approach 50
3.3.1 Mixed methods approach 51
3.4 Data Collection and Analysis 57
3.4.1 Quantitative data 57
3.4.2 Analysis of quantitative data 59
3.4.3 Qualitative data 60
3.4.4 Analysis of qualitative data 61
3.5 Population and sampling 62
3.5.1 Sampling for quantitative data. 62
3.5.2 Sampling for qualitative data. 64
3.6 Integration of Quantitative and Qualitative Results 65
3.8 Ethical Considerations 67
3.8 Chapter Summary 69
Chapter 4 Quantitative Data Results 70
4.1 Introduction 71
4.2 Quantitative Data Management 72
4.2.1 Data preparation and processing 72
4.2.2 Data reliability and validity 76
4.3 Descriptive Statistics 77
4.3.1 Characteristics of the SMEs 77
4.3.2 Characteristics of the SME owner/manager 80
4.3.3 Perceptions of the SMEs on Risk Management Process 83
4.3.4 Enterprise Risk Management 92
4.3.5 SME Non-Financial Performance 93
4.3.6 SME Financial Performance 95
4.4 Data Normality 97
4.5 Missing Data 99
4.6 The Structural Equation Model (SEM) 99

4.6.1 Measurement model analysis 99
4.6.2 Model parameter estimation 101
4.6.3 Assessing model fit 101
4.6.4 Reliability and validity 104
4.6.5 Common method bias 106
4.6.6 The structural model 109
4.7 Hypothesis Testing 113
4.8 Chapter Summary 119
Chapter 5 Qualitative Data Results 120
5.1 Qualitative Data Preparation 121
5.2 Qualitative Data Analysis 121
5.3 Results of the Qualitative Data 135
5.3.1 Demographics of participants 136
5.3.2 Research Results 136
5.4 Summary of enterprise risk management 155
Chapter 6 Discussion and Conclusion 158
6.1 Discussion of Research Findings 160
6.1.1 Prominent risks in the SMEs of Bhutan 160
6.1.2 Attitude towards ERM 161
6.1.3 Owner/Manager characteristics and ERM 162
6.1.4 SME characteristics and ERM 167
6.2.5 ERM and Performance 169
6.2 Theoretical, Methodological and Practical Implications of the Study 171
6.2.1. Theoretical Contribution 171
6.2.2 Methodological Contributions 173
6.2.3 Practical Contributions 173
6.2.4 Recommendations 174
6.3 Limitations of the Study 179
6.4 Directions for Future Research 180

6.5 Chapter Summary 181
REFERENCES 184
Appendix I Selected Literatures on ERM and Performance 193
Appendix II Questionnaire 202
Appendix III Bootstrap result of different relationships 213
Appendix IV The final summary of main theme and sub-theme findings 213
Appendix V An overview of the respondent profile 223
Appendix VI Quantitative and Qualitative Findings 225
BIOGRAPHY 228

List of Tables

Page

Table 1: The classification of different scale of industry in Bhutan 12
Table 2: Definitions of risk 28
Table 3: Different categories of risks 32
Table 4: Total SMEs in Bhutan as of June, 2018 62
Table 5: The relationship between sample and population sizes using probability sampling techniques 63
Table 6: The sampling detail for the qualitative data 65
Table 7: Codebook extract 74
Table 8: Cronbach's alpha of the scale items 77
Table 9: Personal Entrepreneurial Competencies (PECs) score 83
Table 10: The Internal Environment 84
Table 11: Objective Setting 85
Table 12: Risk Identification 86
Table 13: Risk Assessment 87
Table 14: Risk Response 88
Table 15: Control Activities 89
Table 16: Information and Communication 90
Table 17: Monitoring 91
Table 18: The overall perceptions on ERM domains 92
Table 19: Sales Growth 93
Table 20: Perception on Asset Growth 94
Table 21: Normality tests 98
Table 22: The descriptive statistics for normality 98
Table 23: The measurement model fitness parameters 104
Table 24: Reliability and validity measures 106
Table 25: The model fit indices of the three different SEMs 110

Table 26: Summarized statistics on standardized regression weights 113

Table 27: Direct effect results 114

Table 28: Mediating effect results 114

Table 29: The model fit indices of the hypothesized model (after drawing all the relationships) 115

Table 30: The correlation between 10 PEC domains and ER 117

Table 31: The six phases of thematic analysis 123

Table 32: The themes and selected coding with number of cases 130

Table 35: Summary of risks and performance 156

Table 36: The average number of respondents who agreed or disagreed to the eight domains of ERM 162

List of Figures

Page

Figure 1: The scientific process of risk management 39
Figure 2: The theoretical framework of the study 44
Figure 3: Four levels of developing research study 48
Figure 4: The deductive approach to research 50
Figure 5: The Convergent Design 51
Figure 6: Concurrent Triangulation Design AKA the Convergent Design 56
Figure 7: The concurrent mixed methods workflow 66
Figure 8: Data processing flowchart 72
Figure 9: Number of employees in the SMEs 79
Figure 10: Number of employees and owners' intention to recruit more employees .. 79
Figure 11: Year of operation of the SMEs 80
Figure 12: Qualification of the respondents 81
Figure 13: Tenure of the respondents 82
Figure 14: The three measures of Financial Performance computed over 3 years 96
Figure 15: The measurement model with factor loadings and correlations 100
Figure 16: The final structural model 111
Figure 17: The SEM with factor loadings, R-square and regression weights 112
Figure 18: A screenshot of the RQDA user interface 122
Figure 19: The display window of the RQDA program after the project is created . 124
Figure 20: The view after importing all the case files (Interview data) 125
Figure 21: An excerpt of coding in RQDA 127
Figure 22: A mind map of the initial themes 128
Figure 23: The thematic map developed from the initial coding 130
Figure 24: The finalized themes and their sub-themes (codes) 135
Figure 25: The general themes defining the characteristics of SME owners/managers 137

Figure 26: The risk management processes 143
Figure 27: The attributes linked to SME performance 148

Chapter 1 Introduction

The first chapter of this thesis starts with the introduction of the rationale for conducting this study following by the statement of the research problem. The chapter also defines the research questions and the objectives along with the significance and scope of the study. In addition, some important terminologies are also defined towards the end of the chapter. The topics covered in Chapter 1 are as follows:

1.1 Introduction

1.2 Rationale of the Study

1.3 Statement of the Problems

  1.3.1 Research Questions

  1.3.2 Research Objectives

1.4 Significance of the Study

  1.4.1 For the P&M SMEs

  1.4.2 For the relevant stakeholders

  1.4.3 For the academics and practitioners

1.5 Scope of the study

1.6 Definition of the terms

  1.6.1 Small and medium enterprises (SMEs)

  1.6.2 Production and Manufacturing (P&M)

1.7 The structure of the thesis

1.1 Introduction

Small and medium enterprises (SMEs) are, without doubt, the backbone of every economy and their significances being known to all. Across the globe, in every economy, SMEs are considered to be of vital importance. Compared to bigger firms, SMEs are perceived to be more dynamic and faster at responding and adapting to the market force owing to their simpler organizational structure. SMEs, however, have the ability to innovate and be successful or cease to exist if they are unable to compete.

Similarly, in this globalized world, the tiny Himalayan Kingdom of Bhutan has no exception in the global market. This study aims to explore the status of the risk management systems of the Bhutanese production and manufacturing SMEs. The study uses the concept of Enterprise Risk Management (ERM) propounded by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), ISO 31000 and Institute of Risk Management (IRM), and determine the determinants of risk management strategies of the Bhutanese production and manufacturing SMEs.

This chapter describes the rationale, purpose, significance, research questions and the objectives of the study.

1.2 Rationale of the Study

According to Sweeting (2012), ERM is not just the management of risk itself but the broader approach of recognizing the context; identifying the risks; assessing and comparing the risks with the risk appetite; deciding on the extent to which risks are managed; taking the appropriate action; and reporting on and reviewing the action taken. It is further supported by COSO's Executive Summary (2017), which states that ERM is more than risk listing. ERM is a set of principles as well as a system of monitoring, learning, and improving performance by actively managing risk. The COSO further emphasizes that an organization needs to have a mission, a strategy, and

objectives to apply ERM. The ERM can be used by any kind of organizations starting from small businesses to Fortune 500 companies. It is important to note that ERM is integrated into the daily operations of a business entity and not as an afterthought (Sweeting, 2012). As a result, ERM is "the holistic, systematic and analytic approach" of risk management which thrives on a different mindset as compared to the traditional risk management (Andersen & Schrøder, 2010, p. 128).

Owing to the importance of risk management in business, the COSO (2017) has updated its 2004 *Enterprise Risk Management–Integrated Framework* to *Enterprise Risk Management–Integrating with Strategy and Performance* with a vision to address the evolution of enterprise risk management. COSO believes that the framework will guide the organizations to improve their approach to risk management while fulfilling the demands and requirements of an evolving business environment. The refined document "highlights the importance of considering risk in both the strategy-setting process and in driving performance". The framework, developed by COSO (2017), is a set of principles organized into five interrelated components:

1. *Governance and Culture*: Governance is an integral part of ERM while culture defines the ethical values, desired behaviors, and understanding of risk in the organization.
2. *Strategy and Objectives-Setting*: It signifies the importance of strategic-planning process as it formulates the risk appetite and aligns with the strategy. This is a basis for identifying, assessing and responding to risk.
3. *Performance*: Risks are categorized and prioritized by severity in the context of risk appetite and then the organization responds to the risk based on a portfolio view of the amount of risk it has assumed.

4. *Review and Revision*: The organization can review the performance and know how well the ERM components are functioning over time and revise if need be.
5. *Information, Communication, and Reporting*: ERM requires a continual process of obtaining and sharing necessary information from both internal and external sources.

Although there are systematic methods for determining the riskiness or the sustainability of the SMEs, there are no study concerning risk management of the SMEs in Bhutan. This study is felt timely and necessary as explained hereunder.

Similar to the COSO framework and ISO internal standards in the northern hemisphere, the southern hemisphere, especially Australia and New Zealand have their own risk management standards (Moeller, 2007, pp. 331-339) and both the hemispheres' objectives are to address the risk management. Nevertheless, ERM, and COSO ERM in particular, has become the de facto worldwide standard for assessing internal controls and its multidimensional format claims the superiority over any of the other enterprise risk management frameworks (Moeller, 2007, p. 335). Hence, Bhutan should not be lagging behind while the whole world is moving forward. At the empirical level, several researches were also conducted to study importance of risk management and SMEs (for example, (Hiebl et al., 2019; Naude & Chiweshe, 2017; Pratono, 2018) and such studies are scanty in Bhutan.

1.3 Statement of the Problems

According to the Department of Cottage & Small Industry (DCSI), Ministry of Economic Affairs (MoEA) of Bhutan, SMEs constitute more than 95% of the total industry in Bhutan with a total of 20,195 businesses licensed and operational (Ministry of Economic Affairs, 2019). Hence, the very reason for the establishment of the

department under the Ministry of Economic Affairs was to lead the development of the SMEs in Bhutan. The cottage and small industry in Bhutan are categorized into three sectors – Service, Production and Manufacturing (P&M) and Contract. The industry in Bhutan is dominated by the service sector comprising 78.9% of the total cottage and small industries. Furthermore, the SMEs employ about 92,180 employees (DCSI-annual-report, 2019), which is about 11.3% of the total population (817,054). Although, the service sector dominates the market, the P&M sector, comprising only 10.47% of the SME saw an impressive growth of 27% in a short period of time.

The overwhelming growth of the SMEs is due to the fact that the Royal Government of Bhutan has been stressing on the development and promotion of the cottage, small and medium industry with the publication of the Cottage, Small and Medium Industry Policy, 2012. In order to contribute towards the realization of the noble vision of achieving Gross National Happiness (GNH), the Bhutan Vision 2020 and the Economic Development Policy 2010 identified SMEs as a priority sector ("Cottage and Small Industry Policy", 2012). The government has initiated many activities to foster entrepreneurship and encourage smaller businesses. The Royal Monetary Authority of Bhutan (RMA) has initiated and launched a scheme called Priority Sector Lending (PSL) guidelines with an aim to improve access to finance and increase opportunities for the youth employment (Pem, 2017). Most importantly, cottage and small industries along with civil society organizations (CSO) are entrusted "to ensure a sustainable LDC graduation for Bhutan" (Dorji, 2019). As a result, the DSCI has been facilitating access to finance as well as making the business environment more enabling for the entrepreneurs or SMEs in particular.

Given the importance of the SMEs for the economy of Bhutan and the priority given by the government, it is also equally important to assess their status and the future prospects. Furthermore, an infographic green finance report by GFA Consulting Group GmBH (2017) on Bhutan states that "building SME's financial and technical capacities" as one of the way forwards for the Bhutanese SMEs. This encompasses the SMEs' capacity to manage their finances and also be able to assess and manage their risks. However, the literature and academic researches regarding the risk management as well as status of the SMEs in Bhutan are scanty. It is vital for the entrepreneurs or the SME managers to know how to identify risks, design actions and mechanisms to minimize risks and continuously monitor them for the sustainability and survival of the entity.

The paradigm has shifted from evaluating risks from an individual perspective to considering all risks-encompassing perspective, which is the enterprise risk management (Brustbauer, 2016). As a result, the priority given by the government and the relevant stakeholders towards entrepreneurship and SME development and the liability of the SMEs in the market begs a question on their feasibility and sustainability. For instance, the MoEA's Chief Industry Officer was quoted in the national newspaper saying that the focus on cottage and small industries is vital to diversify Bhutan's economy from the dependence on hydropower, and the ministry intends to "improve the production and manufacturing sector as people are importing more" (Zangmo, 2018). Thus, as deduced from the COSO framework and various relevant prior studies, risk management in SMEs is vital. However, prior studies pertaining to the Bhutanese SMEs are not available on the WWW, thus, indicating the requirement of such studies.

It is equally important for the SMEs to play-it-safe in the ever-changing complex business environment.

Managing risk in the SMEs is of paramount importance because SMEs lack the resources to respond promptly to internal and external threats, leading to potentially huge losses even endangering their survival (Verbano & Venturini, 2013). A study by Renault et al. (2018), suggests that there are nine theoretical risk management practices that SMEs could use to succeed in their ventures and the practices are similar to the COSO and other international frameworks. The main concept behind ERM is to assure a holistic, enterprise-wide and integrated approach to manage key risks in a systematic manner to maximize the value of the business (Andersen & Schrøder, 2010, pp. 129–130). Therefore, this study intends to study the existing SMEs in Bhutan with the hope of determining their risk management strategies, within the purview of ERM, while reinforcing their risk management competencies. Nonetheless, this study also aims to develop better risk management strategies and frameworks to survive in the highly competitive and volatile market by finding answers to the posed research questions.

1.3.1 Research Question. The study intends to empirically explore the risk management strategies followed by the P&M SMEs in Bhutan. The research questions are designed in two categories as follows:

Research Question:

How are the production and manufacturing (P&M) SMEs in Bhutan performing from a risk management perspective?

Subsidiary questions:

Q.1. How important is ERM for the Bhutanese P&M SMEs?

Q.2. What are the most prominent risks being encountered by the Bhutanese P&M SMEs?

Q.3. How well the Bhutanese P&M SMEs are handling the risks they are encountering?

Q.4. What are the hindering forces to mitigate the risks in the Bhutanese P&M SMEs?

Q.5. What is the relationship between the level of understanding of the risk management by the SMEs and their performances?

Q.6. How can the Bhutanese P&M SMEs handle risk better?

1.3.2 Research Objectives. Owing to the importance of ERM in every kind of businesses, this study aspires:

1. To explore the perception of the SME owners and managers with regard to ERM in the P&M SMEs in Bhutan.
2. To determine the prominent risk determinants in the P&M SMEs in Bhutan.
3. To evaluate the effectiveness of the risk management strategies adopted on the performance of the P&M SMEs in Bhutan.
4. To develop a RM strategy model/framework based on the most effective RM strategy/ies in the P&M SMEs in Bhutan.

1.4 Significance of the Study

1.4.1 For the P&M SMEs. This study will help the SMEs to understand their business and business risks better by making it easier for them to identify the various risks affecting their business. It will also help the SMEs to better manage their businesses by following standard-best-practices such as the COSO frameworks and the methods recommended by the researcher. The study also aspires to identify the best performing business and best management practices in the context of Bhutan. A recent newspaper finding cites the “gap between the business proposal and the implementation

of the business proposal" to be the main reason behind high no-performing loans (NPLS) (Dem, 2019). This research intends to identify such gaps and lapses and recommend a more systematic process of doing business. In so doing, the P&M SMEs will be able to handle the risks properly and fulfil the nation's goal of economic diversity and economic sustainability.

1.4.2 For the relevant stakeholders. The Royal Monetary Authority of Bhutan (RMA), which is also the Central Bank of Bhutan, has not only instituted the priority sector lending but also initiated several measures such as revising the minimum lending rate, licensing of several Microfinance projects, and licensing a crowd funding portal to the Royal Securities Exchange of Bhutan (RSEBL) to improve the SMEs' access to finance (Royal Monetary Authority, 2019). Owing to the easy access to finance and the business opportunities, the number of people venturing into the priority sectors have increased drastically. However, there are no formal published researches done on the performance and sustainability of the SMEs. Thus, this study intends to inform both the regulatory authorities and potential investors about the future prospects of the Bhutanese P&M SMEs.

1.4.3 For the academics and practitioners. This study intends to present the importance of theoretical risk management framework with empirical evidences. Hence, the academics as well as the other readers could substantiate their arguments or theories with empirical evidence. Being the first study of its kind, enterprise risk management, in the context of Bhutan, it will have both theoretical and empirical significance. Furthermore, the mixed-method (concurrent triangulation design) is a relatively new phenomenon and this study contributes in terms of methodology for future reference.

1.5 Scope of the Study

Although there are three sectors of SMEs in Bhutan, this study will focus only on the production and manufacturing sector because this particular sector is supposed to be promoting only the indigenous products/produce and lead as a competitive advantage for Bhutan. The promotion of the production and manufacturing SMEs are also geared towards self-sufficiency and import substitution. As a result, both quantitative and qualitative data are collected for this study. The quantitative part of the data was to gain a broad understanding of the current phenomenon, while the qualitative data was utilized to gain in-depth details of particular issues underlying such phenomenon in particular to the SMEs located in the central business district areas. Both data collection was conducted in SMEs across all districts of Bhutan, with more representation from the capital city, Thimphu.

1.6 Definition of the Terms

1.6.1 Small and Medium Enterprises (SMEs). There is no set definition for small and medium enterprises (SMEs) although economists claim the SMEs to be the backbone of every economy (Berisha & Pula, 2015). The United Nations (UN) also mentions that the definition of the size of a business differs from country to country. Nonetheless, the UN uses the definition of the European Commission for micro, small and medium-sized enterprises which is established according to the number of employees and the annual turnover or balance sheet as follows:

a) A *micro-enterprise* is an entity with fewer than 10 employees and an annual turnover or the balance sheet below 2 million Euros.

b) A *small enterprise* employs fewer than 50 employees and an annual turnover or balance sheet below 10 million Euros.

c) A *medium-sized enterprise* will have fewer than 250 employees and an annual turnover below 50 million Euros or a balance sheet below 43 million Euros (UN Website, 2018).

The definition of micro, small, and medium enterprises differ from region to region or from country to country. The lack of a universal definition for SME poses as a challenge to perform cross-country data analysis of the SME data (Berisha & Pula, 2015).

Similar to many other nations, Bhutan also has its own definition of SME based on the number of employees or the amount of initial capital investment – paid-in capital and long-term credit. However, in Bhutan, the word cottage is used instead of micro and the industries are classified as cottage, small and medium industry (CSMI). The Cottage, Small and Medium Industry Policy of the Kingdom of Bhutan, 2012 defines the CSMIs in Bhutan as follows:

a) An entity is classified as a *cottage industry* if it made an investment of less than 1 million ngultrums (Nu. 73 = USD$1) and engages up to 4 people.
b) An entity is classified as a *small enterprise* if the investment made is between 1 – 10 million ngultrums and engages between 5 and 19 employees.
c) The *medium size enterprise* should employ between 20 to 99 people with an investment between 10 million and 100 million ngultrums.
d) The large industries are entities with investments more than 100 million ngultrums and employing over 100 employees.

Table 1: The classification of different scale of industry in Bhutan

Scale of Industry	**Employment Size (No. of Employees)**	**Investment asset (in million Nu.)**
Cottage	1 to 4	Less than 1 million
Small	5 to 19	Between 1 to 10 million
Medium	20 to 99	Between 10 to 100 million
Large	100+	More than 100 million

Source: CSI Policy, 2012

More than 95% of the industries in Bhutan fall under the small and cottage scale of industries (DCSI-annual-report, 2019). And in order to cater to the small and cottage industries, the Department of Cottage & Small Industry (DCSI) was established under the Ministry of Economic Affairs (MOEA) in July 2010 with the mission "to create an enabling environment to facilitate and support sustainable growth and development of Cottage & Small Industries (CSI) in the country for equitable income distribution, employment generation and balanced regional development". According to the DSCI Annual Report (2018), the total number of licensed CSIs, as of 31st May, 2017, is 20,143, which is about 16% increase compared to that of 30th June, 2016. The industries in Bhutan are categorized into three sectors: Service Industry, Production and Manufacturing (P&M) Industry, and Contract. The service sector dominates with 66% while P&M makes up only 12% of the overall industry.

1.6.2 Production and Manufacturing (P&M)

Production is defined as "the process and methods used to transform tangible inputs (raw materials, semi-finished goods, subassemblies) and intangible inputs (ideas, information, knowledge) into goods or services (Businessdictionary.com, 2019**)**. According to the United Nations Statistics Division (2008, p. 85), *manufacturing* entails the "physical or chemical transformation of materials, substance, or components into new products". The materials, substance or components are called raw materials and

they are the products of agriculture, forestry, fishing, mining or quarrying as well as products of other manufacturing activities. Generally, manufacturing can be defined as substantial alteration, renovation or reconstruction of goods (United Nations Statistics Division, 2008, p. 85). The main difference between *production* and *manufacturing* is the requirement of tangible raw materials and finished outputs in the case of a manufacturing process. In Bhutan, the P&M SMEs are those SMEs that are involved in transforming raw materials into finished products. For example, the most prominent P&M SMEs are in the areas of handicrafts and agricultural produces.

1.7 The Structure of the Thesis

Chapter 1 Introduction. The first chapter of this thesis starts with an introduction to the SMEs followed by the problem statement with the succinct definition of the rationale behind the conduct of this study. Accordingly, the research questions and objectives of the study are also introduced.

Chapter 2 Literature Review. The second chapter is the review of literature wherein both theoretical and empirical literatures are reviewed and presented to the readers. The theoretical foundation of the study is based on Administrative Theory, the Theory of the Growth of the Firm, Decision Theory, Concept of Risk and Risk Management and Personal Entrepreneurial Competencies. Founded on the mentioned theories and based on the empirical published studies in reputed journals, the study hypotheses and conceptual framework are constructed in this chapter.

Chapter 3 Research Design and Methodology. The third chapter outlines the research paradigm or worldview, the design and methodology used. It also captures the reason for choosing convergent mixed methods design, which is a category of the various mixed methods designs. The chapter discusses in detail the sampling process,

data collection process and analysis process for both qualitative and quantitative data and finally how the results of the two different types of data will be integrated in the discussion section.

Chapter 4 Descriptive Statistics of the Survey. This chapter just presents the descriptive and inferential statistics of the survey data on the SMEs. However, before delving into the descriptive statistics, the validity and reliability of the collected data are confirmed using the various tests. The descriptive analysis is followed by the quantitative data findings using the structural equation modeling (SEM) technique. After confirming that the quantitative data collected are not normal, the appropriate method of estimation is used to fit the model to the data and then the research hypotheses are tested.

Chapter 5 Qualitative Data Findings. The sixth chapter presents the findings from the qualitative data strand. The chapter also discusses in detail the process of qualitative data analysis using the thematic analysis method and opensource software package.

Chapter 6 Discussion. The final chapter, Discussion, presents the overall discussion on the findings of the study along with the study's theoretical, methodological and practical implications. It also presents the limitations of the study as well as directions for future researchers.

Chapter 2 Literature Review

The second chapter covers a detailed review of the literature available and relevant to the study. The chapter starts with the review of relevant theories and concepts pertaining to management of risk in the SMEs. Relevant theories such as the Administrative Theory, the Theory of the Growth of the Firm, Decision Theory and entrepreneurial competencies are discussed in grave detail. After the theories, empirical studies are reviewed to determine the existing relationship between risk management and firm performance in order to identify the research gaps and frame the hypotheses. The topics covered in Chapter 2 are as follows:

2.1 Introduction

2.2 Theoretical background

1.7.1 Administrative theory

1.7.2 The Theory of the Growth of the Firm

1.7.3 Decision Theory

1.7.4 Entrepreneurial Competencies

2.3 Concept of risk

2.4 Concept of risk management

2.5 Effective risk management practices in SMEs

2.6 Factors affecting risk management and firm performance

2.7 The measure of enterprise performance

2.8 Literature gap

2.9 The conceptual framework

2.10 Chapter summary

2.1 Introduction

Chapter 2 Literature Review starts with the theoretical background on which the important foundational theories of the study are reviewed and stated. Starting with the Administrative Theory and its importance in modern management followed by the Theory of the Growth of the Firm to Decision Theory are captured in this chapter. The chapter then delves into more practical based reviews by elucidating the concept of risk and risk management as well as personal entrepreneurial characteristics (PEC).

Once the theoretical foundations are established, the chapter reviews various empirical and conceptual studies to establish the relationships between personal characteristics, SME characteristics, risk management (ERM) and SME performance. The prior published studies are used to construct the study hypotheses and the conceptual framework of the study. The chapter ends with a summary of the whole chapter.

2.2 Theoretical Background

This section explains the various theories that are linked to either the ERM or the performance of the SMEs.

2.2.1 Administrative Theory. The administrative theory was put forward by Henri Fayol in his book titled Administration Industrielle et Générale published soon after his career in 1916 (Pryor & Taneja, 2010; Schermerhorn, 2011, p. 36; Wren, 2001). The theory is based on Fayol's 28 years of experiences he gained while working in the metallurgy and mining industry where he started as an engineer and retired as the managing director of one of the Frances largest metallurgy company (Wren, 2001). As opposed to Fredrick W. Taylor's scientific management – efficiency of individual worker (Denhardt, 2010), Fayol's administrative theory is geared towards the function of the management of the organization – improving the efficiency of management and

to standardize them. Fayol propounded five central elements of management (Schermerhorn, 2011, p. 36; Wren, 2001). – *planning*, *organizing*, *commanding*, *coordinating* and *controlling* as described below:

1. *Planning* – to complete a plan of action for future (anticipation or foresight).
2. *Organizing* – to select and train personnel; to allocate resources to implement the plan.
3. *Commanding* – to lead, select, evaluate or direct workers to achieve the plan.
4. *Coordinating* – to ensure the problem solving, information dissemination and bringing together diversity.
5. *Controlling* – to ensure the adherence to the plan and to make necessary corrections.

Fayol's administrative theory is a result of his meticulous observation, recording and collection of his life-long career and "his contribution was a major one and still considered relevant today" (Peaucelle & Guthrie, 2012). As a result, Fayol believed that management could be taught and while he had the option do it, he set forth a number of management principles that could be followed by all formal organizations. For instance, Fayol's *scalar chain principle* emphasizes the importance of the flow of unbroken line of communication from the top management or the chief executive to the bottom of an organization (Schermerhorn, 2011).

Furthermore, Fayol classified all the activities and essential functions into six groups and considered them to be similar regardless of the type of organization. The six groups as summarized by Golden Pryor and Taneja (2010) are as follows:

1. Technical activities comprise of production, manufacturing and adaptation.
2. Commercial activities mean buying, selling or exchange.

3. Financial activities include searching for or optimum utilization of capital.
4. Security activities ensure protection of properties and persons.
5. Accounting activities take care of stocktaking, balance sheet, costs and statistics.
6. Managerial activities comprise of planning, organization, command, coordination and control.

According to Golden Pryor and Taneja (2010), Fayol believed that the organizational leaders would be able to achieve organizational efficiency and effectiveness if they were able to use his theories, including the 14 principles of management.

Although the 14 principles of management are beyond the scope of this study, Fayol's administrative theory and his classification of business activities and functions are relevant. The administrative theory is about improving the efficiency of management of an organization by knowing the functions of the top management or the chief executive officer. Fayol's principles are being acknowledged as the foundational guidelines in many of today's management concepts and workplaces owing to its robustness and applicability.

2.2.2 The Theory of Growth of the Firm. Edith T. Penrose published the book, "The Theory of the Growth of the Firm" in 1959 and as of writing of this piece on September 10, 2019, her work has been cited 33,324 according to Google Scholar. Owing to the relevance and meticulosity of the description of the theory of the growth of the firm, Penrose's idea gave birth to the "Resource-based View (RBV) in 1984 (Hart, 1995; Kor & Mahoney, 2004; Wernerfelt, 1984). In her book, Penrose defines a firm as business unit where "the patterns of economic life, including the patterns of

consumption as well as of production, are largely shaped by the multitude of individual decisions made by the businessman who guide actions of the business units" (Penrose, 2009). Furthermore, (Penrose, 2009) states that a firm is neither an unambiguous clear-cut entity nor an observable physical object that can be separated from other objects. As a result, she leaves it to the analysts to choose any characteristics of firms that they are interested in and define firms in terms of those characteristics.

Nevertheless, according to Penrose (2009, pp. 15-16), a firm is a collection of productive physical and human resources with administrative planning units and interrelated activities coordinated by policies framed in the light of their effect on the enterprise as a whole. A remarkable and still relevant argument of Penrose is about the distinction of the economic activity within and outside the firm –

> "The essential difference between economic activity inside the firm and economic activity in the 'market' is that the former is carried on within an administrative organization, while the latter is not" (2009, p. 15).

Furthermore, Penrose elucidates the importance of an administrative framework for the 'bureaucracy' of the firm to function smoothly by establishing policies to guide decisions by the administrative personnel of the firm. However, there should be a central management, which is responsible for

> "establishing or altering the administrative structure of the firm, laying down general policies, and making decisions on those matters where no subordinate executive has been authorized to act or where no clear-cut principles have been set out in advance" (Penrose, 2009, p. 17).

The reviewers of Penrose's work like Nair and Trendowski (2008) believe that the first few pages of her work displayed her frustration over the neoclassical

economists' focus on price, output, and demand, however, the reviewers attributed her book to be a "bold challenge to the dominant paradigm in economics". Similarly, book reviewer Marris (1961) considered her work to be "more than an institutional description" and packed with new ideas during that time. Although heavily cited in the field of strategic management, some experts view Penrose's theory to be misinterpreted and misunderstood (Rugman & Verbeke, 2002).

However, Rugman and Verbeke (2002) acknowledge the seminal work of Penrose and its significance in the development of resource-based view since Wernerfelt (1984) referred to Penrose (2009) work twice in his resource-based view: 'the idea of looking at firms as a broader set of resources goes back to the seminal work of Penrose' and 'the optimal growth of the firm involves a balance between exploitation of existing resources and development of new ones'. According to Kor et al. (2016), Penrose's ideas made substantial impact on the strategic management research particularly "in the context of the resource-based view of the firm in the 1980s and 1990s, and the ripple effects of this impact continues to unfold today".

Nevertheless, owing to the flexibility Penrose's theory of Growth of the Firm, Burvill et al. (2018) developed a conceptual framework to "explain the firm growth process" based on empirical research via the integration of Penrose's theory of the growth of the firm and the resource-based view. Their study identified the factors responsible for a firm growth into three themes or core categories – resources, mediating factors and output factors defined as follows:

- *Resources* are defined as factors which enable the firm to initially function, without which the business would not be able to develop.

- *Mediating factors* are defined as factors which enable the management of resources and outputs and which enable the transfer of resource to outputs.
- *Outputs* are defined as factors which are saleable and ultimately bring in revenue for the firm (Burvill et al., 2018).

The definitions of the three factors evidently show that all the factors are required for the growth of a firm. The resources are the primary source or the foundation of a firm and then it requires the mediating factors and the outputs to grow or exist in the market. The study by (Burvill et al., 2018) identified the resources to be aspirations, finance, human capital, management, expertise, contacts, open innovation, customers and software. All these resources are identified not only to be necessary for a firm establishment but also a necessity for firm development. The mediating factors – organizational structure, strategy, planning, systems, marketing, human capital and management, are a necessary buffer for firm's resources to be able to function to a high level. Finally, the output factor consisting of new and existing product/service development enables further resources to be brought into the firm and it continues in a cycle, explaining the continuous process of a firm's growth.

In a nutshell, Penrose's Theory of the Growth of the Firm suggests that there are two major categories of 'causes' of growth – those that are external to the firm and those that are internal. However, the external causes like the raising capital, demand conditions, etc., cannot be understood without examining the nature of the firm itself. Nevertheless, the internal causes are self-reinforcing and lead to opportunities for further expansion (Penrose, 2009).

2.2.3 Decision Theory. The decision theory gave birth to the modern risk management, which is a part of management science for making business decisions.

Management science uses scientific methodology to for decision making with subdisciplines of operations research, decision sciences, information sciences, behavioral sciences, and some aspects of system analysis (Vaughan, 1996, p. 59). The use of quantitative techniques for decision making have gained popularity over the past few decades and is most commonly known as operations research (OR). Whenever there are no obvious solutions, the problems can be tackled using OR to identify the best decision or solution to the problem as Vaughan and Vaughan put it: "The types of problems addressed by the decision theory approach to decision making are those for which there is not an obvious solution, a situation that characterizes many risk management decisions" (Vaughan & Vaughan, 2007, p. 56). Thus, the decision theory approach aims to identify the best decision or solution to the problem.

According to Vaughan (1996, p. 59), decision analysis or decision theory can be used to identify different options when a decision maker is uncertain about the future events, which is a situation being faced by the risk manager in the common risk management situation. Further, Vaughan recommends the analyst to firstly list all decision alternatives available to the decision maker and then to list all the future events that might occur. The future events that are beyond the control of the decision maker is termed as "states of nature" for the problem and the list of possible states of nature should include everything that can happen and the states should not overlap. The literature classifies three classes of decision-making situations based on the decision maker's knowledge about the state of nature as follows:

1. *Decision making under certainty*: One and only one state of nature exists, and the decision maker knows with certainty the future event. This problem can be solved by cost-benefit analysis.

2. *Decision making under risk*: More than one state of nature exists, and probability estimates are available for all states. This problem can be solved by computing expected values to determine the most favorable outcome.
3. *Decision making under uncertainty*: More than one state of nature exists, but nothing is known about the probability or chance of occurrence for the various states. This problem can be solved by using payoff matrix, a rectangular array whose rows represent alternative sources of action and whose columns represent so-called states of nature. “Payoff” in decision theory terminology means the outcome from a certain decision and the occurrence of a particular state of nature.

Similarly, Wang (2010, p. 75) asserts that decision making is about choosing the consequences of that action and not about a certain action. Decisions are about the future, which is unknown and uncertain, hence each decision becomes an experiment wherein risk assessment is necessary.

2.2.4 Entrepreneurial Competencies. The term entrepreneurial describes “someone who makes money by starting their own business, especially when this involves seeing a new opportunity and taking risks” ("Cambridge English Dictionary," n.d.). While competencies refer to important skills that are needed to do a job. As a result, entrepreneurial competencies, according to Bird (1995), are “defined as underlying characteristics such as generic and specific knowledge, motives, traits, self-images, social roles, and skills which result in venture birth, survival, and/or growth”. Furthermore, Bird asserts entrepreneurs’ competencies to have causal connection to venture initiation and “success” of the venture and also claims that individuals who start a business and add value to it through opportunity identification and utilization of

resources usually possess entrepreneurial competencies. Entrepreneurial competency can also be called as personal entrepreneurial competency, which describes an individual's ability to identify opportunities for a business.

According to Putsom et al. (2019), personal competencies can be divided into three different skill sets – decision-making, self-reinforcement and self-regulation skills. Decision-making is the ability to confront and tackle specific problem using cognitive strategies that can be innate or developed by individuals. Self-reinforcement is the self-statements that an individual makes to reinforce one's behavior. Finally, the self-regulation skills are cognitive strategies that individual would use to manage anxiety and distress in certain situations. Nonetheless, the constituents of entrepreneurial competences varies across various sectors (Tehseen et al., 2019). The authors found that the various aspects of entrepreneurial competencies across various sectors include strategic competencies, conceptual competencies, opportunity competencies, personal competencies, learning competencies, ethical, familism, leadership, marketing, management and relationship competencies.

However, for the purpose of this study, 10 personal entrepreneurial competencies as defined by the UNCTAD (UNCTAD, 2019) and used by various studies such as Behling and Lenzi (2019) would be used to identify the personal entrepreneurial competencies of the SME owners/managers. The personal entrepreneurial competencies, according to UNCTAD, is based on the notion that everyone has an inner drive to improve and are as detailed below:

Opportunity-seeking and initiative. The fact that entrepreneurs seek opportunities and take the initiative to transform the opportunities into business situations.

Persistence. Not giving up while an ordinary person (non-entrepreneur) would have already abandoned an activity.

Commitment. Being able to keep their promises without worrying about the personal sacrifice.

Demand for efficiency and quality. Doing something better, faster and cheaper.

Taking calculated risk. It is one of the fundamental concepts in entrepreneurship.

Goal setting. Entrepreneurs set meaningful and challenging goals and objectives and goal setting is the most important competency since none of the rest will function without it.

Information seeking. Gathering information about clients, suppliers, technology and opportunities.

Systematic planning and monitoring. The systematic and logical way of planning and deciding what to do. And monitoring what is being done.

Persuasion and networking. Entrepreneurs' skill of influencing other people to follow them or do something for them.

Independence and self-confidence. The self-assurance the entrepreneurs possess in their capability or potential to do something.

The aforementioned 10 personal entrepreneurial characters will determine if an individual possesses entrepreneurial competencies to be successful in their business endeavors.

2.3 Concept of Risk

The first definition of risk is attributed to Bernoulli, who proposed measuring the risk with the geometric mean and minimizing risk by the spreading it across a set of independent events (Verbano & Venturini, 2013). The original definition of risk by Bernuolli reads as

> Expected gains are computed by multiplying each possible gain by the number of ways in which it can occur, and then dividing the sum of these products by the total number of possible cases where, in this theory, the consideration of cases which are all of the same probability is insisted upon" (Bernoulli, 1954).

The definition of risk was being further explained and simplified by Chapman and Cooper (1983) using a case of 200km offshore pipeline laying project wherein the base plan included target scheduling (program or timetable) and associated contingency plans. The authors conclude that risk is the uncertainty involved in decision making and it is the difference between the initial estimates and the actual outcomes.

Even today, word "risk" has a number of different meanings depending on the context. And in the business context, the Economic Times of India defines risk as a "future uncertainty about deviation from expected earnings or expected outcome". However, as Sweeting (2012) mentions, uncertainty is a crude measure of risk since the uncertainty can either be favorable or unfavorable or an upside risk or a downside risk, respectively. While the risk can have different connotations even in a business setting, risk can be viewed as a negative phenomenon of an adverse event (Sweeting, 2012). Hence, understanding the nature of risk is the art and science of choices that lies at the core of our modern economy.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) views risk as “Every choice we make in the pursuit of objectives has its risk” (“COSO”, 2017)**.** The main rationale behind the establishment of the COSO is to develop an integrated enterprise risk management framework to help the entities to maximize the shareholder value by efficiently and effectively deploying resources in the pursuit of the entity’s objectives. Considering the increasing volatility, complexity, and ambiguity of the world, organizations need to be more adaptive to change. Owing to the importance of risk, the new concept of Enterprise Risk Management (ERM) evolved. Similar to the definition of risk, the definition of ERM also mean different things to different people (Sweeting, 2012). However, the key concept of ERM is the holistic management of all risk and not just management of individual risk (Brustbauer, 2016). Nonetheless, for the scope of this study, risk would mean a phenomenon that would, either positively or negatively, impact the performance of a business entity. This understanding and interpretation of the meaning of risk aligns with Hopkin’s definition of risk wherein he described risk as “anything that can impact the fulfilment of” a firm’s objectives (Hopkin, 2017, p. 16). According to Hopkin, risk can be defined as an event that has the ability to impact (inhibit, enhance or cause doubt about) the effectiveness and efficiency of the core process of an organization (Hopkin, 2017, p. 16).

Similarly, other risk management organizations also offer similar definition of risk as summarized in Table 2.

Table 2: Definitions of risk

ORGANIZATION	DEFINITION OF RISK
ISO GUIDE 73 **ISO 31000**	Effect of uncertainty on objectives and the effect may be positive, negative or a deviation from the expected. Risk can also be described by an event, a change in circumstances or a consequence.
INSTITUTE OF RISK MANAGEMENT (IRM)	Risk is the combination of the probability of an event and its consequences. Consequences can range from positive to negative.
INSTITUTE OF INTERNAL AUDITORS	The uncertainty of an event occurring that could have an impact on the achievement of the objectives. Risk is measured in terms of consequences and likelihood.

Source: Hopkin, 2017, p. 16

2.4 Concept of risk management

Hopkin defines risk management as the set of activities within an organization undertaken to deliver the most favorable outcome and reduce the volatility or variability of that outcome (2017, p. 46). Similarly, according to ISO31000, risk management means coordinated activities to direct and control an organization with regard to risk. The COSO ERM framework defines risk management as "the culture, capabilities and practices integrated with strategy-setting and performance, that organizations rely on to manage risk in creating, preserving and realizing value". Although, risk management originated in the insurance industry, the development of education and qualifications in risk management led to the emergence of risk management standards (Hopkin, 2017, p. 48) and hence the importance of its application in the business world.

2.5 Effective risk management practices in SMEs

Risks exist in various forms and can impact just a certain portion of the organization or the whole of it. For the purpose of this study, risk is classified based on the nature of the impact. For instance, as Hopkin (2017) states in his book, some risks may impact the finances of the organization while some risks would impact on the activities or reputation of the organization. Furthermore, risk can also be identified according to the sources of the risks, such as external and internal risks. According to Renault et al. (2018), risk identification has a positive impact on the perceived success of the SME. Similarly, the processes involved in risk management are also variedly expressed.

Although, often with certain variation in terminologies, the aforementioned processes are agreed upon by the international institutions related to risk management and the researchers alike. For instance, the initial COSO risk management strategy began with a four-step process: risk identification, qualitative or quantitative assessment of the identified risks, risk prioritization and response planning, and risk monitoring. Nevertheless, in order to address the evolving business environment, and hence, the risk, the COSO has integrated the enterprise risk management with strategy and performance such as objective setting and monitoring and control into its risk management framework (COSO, 2019). The overall process of risk management, as recommended by Frame (2003), Moeller (2007) and the international agencies like the COSO and the IRM Institute, and the ISO31000 boils down to the following:

1. Internal environment
2. Objective setting
3. Risk identification

4. Risk assessment
5. Risk response
6. Control activities
7. Information and communication
8. Monitoring

The processes or phases of risk management are being discussed hereunder.

2.5.1 Internal environment. The internal environment refers to the supportive internal environment which is a fundamental requirement for a successful ERM (Karunaratne, 2017). The internal environment sets the stage for risk appetite (how much risk the entity can take). Thus, the internal environment represents the attitude and awareness of the management and how the management considers the importance of the ERM within the business entity.

2.5.2. Objective setting. According to Hopkin (2010, p. 77), objectives must exist before management can identify potential risks that can affect their achievements. Having clear objectives signify the importance of strategic-planning process and serves as a basis for identifying, assessing and responding to risk. A clearly defined objective is imperative for risk management because a clear and concise objective or objectives determines the success of the business entity (Renault et al., 2018).

2.5.3. Risk identification. As a result, risk is categorized under four categories for this study –strategic risks, financial risks, operational risks and hazard risks as described hereunder.

1. Strategic Risks

Strategic risks pertain to any kind of risk that hampers the overall strategy of the organization. As proposed by Moeller (2007), strategic risks can occur due to external

factors such as competitor (Bruton et al., 2018; De Clercq et al., 2014), legal and regulatory changes (Das & Das, 2014), customer demands, industry and the overall economy. On the other hand, strategic focus, reputation of the company and patent and trademark protection are the internal factors that the businesses should consider (Moeller, 2007).

2. Operational Risks

Operational risks are the type of risks that disrupt the normal everyday activities (Hopkin, 2017). Operational risk factors such as human resource (Gao et al., 2013; Maliranta & Nurmi, 2019; Yiannaki, 2012), IT systems, supply chain (Falkner & Hiebl, 2015) and human resource development are internal to a business entity while the regulation changes (Bruton et al., 2018; Das & Das, 2014) and customer satisfaction (Yiannaki, 2012) are external factors that would hinder the daily activities of the business.

3. Financial risks

Although all the risks, if not managed, would eventually impact the finance of a company, financial risks encompass the risks that could affect the company finance both from within and from outside. Financial risks such as liquidity risk, cashflow risks and alignment with accounting standards are internal risks, meaning they can be managed by the organization. Conversely, financial risks such as interest rate risk, credit risk, taxation (Das & Das, 2014; Moeller, 2007) and foreign exchange are not within the capacity of the organization.

4. Hazard risks

Similar to the many external risks, hazard risks are usually beyond the control of the firm. Hazard risks can cause unplanned disruption for the organization (Hopkin,

2010). Nonetheless, the organizations can have certain measures in place to mitigate or handle the hazard risks. Unexpected and uncontrollable risks such as natural events, employee hazards and damage to the physical assets. The four types of risk along with their risk elements are as depicted in Table 3.

Table 3: Different categories of risks

	Risk Elements	
Risk Categories	**Internal Risks**	**External Risks**
Strategic Risks	1. Strategic focus 2. Reputation 3. Intellectual property	1. Competitor risk 2. Industry risk 3. Economy risk 4. Customer demand 5. Legal and regulation changes
Operational Risks	1. Human resources 2. IT Systems 3. Training and HRD	1. Supply chain 2. Regulation changes 3. Customer satisfaction
Financial Risks	1. Liquidity 2. Cashflow 3. Internal Control 4. Investments	1. Interest rate 2. Credit risk 3. Taxation 4. Foreign exchange 5. Accounting standards
Hazard Risks/ Infrastructure Risks	1. Employees 2. Health and Safety	1. Natural disasters 2. Contracts 3. Transport links

Source: From various literature sources

2.5.4. Risk assessments. Once the probable significant risks impacting or would be impacting the business entity are identified, the next step is to assess them for their likelihood of happening and their magnitude of harming the business (Moeller, 2007). According to Vaughan (1996), there are two reasons why the potential severity of risks

should be measured. The first reason is that “some notion of severity is necessary” to determine whether a particular risk is ultimately classed as critical, important, or unimportant/negligible depends on the severity of impact. The second reason is to devise various from of mitigation techniques.

2.5.5. Risk response.

> “*Identifying and managing risk is still poorly understood as a business tool. Many failed companies could have survived if they had embraced risk management as central to their business ethos.*” Institute of Directors (2003)

An old Bhutanese adage says, “A fire should be extinguished when it is small. Enemies should be subdued when they are young”. Similar analogy can be applied in terms of risk management. A small risk, if not treated on time, may become catastrophic. And more importantly, SMEs need to adopt risk management strategies since they lack the resources to respond to the different types of risks, thus endangering their entire existence (Hiebl et al., 2019; Hopkin, 2017; Moeller, 2007). Although risks can be predicted on the basis of experience, it is better to manage through a use of risk management framework or method. Such a framework would entail the use of identification of risks, measurement or evaluation of the magnitudes of risks, and treatment of risks (Duckert, 2010; Hopkin, 2017; Moeller, 2007).

The COSO framework explains the importance of a systematic process when it comes to risk management. The risk management process begins with the setting up of the enterprise or the business objectives. During this stage, knowing the organizational structure, the resources available and most importantly, the identification of risk/s takes place. The second stage encompasses the assessment and analysis of the risk/s such as

the probability and magnitude associated with the various risks. In this stage, it is important to define a threshold of acceptability depending on the risk appetite of risk to proceed to the next stage. The risk appetite depends on the availability of the resources or the top management. The third stage involves the treatment of the various risks by identifying the most appropriate methods to mitigate the risks. Nevertheless, the whole process requires supervision and monitoring (Moeller, 2007).

2.5.6 Control activities. Control activities encompass the policies and procedures established by the management to ensure that the ERM, especially risk responses are efficiently and effectively executed. A strict implementation of the control activities would lead to a better performance, according to Karunaratne (2017).

2.5.7. Information and communication. Information is key at all levels of a business entity in order to identify, assess and respond to risk. An effective information and communication channel within the entity is a must to reap the benefits of ERM. There should be a clear chain and means of information and communication so that all the stakeholders within the organization are abreast of the recent developments, especially pertaining to risk management.

2.5.8 Monitoring. The risk management process does not end after the risk is countered. It is equally important to monitor the "entirety of enterprise risk management" (Hopkin, 2017, p. 77). In fact, monitoring, reviewing and a continuous improvement process would ensure the organization's success (Renault et al., 2018). Furthermore, Hopkin also mentions that systematic processes such as policies and procedures should be developed and implemented to ensure that the risk responses are effectively carried out (2010, p. 77).

2.6 Factors affecting risk management and firm performance

Certain factors determine the effectiveness and hence, the success of an organization due to proper management of risks. The most prominent and widely studied factors are characteristics of the owner/manager (Cabrer-Borrás & Rico Belda, 2018; De Clercq et al., 2014; Johnsen, 2005; Maliranta & Nurmi, 2019; Sadeghi, 2018; Sax & Torp, 2015) and the enterprise characteristics (Bruton et al., 2018; De Clercq et al., 2014; Johnsen, 2005; Mardessi & Ben Arab, 2018; Sadeghi, 2018; Yang et al., 2018).

2.6.1 Risk management, firm performance and the owner/manager characteristics. There are various factors that determine the success of an SME. The first determinant that determines the success of the SMEs is the characteristics of the firm owner or the manager. A study by Maliranta and Nurmi (2019), using secondary data, found higher educational attainment (University degree) is strongly and positively related to firm productivity. They have concluded that characteristics and the competency of the owner is vital for the success of a SME. Similarly, Cabrer-Borrás and Rico Belda (2018) corroborates the findings wherein they found significant relationship between educational level of the proponents and business success. In addition to the owner or manager traits, the enterprise size and industry type also determines the need of a formal risk management practices (Mardessi & Ben Arab, 2018).

What is more important than the gender and age of the owner/manager is the entrepreneurial competencies of the owner/manager. Entrepreneurial competencies are observable behaviors and can influence firm performance since they are more tied to performance than other entrepreneurial characteristics such as personality traits and

intentions (Bird, 1995). A study by Sánchez (2012) confirmed that there is a positive relationship between entrepreneurial competence and firm performance. Similarly, several other studies have found that entrepreneurial competencies lead to better firm performances (Andika & Puspita, 2018; Behling & Lenzi, 2019; Lopa & Bose, 2014; Ng & Kee, 2018; Tehseen et al., 2019).

However, a study by Johnsen (2005) in Australia found no significant relationship between the gender of firm owner/manager and financial performance of the business. Nonetheless, financial literacy of the owner/manager significantly moderates the relationship between risk management and competitive advantage of a firm (Yang et al., 2018). Although the relationship between personal competencies and characteristics and firm performances are widely studied, there are no published researches on personal competencies and risk management.

Therefore, since there are varied findings and opinions regarding the relationship between the risk management processes, the performance of the firm and the characteristics (gender, age, education and personal competencies) of the owner or the manager of the enterprise, this study intends to test the following hypotheses:

H_1: The characteristics of the owner/manager has significant effect on the risk management strategies of the SME.

H_{1a}: The gender of the owner/manager has significant effect on the management of risks in the SMEs.

H_{1b}: The age of the owner/manager has significant effect on the management of risks in the SMEs.

H_{1c}: The educational qualification of the owner/manager has significant effect on the management of risks in the SMEs.

H_{1d}: The personal competency of the owner/manager has significant effect on the management of risks in the SMEs.

2.6.2 Risk management and the enterprise characteristics. Similar to the owner/manager characteristics, the enterprise characteristics is equally important while formulating risk management strategies and managing risks. Not only that, the requirement of risk management policies and strategies also depends on the type and size of the organization or the firm. For instance, a study by Mardessi and Ben Arab (2018) and Turner and Ledwith (2018) found that bigger firms require more formal ERM implementation as opposed to smaller firms. Similarly, Yiannaki (2012) points out that smaller SMEs face more difficulties while implementing risk management as compared to larger corporations because bigger enterprises will have more resources. Similarly, Cantonnet et al. (2019) have found that not only the larger enterprises follow more systematic way of risk management but also have the risk management procedures in place.

H_2: The enterprise characteristics significantly affect the risk management of the SMEs.

H_{2a}: The age of the enterprise significantly influences the risk management strategies of the SME.

H_{2b}: The size of the enterprise significantly influences the risk management strategies of the SME.

2.7 The measure of enterprise performance

The enterprise or the SME performances are measured mostly in terms of both financial and nonfinancial performances as per the extant literature reviews. Most commonly used financial measures are Return on Investments (ROI), Return on

Equities (ROE), Return on Sales (ROS), Return on Assets (ROA) and Net Profit Margins (NPM) while growth measures such as sales, employee and asset growth are used as nonfinancial measures. In addition, nonfinancial measures including the existence and expansion of research and development, customer and employee satisfactions are used to proxy the nonfinancial performance of the SMEs as detailed hereunder.

2.7.1 Financial performance. Financial performance is the measure of how well a business is doing based on the outcome of business operations. The most commonly used measure of financial performances are ROI (Bruton et al., 2018; Dahmen & Rodríguez, 2014; De Clercq et al., 2014; Pratono, 2018; Yang et al., 2018; Yiannaki, 2012), ROE (Johnsen, 2005; Yang et al., 2018; Yiannaki, 2012), ROS (Cucculelli & Bettinelli, 2015; Hiebl et al., 2019; Pratono, 2018; Sidik, 2012), and NPM (Bruton et al., 2018; Dahmen & Rodríguez, 2014; De Clercq et al., 2014; Gupta & Batra, 2016; Kemayel, 2015; Sidik, 2012; Yiannaki, 2012). However, financial indicators have their own limitations such as delay (historical), being short-term objective oriented and exhibition of consequences rather than causes of the effects (Palic, 2017), hence, it is vital to consider the nonfinancial performances as well.

2.7.2 Nonfinancial performance. The limitations of the financial performances can be curbed by employing nonfinancial performance indicator which views an enterprise as a socio-economic system – “a complex network of internal and external relations, which must be balanced carefully” (Dobrovic et al., 2018). Hence, the aspects of an enterprise that cannot be measured by financial indicators (Palic, 2017) are called nonfinancial indicators. The most frequently used nonfinancial indicators are sales growth (Bruton et al., 2018; Cucculelli & Bettinelli, 2015; De Clercq et al., 2014; Gupta

& Batra, 2016; Hiebl et al., 2019; Johnsen, 2005; Kemayel, 2015; Rehman & Anwar, 2019)**,** employee growth (Burvill et al., 2018; Johnsen, 2005; Maliranta & Nurmi, 2019; Sidik, 2012), asset growth (Johnsen, 2005; Yiannaki, 2012)**,** research and development (Burvill et al., 2018; Cucculelli & Bettinelli, 2015)**,** customer satisfaction (Burvill et al., 2018; Gupta et al., 2015; Kemayel, 2015; Rehman & Anwar, 2019; Sidik, 2012; Yang et al., 2018; Yiannaki, 2012) and employee satisfaction (Burvill et al., 2018; Rehman & Anwar, 2019; Sax & Torp, 2015; Yang et al., 2018).

2.7.3 Risk management and the enterprise performance. There are various ways to measure the success of an enterprise and many studies have confirmed that management of certain risks in their enterprises have direct relationship with success or performance of those enterprises (Bruton et al., 2018; Yiannaki, 2012). Hence, following the scientific method of risk management is vital for an organization (Aven, 2016). In particular, risk management directly impacts the company's financials such as the ROI, ROE and ROS (Bruton et al., 2018; Cucculelli & Bettinelli, 2015; Yiannaki, 2012).

Nevertheless, risks not only affect the financials of the organization but also the nonfinancial performances such as employee growth (Das & Das, 2014), asset growth (Yiannaki, 2012) and sales growth (Bruton et al., 2018; Cucculelli & Bettinelli, 2015; De Clercq et al., 2014). Managing risks reduces the likelihood of business failure and hence, the scientific process of risk management is vital for a company. The scientific method entails following a particular process as shown in Figure 1.

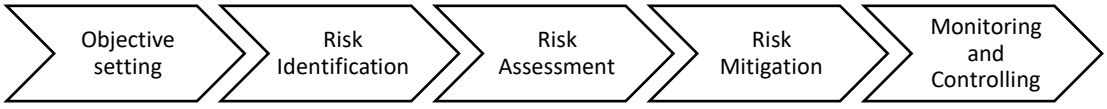


Figure 1: The scientific process of risk management

"At the broadest level, risk management can benefit society as a whole" (Sweeting, 2012, p. 3). The recent Subprime Meltdown or the Subprime Mortgage Crisis vividly supports the claim of Sweating because if the risk is not managed, it can impact everyone. By managing risk, enterprises can have a better trade-off between risk and return. Although risk management is a hot topic of discussion at the corporate level, with the SMEs' growth and impact on the society, the risk management of SMEs have become equally important (Duong, 2009). This is supported by the study conducted by Renault et al. (2018) suggesting that the risk management practices such as knowing the organizational environment, defining the project objective, evaluating the resource requirements, risk identifications and measurements, communication approach and evaluation, responding to risk, action planning and monitoring with continuous review and improvement are vital for the SMEs' success.

According to Hopkin (2017), risk management enhances the effectiveness and efficiency of operations within the organization. Furthermore, risk management is required not only for strategic decision making but also for the routine operations of the enterprise. An organization's future is bleak without having some form of risk management strategy. Hence, numerous studies have been conducted to determine the benefit of risk management practices throughout different economies, thus leading to the assumption that SMEs employing Erm would be performing better than those who do not.

H_3: The SMEs employing ERM practices are performing significantly better than those who aren't.

2.8 Literature Gap

The review of extant literature related to ERM and SME performances indicated that the published studies only explored the following relationships:

1. ERM and firm performance;
2. Owner/manager characteristics and firm performance;
3. Owner/manager characteristics and success;
4. Entrepreneurial orientation and risk performance/business performance;
5. Presence of risk officer, internal auditor and implementation of ERM; and
6. Competitive advantage and firm performance.

The detailed matrix can be found in Appendix I. Thus, the existing literature indicated that there are several literature gaps which are not covered by the published sources such as theoretical gaps, methodological gaps and geographical gaps as detailed hereunder.

2.8.1 Theoretical Gap. Although there are handful of published papers on ERM and performance, majority of the publications are based on larger firms or financial firms especially in the banking and insurance sectors. In addition, most publications are using either just risk management in general or specific risk managements areas such as financial risk management, insurance, and so on. The holistic concept of ERM is sparingly used, and furthermore, a complete framework is never indicated. For instance, the closest source to the current paper is a research by Yang et al. (2018) wherein they looked at the relationship between ERM and firm performance which is mediated by competitive advantage and moderated by financial literacy. Similarly, the other related and relevant papers also presented isolated frameworks as mentioned above.

The Administrative Theory and PECs consider the importance of holistic performance of the SME owner/managers. However, the existing studies just looked at either the owner/manager characteristics and firm performance or owner/manager characteristics and ERM. Nonetheless, the published studies on owner/manager characteristics and ERM are minimal. Therefore, the current study posits that owner/manager characteristics influence the ERM resulting in variation in SME performances.

2.8.2 Methodological Gap. The other gap in literature was the methodological gap since most of the published papers are based on either quantitative secondary data, quantitative survey data or qualitative data. Only one publication used mixed methods, however, the paper did not specifically study the same topic as the current study. The methodological approaches of the relevant studies are also indicated in Appendix I. Furthermore, the studies used either simple regression methods or just descriptive statistics or grounded theory.

Thus, the current research used convergent mixed methods research to triangulate the information extracted from the quantitative data using interview data. The advantages of using mixed methods design are spelled out in detail in Chapter 3. As a part of the mixed methods design, the hypotheses are tested using MIMIC model (SEM) which served as a way to compare group means with one another. The qualitative (interview) data are analyzed using thematic analysis methods and the results are integrated according to the framework of Creswell and Plano Clark (2018).

2.8.3 Geographical Gap. Almost all of the published studies are based on developed and bigger economies. There are no similar studies being conducted in

Bhutan. Any information on SME performance are government and CSO publications. Thus, such an academic and empirical study is necessary as Bhutan is also a part of the bigger global economy. Being in the world's business environment, the international best practices must be followed irrespective of the geographical location and size of economy.

2.9 The Conceptual Framework

The conceptual framework developed for this study is as shown in Figure 2. The objectives of the study are to determine the determinants of risk management practices and their roles in the success of the production and manufacturing SMEs in Bhutan. However, before measuring the success, the scientific method of risk management needs to be followed. Although the first step for risk management is the formulation of strategies for the organization, the key step in risk management should start from identification of risks. If an enterprise is unable to identify the key risks, then the techniques of risk management may not work.

Furthermore, as depicted in Figure 2, the relationship between risk identification, risk mitigation and the success of the production and manufacturing SMEs in Bhutan will be explored. However, as many studies have found that enterprise characteristics and owner/manager characteristics also determine the performance and success of the SMEs, this study will also attempt to corroborate with others' findings. Thus, the independent (predictor) variables are: 1) SME's *owner/manager characteristics* measured by a combination of age, gender, qualification and entrepreneurial competency; 2) *firm characteristics* measured by firm age and firm size; 3) the five processes of ERM; and these three would determine the effectiveness of risk management of a firm and its impact on the SME performance.

The dependent variable (SME performance) is measured in terms of financial performance and non-financial performance. The financial performance is measured based on profit margin, return on sales (ROS) and return on assets (ROA). Whereas, non-financial performance is measured by sales growth, asset growth and employee growth.

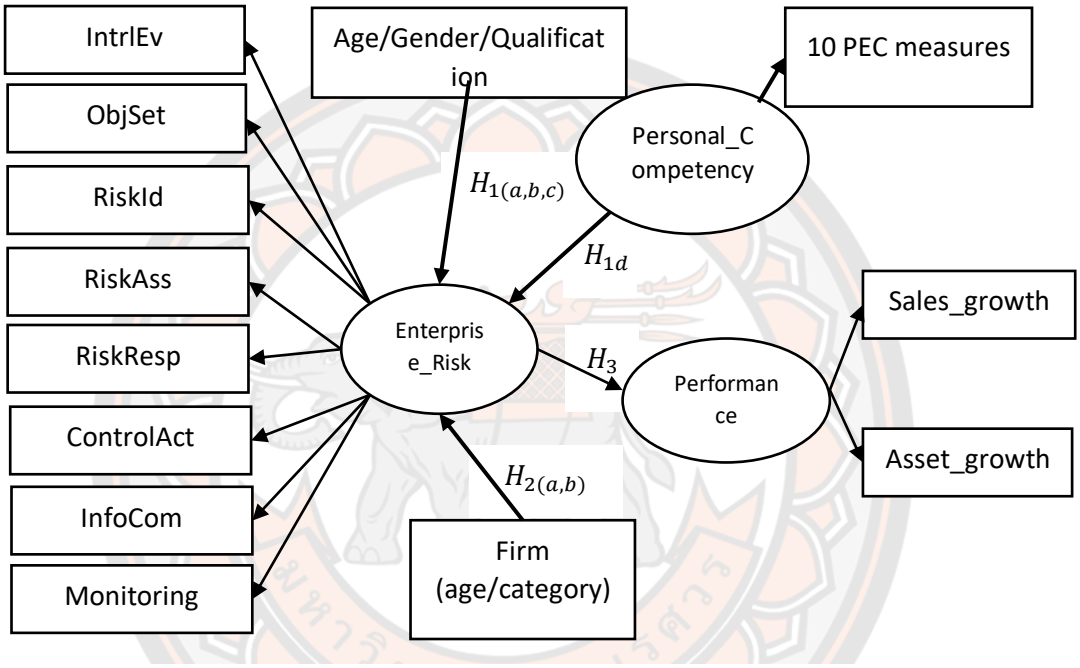


Figure 2: The theoretical framework of the study

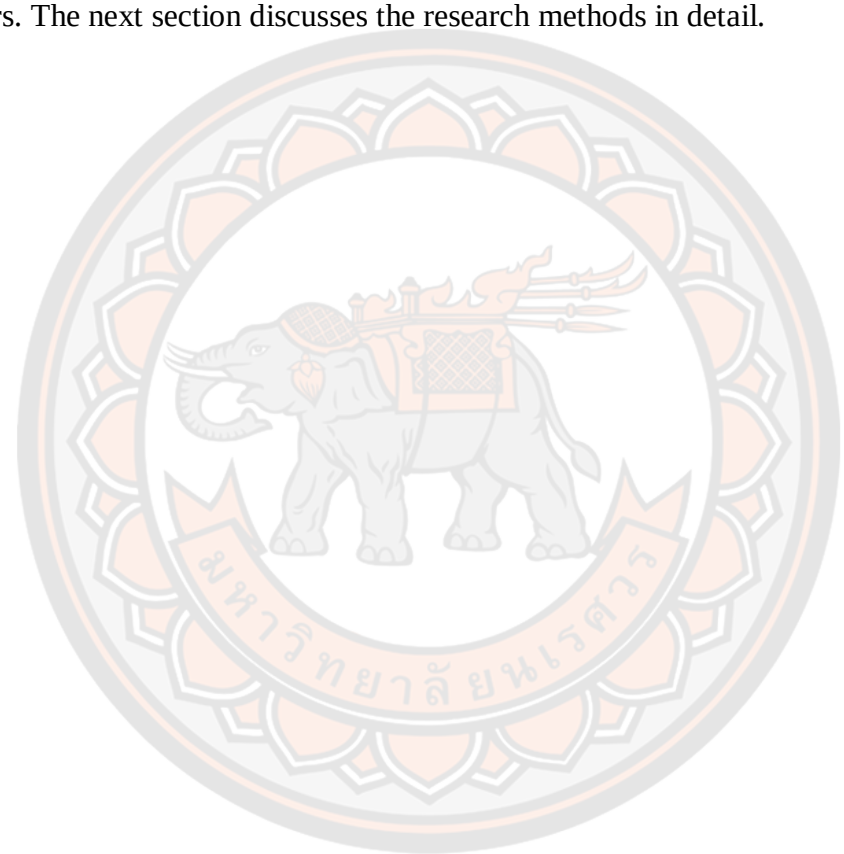
2.10 Chapter Summary

Starting from the Administrative Theory and its importance in risk management, this chapter discussed at length the theories and prior empirical studies conducted with regard to ERM and firm performance. From evolution of administration to business management and to the conceptualization of the theoretical framework, extant literature review was conducted.

This chapter also discussed at length the concept of risk as well as risk management and the influence of individual personal characteristics on risk

management. The individual characteristics is represented by what is called the PEC. Prior empirical studies were also reviewed to compare and contrast the results and to identify research gap for the current study.

Finally, several hypotheses were developed based on the existing literature and the hypotheses and the theoretical framework are developed and presented to the readers. The next section discusses the research methods in detail.



Chapter 3 Research Design and Methodology

Chapter 3 discusses the research design and methodology of the study. Starting with the research paradigm or worldview to the definition of specific methods used for this study, this chapter discusses in detail the methods of the study. A mixed methods study using survey and interview is chosen based on extensive review of literature. Thus, this chapter presents the detailed process of data collection and analysis including sampling method and the process of collecting both quantitative and qualitative data. This chapter further discusses the analyses of data and the use of structural equation modeling (SEM). The topics covered in Chapter 3 are as follows:

3.1 Introduction

3.2 Research philosophy

3.3 Research approach

  3.3.1 Mixed methods approach

3.4 Data collection and analysis

3.5 Population and sampling

  3.5.1 Sampling for quantitative data

  3.5.2 Sampling for qualitative data

3.6 Integration of quantitative and qualitative results

3.7 Ethical considerations

3.8 Chapter summary

3.1 Introduction

According to Cooper (2003, p. 146), “Research design is the plan of and structure of investigation so conceived as to obtain answers to research questions”. The research design needs to express “both the structure of the research problem and the plan of investigation used to obtain empirical evidence on relations of the problem”. As a result, a research design should help in deciding what, where, when, how much, and by what means while conducting an inquiry or a research study (Kothari, 2007).

This study is a cross-sectional empirical mixed methods study wherein the researcher collected both quantitative and qualitative data from the existing production and manufacturing SMEs in Bhutan. Such an integrated research paradigm is chosen because according to Greener (2008), triangulation – “where different methods of data collection and analysis will both enrich and confirm the picture you collect of a situation”. From the data collected and observations made, conclusions will are drawn based on logical reason (deduction process) (Ghauri & Grønhaug, 2010) as per the existing theories and literature. Nonetheless, quantitatively-driven mixed method designs are not only the most commonly used methods but are also easier to apply than qualitatively-driven mixed methods (Morse & Niehaus, 2016, p. 117). The details of the methods to be followed are as described hereunder.

3.2 Research Philosophy

The essence of research philosophy or worldview or research paradigm is to give a strong foundation of knowledge in order to successfully and succinctly execute the entire research process. Knowing the kind of research paradigm that one is following or the philosophical stance as a researcher would guide the researcher about the kind of data to be collected, analyzed and used about a phenomenon. Experts like Creswell and Plano Clark (2018) assert the importance of philosophical foundations since they

"shape the process of research and the conduct of inquiry". The authors further explain the existence of four levels for developing a research study.

The first or the broadest level involves the consideration of the philosophical assumptions or the worldview behind the study. This indicates how the researchers gain knowledge about what they know. Once the researcher knows their philosophical assumptions, they will be able to develop a theoretical stance (theoretical lens) which would lead to the development of overall methodology such as the strategy to use, plan of action, or a research design. The methodology would contain the methods such as the tools and techniques used to collect, analyze and interpret the data as depicted in Figure 3.

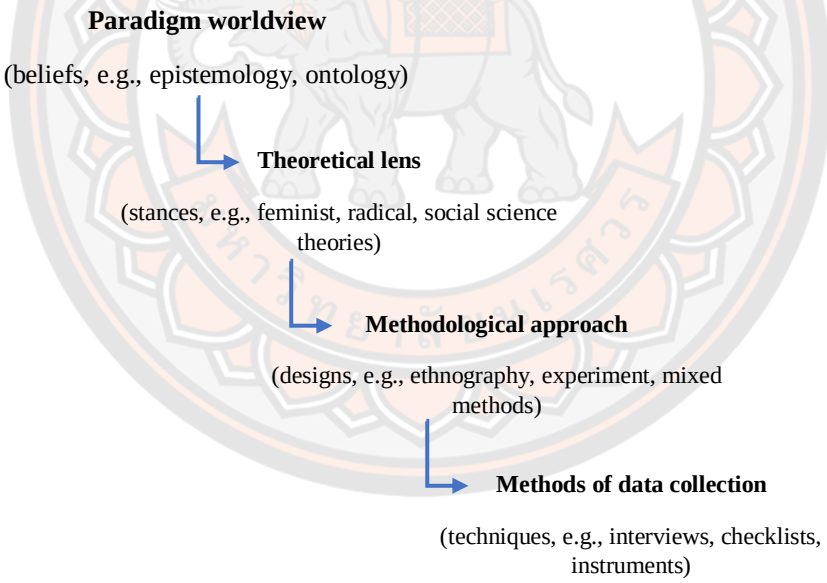


Figure 3: Four levels of developing research study
Source: Creswell and Plano Clark, 2018

With regard to the worldviews, there are four world views: *postpositivism*, *constructivism*, *transformative worldview* and *pragmatism* (Creswell & Plano Clark, 2018; Plano Clark & Ivankova, 2016). According to Cresswell and Plano Clark (2018),

postipositivism is the acquiring of knowledge applying scientific methods such as experimentation, observation and reasoning to understand a phenomenon or enhance knowledge and human understanding. The postpositivist worldview derives knowledge by understanding cause-and-effect (determinism), or by narrowing down and focusing on select variables to interrelate (reductionism), or by making detailed observations and measuring variables, or by testing theories that are continually refined.

The next worldview, *constructivism*, tries to understand the subjective world of human experience through a qualitative approach. The constructivist paradigm starts by understanding individuals and their interpretation of the social interactions around them and then broadens their understandings following a "bottom up" approach, finally leading to theory generation. On the other hand, *transformative worldview*, emphasizes on the need for social justice and the pursuit of human rights (Creswell & Plano Clark, 2018). It focuses on addressing social, political and economic issues such as empowerment, marginalization, patriarchy and so on to bring positive changes, hence the name transformative. The final worldview, *pragmatism* focuses on the importance of the research question asked rather than the method of acquiring knowledge. The mixed method research scholars like Tashakkori and Teddlie (2003a) highlight the importance of pragmatism in mixed method designs.

According to Butler-Kisber (2018), researchers with pragmatist worldview are "most interested in in the actions, situations and consequences of inquiry". The researchers with such worldviews give importance to the type of research question asked and the use of multiple methods of data collection to address the research problem. Thus, this philosophy or worldview is often considered as an overarching philosophy in mixed methods researches (Plano Clark & Ivankova, 2016) since

knowledge is acquired by interactions of independent observations and subjective constructions. Similarly, Creswell and Plano Clark (2018) suggest following the pragmatism paradigm since it provides an umbrella worldview for mixed methods research study.

From the aforementioned philosophical assumptions, it was evident that the current study inclined towards the pragmatism worldview since the study followed a deductive approach wherein the business and management theories are testing using empirical data. Furthermore, the study used research questions and hypotheses as point of inquiry and used both quantitative and qualitative data collection methods (multiple methods of data collection). As a result, the deductive approach and the data collection methods are explained in the following sections.

3.3 Research Approach

The study followed a deductive approach since the study is theoretically driven – the researcher developed a relationship between concepts with the help of theories and prior studies. Once the relationship is established, the relationship is narrowed down to more specific hypothesis(es) and then tested using data (Ang, 2014, p. 8). Decisions or conclusions are made based on the outcomes of hypothesis/es testing as depicted in Figure 4.

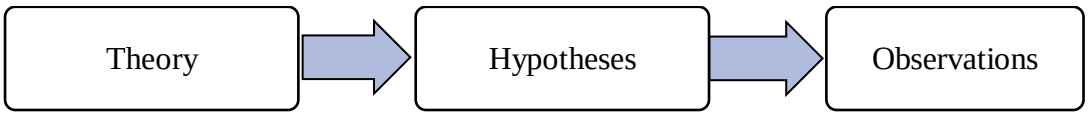


Figure 4: The deductive approach to research
Source: Ang, 2014

With the aforementioned approach, the study used both quantitative and qualitative design, commonly known as the mixed methods design (Creswell, 2009; Morse & Niehaus, 2016) or mixed methods research (Creswell & Plano Clark, 2018). Thus, the current study used mixed methods design, the convergent design (Creswell & Plano Clark, 2018) in particular. The convergent design or concurrent design allows the researcher to combine the results of the quantitative and the qualitative data analyses so they can be compared or combined (Creswell & Plano Clark, 2018).

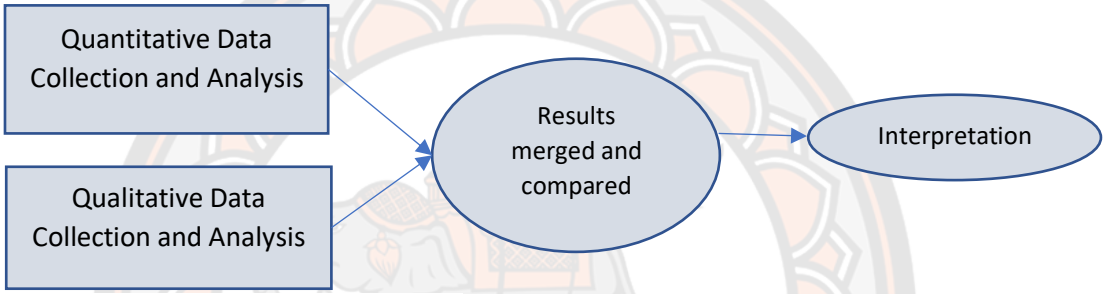


Figure 5: The Convergent Design
Source: Creswell and Plano Clark(2018)

The first step in the mixed methods design is the designing of the quantitative and qualitative strands. The main intent of the convergent or concurrent design is to bring together the strengths and weaknesses of quantitative and qualitative methods by obtaining different but complementary data on the same topic (Creswell & Plano Clark, 2018).

***3.3.1 Mixed methods approach*.** According to Creswell and Clark (2011, p. 20), mixed methods research approaches date back to the late 1980s where writers wrote books, book chapters and articles on "an approach to research that moved beyond simply using quantitative and qualitative methods as distinct, separate strands in a study". The authors discussed about the integration, possible research designs and naming of the new design. The mixed-method today has been known with different

names starting from “integrated” or “combined” research to “mixed methodology” (Creswell & Clark, 2011, p. 22). Morse and Niehaus define mixed method design as “the use of two (or more) research methods in a single study, when one (or more) of the methods is not complete in itself” (2016, p. 9). More explicitly, a mixed method design can be defined as “a scientifically rigorous research project, driven by the inductive or deductive theoretical drive, and comprised of a qualitative or quantitative core component with qualitative or quantitative supplementary component(s)” (Morse & Niehaus, 2016, p. 14).

Furthermore, Creswell (2009, p. 206) emphasizes that the design of the mixed methods depends on four important aspects – timing, weighting, mixing and theorizing. Timing is an important factor while developing a proposal. Timing here refers to the timing of the qualitative and quantitative data collection and the two types of data can be collected in phases (sequentially) or at the same time (concurrently). The next factor is the weight or priority given to the qualitative or the quantitative research in a particular research, which can be either equal or more emphasis given to either of the two. The third factor refers to mixing of the data by either merging the qualitative and quantitative data on “one end of the continuum, kept on the other end of the continuum, or combined in some way between these two extremes”. Finally, theorizing means the theoretical perspective that guides the entire design including the types of questions asked, choices of the participants of the study, the method of collection of data and the outcome of the study.

Furthermore, the mixed methods designs are classified into six types of strategies by Creswell (2009, pp. 206–217).

(i) Sequential explanatory strategy,

(ii) Sequential exploratory strategy,

(iii) Sequential transformative strategy,

(iv) Concurrent triangulation strategy,

(v) Concurrent embedded strategy, and

(vi) Concurrent transformative strategy

The aforesaid six major strategies are essential for a researcher in formulating a research proposal, and each design differs based on the timing, mixing and theorizing of the design. The six types of designs can be employed based on the nature of the inquiry and for this particular proposed study, the fourth strategy, concurrent triangulation strategy, is applicable. The concurrent triangulation strategy is renamed as "the convergent design" by Creswell and Plano Clark (2018). The mixed methods design in general and mixed methods triangulation strategy in particular is adapted since the researcher's objective is to triangulate the quantitative information using the qualitative data as the survey methods have several disadvantages that can be curbed to some extent by an interview.

Concurrent triangulation strategy

The proposed study required both quantitative and qualitative data to be collected concurrently. Once the two types of data are collected, the two databases are used to determine if there is convergence (*confirmation*), differences (*disconfirmation*) or some combination (*cross-validation or corroboration*) (Creswell, 2009, p. 213). This particular method will not only offset the weaknesses inherent in using either quantitative method or qualitative method but also result in well-validated and substantiated findings (Tashakkori & Teddlie, 2003b). The two data sets are merged or transformed for easy comparison and presented either during interpretation or

discussion as suggested by Creswell (2009). One of the advantages of concurrent mixed method design is that it can produce well-validated and substantiated findings since the concurrent strand implementation permits the use of different but complementary data on the same topic (Clark & Ivankova, 2015, p. 120).

Although there are some drawbacks of using the concurrent triangulation strategy such as lack of clarity in comparison of the two different sets of data, the utility and the reliability of the findings outweighs the disadvantages of using the strategy. Moreover, mixed methods research provides better (stronger) inferences and the "opportunity for a greater assortment of divergent views" by addressing "a range of confirmatory and exploratory questions using both qualitative and quantitative approaches" simultaneously (Morse & Niehaus, 2016, p. 33; Tashakkori & Teddlie, 2008). Therefore, based on the aforementioned reasons, this research followed the concurrent triangulation strategy (Tashakkori & Teddlie, 2003a) or the convergent design (Creswell & Plano Clark, 2018), and collected both quantitative and qualitative data concurrently and then corroborated the outcomes of the two databases. This research study has a quantitative core component with a qualitative supplemental component where the mixed method was applied at the result level (Clark & Ivankova, 2015) as shown in Figure 6.

The theoretical review mentioned above elucidated the importance and relevance of mixed methods research and convergent design in particular for this study, and it can be explained in threefold. Firstly, a completely quantitative study is unfeasible since one of the intentions of the study was to determine if the SME owners were aware of the various types of risks and the terminologies used. If the terminologies related to risks were already mentioned in the questionnaire then the test of their knowledge on it

would make less sense as it can cause confirmation bias. On the other hand, a completely qualitative method would also not be able to cover a wide range of SMEs owing to the geographical location as well as the time constraints of the study.

The second reason complemented the first since the qualitative (interview) data enriched the survey results and provided a better understanding of the ERM and its performance compared with what would be obtained through the survey data alone. The closed-ended survey questions provided only restricted options and limited the empathetic expressions that were captured by the semi-structured interview. One best example is determining the personal quality. For instance, the PEC instrument only has the aggregated quantitative aspect while the interview was able to determine even the kind of leadership quality that the SME owners/managers might be following in their SMEs.

Finally, the stipulated duration of data collection, which was further hampered by the COVID-19 pandemic, swayed the decision towards employing convergent mixed methods designs as both the qualitative and quantitative data can be collected concurrently. A sequential method would have consumed more time and resources and prolonged the duration of the study. Hence, the convergent triangulation mixed methods strategy was followed to curb the drawbacks of just employing one research method and to enrich the survey results with the qualitative results.

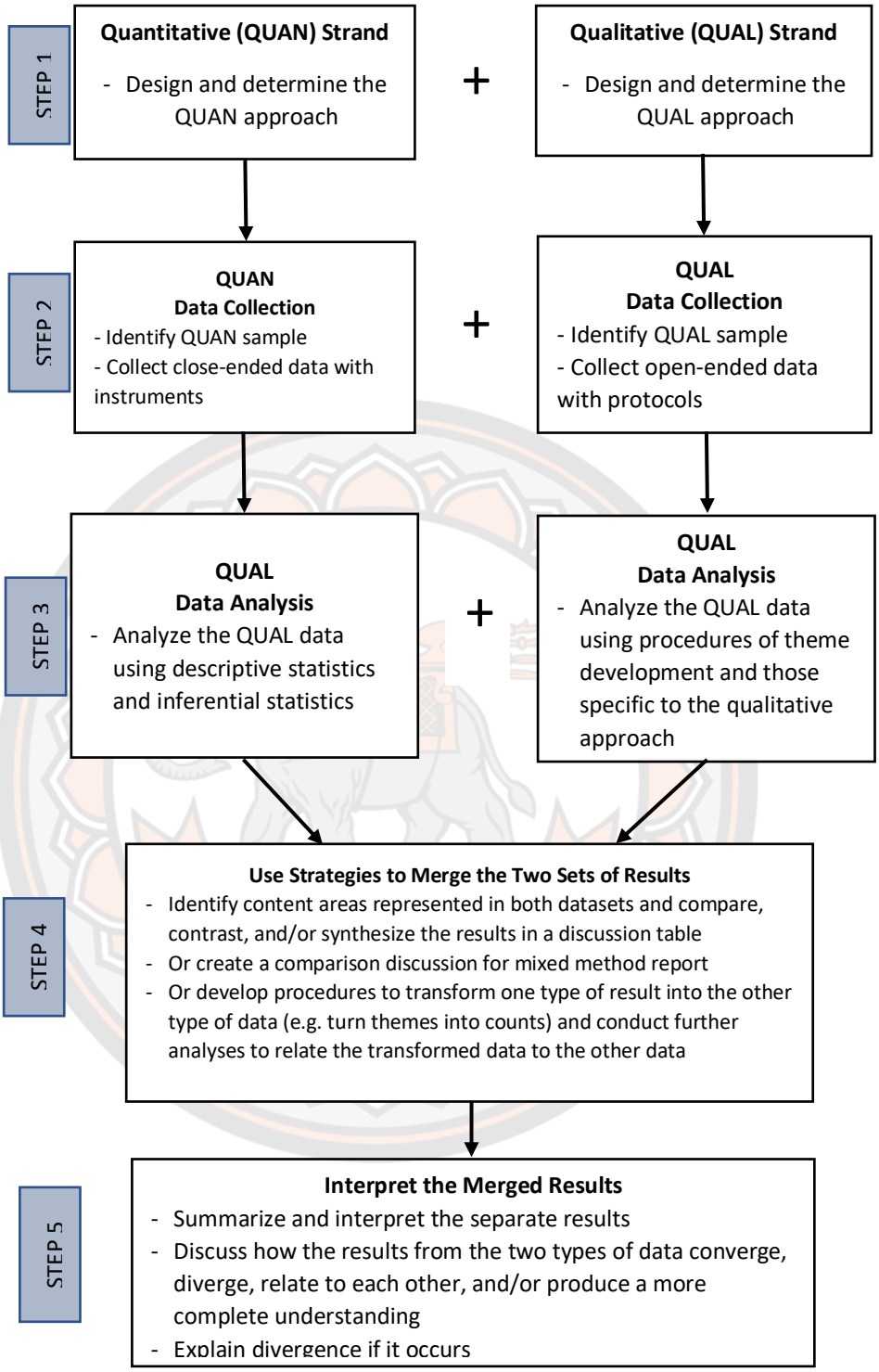


Figure 6: Concurrent Triangulation Design AKA the Convergent Design

Source: Creswell & Plano Clark, 2018; Plano Clark & Ivankova, 2016; Tashakkori & Teddlie, 2003a

3.4 Data Collection and Analysis

As shown in Figure 6, data collection and data analysis are the second and third steps that are required to be followed once the mixed methods design is completed. The underpinning concurrent triangulation method (convergent design), requires the collection of both quantitative and qualitative data. As discussed earlier, both types of data are collected roughly at the same time (Creswell & Plano Clark, 2018). However, the study followed a quantitatively-driven mixed method design (Morse & Niehaus, 2016, p. 117) meaning it adopted a deductive theoretical drive (quantitative core component) with a simultaneous qualitative supplementary component (Morse & Niehaus, 2016, p. 25). In order to achieve the objectives of the study using quantitative data, both primary and secondary quantitative data are required. The primary data are those data that are collected afresh for the first time while the secondary data are those that are already collected by someone and have passed through some sort of statistical process (Kothari, 2007, p. 95). The concurrent design also called as the convergent design (Creswell & Plano Clark, 2018) requires both quantitative and qualitative data to be collected roughly at the same time, and then analyzed separately. The results from the two databases are then compared based on the objective of the study. The sample selection, data collection and data analysis methods are as detailed hereunder.

3.4.1 Quantitative data. Quantitative data refers to virtually all numerical data or data that could be quantified usefully to answer the research question(s) or corroborate the objective(s) and can range from simple frequency of occurrences to more complex data such as prices or rental costs (Saunders, 2016, p. 414). Quantitative data can either be primary or secondary. In the proposed study, primary data are collected and used to achieve the objectives.

The quantitative primary data are gathered following the survey method – questionnaires administered within a delimited geographical area (Morse & Niehaus, 2016, p. 121). The survey questions are designed based on the theoretical framework to elicit the information needed. The survey or questionnaire method is chosen because questionnaire method is a popular method especially when a large number of data is required (Kothari, 2007, p. 100). The items of the questionnaire are based on the extant literature review and the unambiguous questions posed in logical order to answer the research questions. All the questionnaire pertaining to quantitative data are in closed-ended form while qualitative data are collected via open-ended interviews.

Furthermore, the questionnaire items are based on attitude scales and personality inventories. According to Teddlie and Tashakkori, "attitude scales include measures of attitude, beliefs, self-perceptions, and aspirations toward some topic of interest while personality inventories includes questionnaires and checklists to measure the personality attributes of respondents" (2008, pp. 233–234). The questionnaire is designed to collect information on the SMEs' knowledge of risk management techniques as well as the various risks impacting the SMEs as per the extant literature. The demographic information of the SMEs such as the firm size and firm age as well as the demographic information of the SME owners or manager are captured by the questionnaire (See Appendix II).

The owners or the CEOs were enumerated as the respondents to the survey. As an auxiliary measure, any member of the top management team with a good knowledge of the SME are chosen if the owner or the manager were not available during the time of the enumeration. The researcher administered the questionnaires via email, in person as well as used other social media to connect with the respondents due to the various

restrictions and inconveniences caused by the COVID-19 pandemic. Using a combination of convenience and snowballing sampling methods, a total of 300 SMEs is enumerated for the quantitative methods.

3.4.2 Analysis of quantitative data. The quantitative primary data are analyzed using RStudio version 4.0.2. and IBM SPSS AMOS version 21. Both descriptive and regression analysis techniques are used in order to ascertain the findings. Most importantly, Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) are used to establish the theoretical relationship with empirical data. This is because before the SEM can be conducted, it is mandatory to define the latent variables, also called factors, appropriately using measurement models before they are incorporated into the SEM model (Wang & Wang, 2012, p. 29). Hence, SEM approach comprises of two models: a CFA model or the measurement model and a structural equation model or the structural model (Schumacker, 2015, p. 2; Wang & Wang, 2012).

The SEM has five characteristic features that need to be fulfilled as summarized by Wang and Wang (2012, p. 2):

1. *Model formulation*. Empirical findings or theories are used to specify and formulate the SEM model that the researcher wants to test. Generally, a SEM model is composed of two parts – the measurement model (CFA) and the structural model (SEM).
2. *Model identification*. This step confirms that there is a unique solution for all the free parameters in the specified model. If the model has unlimited number of solutions, then the model is *under-identified* (Blunch, 2015, p. 75). Hence, model estimation cannot be executed if the model is not identified because the model estimation may not converge or reach a solution.

3. *Model estimation*. It means to estimate the model parameters and generate fitting function. Although there are various estimation methods for SEM, the most common method is maximum likelihood.
4. *Model evaluation*. After obtaining the meaningful model parameter estimates, it is necessary to assess whether the model fits the data. The modeling process can stop if the model fits the data well and the results are interpretable.
5. *Model modification*. If the model does not fit the data, model needs to be modified or re-specified wherein the researcher decides how to delete, add, or modify parameters in the model. The steps 1 through 4 have to be repeated once a model is modified.

In addition, various ratios such as liquidity, operating performance, profitability and cash flow indicator ratios are calculated from the financial statement items and corroborated against the qualitative and the quantitative primary data.

3.4.3 Qualitative data. The purpose of the supplementary qualitative component in a quantitative core design is to compensate for the inadequacies in meaning or detail that occurs with quantitative core (Morse & Niehaus, 2016, p. 122). The authors explain that the qualitative methods allow the researcher to explain, ground the concept, link variables, or interpret findings. “Qualitative questionnaires allow respondents to generate their own categories of meaning” and such questionnaires are usually in the form of open-ended questions (Tashakkori & Teddlie, 2008, p. 235). However, for the purpose of this research, instead of inserting open-ended questions in the quantitative questionnaire, the researcher employed unstructured interviews. This is because the information obtained from the unstructured interview is not only in depth but also is targeted at a broader issue than those questions placed at the end of a questionnaire

(Morse & Niehaus, 2016, p. 125). Such unstructured in-depth interviews allow the researcher to develop distinct themes and hence the use of thematic analysis or content analysis of such data.

According to Creswell and Plano Clark (2018), research participants in the convergent design can either respond to both or one of the strands. For this particular study, the same respondent was allowed to answer the survey as well as the interview as long as they met the criteria set. Following the advice of Butler-Kisber (2018), the interviews were audio-recorded since it is "less imposing and intrusive" compared to video recording. Since it was difficult to ask questions and take notes, the audio recordings of the interviews were transcribed. Transcribing such conversational data will generate rich field texts.

3.4.4 Analysis of qualitative data. The responses gathered are analyzed using thematic analysis. Thematic analysis means identifying the recurring messages that pervade the thoughts or opinions of the respondents (Tashakkori & Teddlie, 2008, p. 252). The software called R-package for Qualitative Data Analysis (RQDA) is used to analyze the qualitative data since "RQDA is an easy to use tool to assist in the analysis of textual data" (Huang, 2018). The findings of the thematic analysis are used to corroborate with the findings from the quantitative analysis as recommended under concurrent triangulation design.

A deductive thematic analysis is employed for the qualitative data analysis since the coding and the thematic developments were directed by existing concepts and theories, particularly relating to ERM and risk management in general. Thematic analysis is more appropriate for the study since the analysis was all about recognizing

and categorizing the interview data into various codes and themes as per the concepts and terminologies found in theories and empirical studies.

3.5 Population and sampling

According to the Department of Cottage & Small Industry (DSCI) 2018 report, there are a total of 20,195 SMEs grouped under three sectors – service, production and manufacturing and contract. In the recent years, the production and manufacturing sector saw the highest growth rate, within a year at 27%, where the average growth rate of the three sectors was about 20%. The latest count of production and manufacturing SME is 2,116 as of 15th June, 2018 as shown in Table 4.

Table 4: Total SMEs in Bhutan as of June, 2018

Sector	**As of 15th June, 2018**	**As of 30th June, 2017**	**Growth Rate**
Service	15,936	13,364	19.2%
Production and Manufacturing	2,116	1,669	26.8%
Contract	2,143	1,854	15.6%
Total	**20,195**	**16,887**	**20.5%**

Source: "DCSI Annual Report," 2018

3.5.1 Sampling for quantitative data. According to Tashakkori and Teddlie (2008, pp. 182–183), mixed-method research with quantitative dominant samples usually involves a larger quantitative samples based on well-defined populations and a carefully selected smaller qualitative samples based on informal sampling frames such as purposive sampling. For the purpose of this study, simple random sampling was used to draw the samples from the 2,116 production and manufacturing SMEs in Bhutan which was approximately 323.

Table 5: The relationship between sample and population sizes using probability sampling techniques

Population Size	Confident that the sample reflects population within (+/- 5%)
100	80
500	218
1000	278
2000	**323**
3000	341
Infinity	384

Source: Tashakkori & Teddlie, 2008, p. 183

The sampling frame as given in Tashakkori and Teddlie (2008, p. 183) (refer Table 5) was used as a guideline to draw the samples and the samples were selected from the SMEs using simple random sampling method initially. In order to draw the samples using simple random sampling method, the database of the production and manufacturing SMEs in Bhutan was obtained from the Department of Cottage and Small Industries, Ministry of Economic Affairs, Thimphu, Bhutan.

However, unfortunately, during the pilot survey, it was found that many businesses registered with the Department of Cottage and Small Industries as well as the Department of Industries (for medium enterprises) were either closed, not started or not in existence. Some just obtained the business license but not really started the business while some businesses were already closed (out of business) but still reflected in the registry. In addition, the outbreak of the global pandemic, COVID-19, added fuel to the fire since travel restriction, business closure and other restrictions were enforced making it difficult to contact with the business owners/managers. Owing to these difficulties and inconveniences, the data collection followed a combination of convenience and snowballing method.

3.5.2 Sampling for qualitative data. Stratified purposive sampling is a common basic mixed method sampling technique (Tashakkori & Teddlie, 2008, p. 186). In case of this proposed research, parallel mixed method sampling technique is used wherein probability sampling technique was used for generating data for the quantitative strand (as described before) and stratified purposive sampling technique was used to generate data for the qualitative strand. In the case of stratified purposive sampling, the researcher first identifies the subgroups (strata) of the population and then selects cases from each strata or subgroup in a purposive manner that allows the researcher to discover and describe the characteristics in detail.

In order to generate data for the qualitative strand, the production and manufacturing SMEs are stratified as per the categorization of the DSCI. This resulted in three strata – micro (cottage), small and medium enterprises. Among the three strata, 5 firms representing each category are chosen based on the judgement and convenience of the research, hence using purposive sampling. As a result, a total of 15 firms are selected for the in-depth unstructured interview. The sample for the interview are drawn from the SMEs in the capital city, Thimphu because out of the 2,116 production and manufacturing SMEs, more than 22% (DSCI Annual Report, 2018) of them are located in Thimphu, the capital of Bhutan. Since Thimphu being the capital and the commercial hub, it was more convenient to interview the CEO or the top manager of the selected SMEs.

As shown in Table 6, five respondents each were interviewed from the cottage, small and medium categories respectively. All the personnel interviewed were owners of the SMEs except for one medium enterprise as the entity is a FDI and hence the manager was interviewed.

Table 6: The sampling detail for the qualitative data

Type of SME	Cottage (Micro)	Small	Medium
Samples	5	5	5

3.6 Integration of Quantitative and Qualitative Results

As suggested by Creswell and Plano Clark (2018), the quantitative and qualitative data are collected concurrently and then analyzed separately and then interpreted together in the discussion section. The authors mentioned that in convergent mixed methods designs, one of the most straightforward option is to present the integration in a narrative discussion. The integration can be used to convey how the results agree (converge) or disagree (diverge) based on the qualitative and quantitative analyses. The convergence and divergence are being captured whenever necessary in the Discussion Chapter and the overall framework is as shown in Figure 7.

.

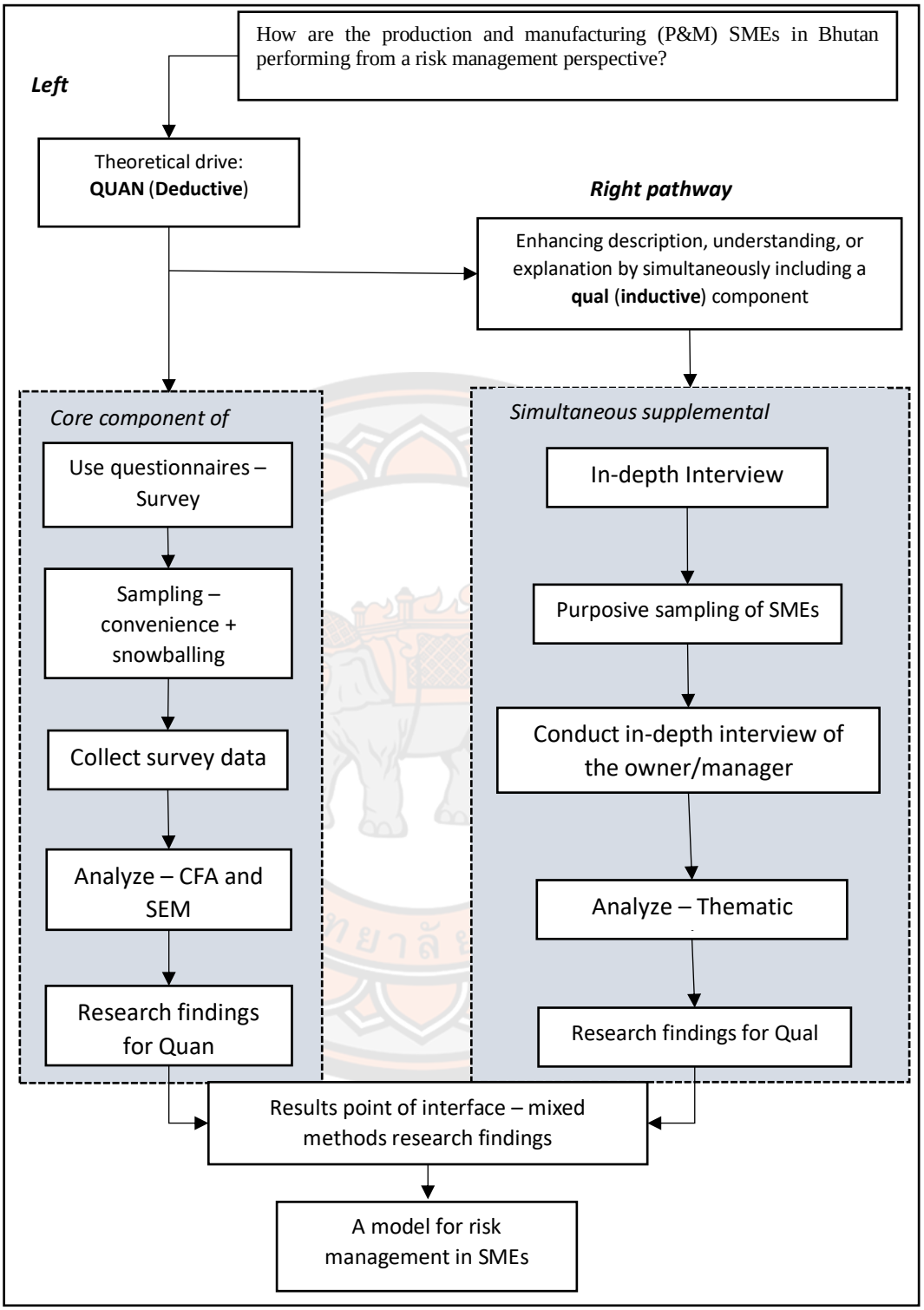


Figure 7: The concurrent mixed methods workflow

3.8 Ethical Considerations

"Ethical issues, such as reciprocity to participants for their willingness to provide data, the handling of sensitive information, and disclosing the purposes of the research, apply to both qualitative and quantitative data," (Creswell & Plano Clark, 2018). Owing to the importance of ethical issues and considerations to be made, the NU-IRB and NU Graduate School required the researchers to attend a day long workshop on research ethics and produce the ethics certificate while applying for thesis proposal defense. Only upon the production of the ethics certificate, a researcher is allowed to proceed for proposal defense. However, that is not the end, because after successfully defending the proposal, the proposal and the research instruments are required to be reviewed by the NU-IRB. The NU-IRB ensured that the research instruments are as per the University ethical standards and international best practices, and accordingly authorize the conduct of the data collection upon meeting all the requirements.

Once the University certified and authorized the primary data collection from the P&M SMEs in Bhutan, the next step was to seek approval from the gatekeepers – the individuals or authorities who monitor the SMEs (Creswell & Plano Clark, 2018). Thus, prior permission to conduct a field survey and interview of the SME owners/managers was obtained from the MoEA and the DCSI. In addition to the permission to carry out the survey, lists of SMEs were also obtained. The lists of cottage and small industries was obtained from the DCSI while the list of medium industries was obtained from the Department of Industry, MoEA. Unfortunately, the lists proved to be just a reference point as most of the SMEs on the lists were untraceable, hence a change in data collection method has to be made.

Upon the completion of all the ethical formalities from the relevant institutions, it is the moral responsibility of the researcher to collect, handle and use the data in line with the ethical code of conduct of the University by taking into consideration the privacy, trust and integrity of the research participants(Tashakkori & Teddlie, 2008). Since the survey was conducted both online and by field visits, the participant consent form approved by the NU-IRB was used to seek the consent of the participants both for the survey as well as the interview. The consent form – ***Naresuan University Informed Consent Form AF 05-10/4.0***, mandated the research participants to voluntarily "consent" to be a participant in the research. The consent form spelled out the details of voluntary participation and informed consent along with the benefits and drawbacks of participating in the research along with the assurance to maintain their information with utmost confidentiality and anonymity.

Despite the attempt, getting the consent form signed online was not possible so an alternative was used instead. Similar to any type of form that we fill up online, participants were made to click the "Yes" option to consent and participate in the survey. And for the field visits, the participants physically verified and consented for both the survey and interview. The survey participants were made to consent after reading the consent form and before answering the survey questions. Informed consents were sought from the interview participants regarding the conduct of the interview as well as recording of the interview audio on a mobile phone. The participants were ensured that both the interview and the survey questions covered general business issues and personal opinion and in no way the study would ask them about their business secrets and confidential information. This could also be a reason for low response rate when it came to their financials.

3.8 Chapter Summary

This chapter started with the philosophical foundation and followed a pragmatic worldview as propounded by renowned researchers as is deemed applicable to the current study. The study adopted convergent mixed methods design as this method enabled the researcher to gather two different strands of data and triangulate the information as the deficiency of one method is compensated by the advantages of using the other method.

The chapter also discussed the sampling method as well as the number of samples collected for both the quantitative and the qualitative data. The method of data collection and analysis are also discussed. The chapter also spelled out the details of ethical considerations and the process of ethical conduct of the study. However, the detailed analysis of the data is presented in the next chapter.

Chapter 4 Quantitative Data Results

This chapter looks at the quantitative data in detail starting from data management to data processing and then testing of the research hypotheses. Once the data is made ready for analysis, the preliminary tests such as the data reliability and validity are checked to ensure that the findings of the study are not subject to any kind of bias and errors. Then the structural equation model is constructed after the data fulfilled all the required criteria. The model is then tested against the data to determine the model fit. The topics covered in Chapter 4 are as follows:

4.1 Introduction

4.2 Quantitative data management

  4.2.1 Data preparation and processing

  4.2.2 Data reliability and validity

4.3 Descriptive statistics

4.4 Data normality

4.5 Missing data

4.6 The Structural Equation Model (SEM)

4.7 Hypothesis testing

4.8 Chapter summary

4.1 Introduction

The main purpose of this study is to determine the effectiveness of risk management on the performance of the production and manufacturing SMEs in Bhutan. This chapter presents the systematic analysis of data – demography detail of the respondent and their enterprise, risk management practices and company financials, finally the SEM and the hypothesis tests.

The data analysis starts with data preparation and screening followed by descriptive summary of the data collected. Common processes in quantitative data analyses, such as the check for reliability, validity and normality, are checked before analyzing the data. First part of this chapter deliberates the descriptive attributes of all the variables by looking at their frequencies and other descriptive attributes.

The second portion of the chapter presents the results and findings of the quantitative survey data mainly the structural equation modeling (SEM). The importance of recognizing the type of data and its normality are also highlighted before applying appropriate statistical method and then applying the method to both CFA and SEM. Although there are various techniques and benchmarks to determine a model fit, only the commonly used model fit indices such as the chi-square goodness of fit test (χ^2), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) are used for the study.

The model fit is determined using measurement model (CFA) and then the structural model is defined and tested. Three models are tested and the best fit model is selected to test the study hypotheses and answer the research questions.

4.2 Quantitative Data Management

4.2.1 Data preparation and processing. Data preparation is the process of cleaning and transforming raw data (data collected) before data processing and analysis. Data preparation is essential to ensure the relevancy of data and make contemplated comparisons and analyses (Kothari, 2007, p. 122). As summarized by Frankfort-Nachmias and Nachmias (2006, p. 315), data processing is the link between data collection and data analysis and involves the transformation of data into amendable codes for analysis. Data processing comprises of editing, coding, classification and tabulation of collected data to prepare the data for analysis.

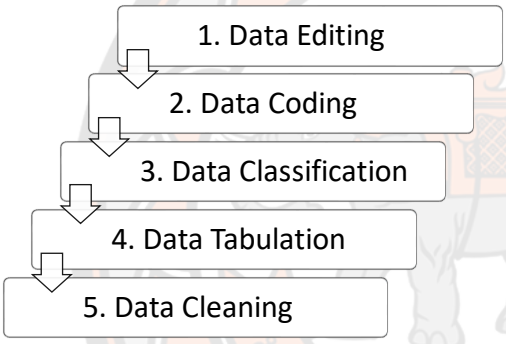


Figure 8: Data processing flowchart

Source: Adapted from Chawla and Sondhi (2011, pp. 244–255) and Kothari (2007, pp. 122–129)

The detailed processes followed to process the quantitative (survey) data for this study are as explained hereunder following the framework in Figure 8.

1. *Data editing* – The data was collected online using the versatile Google Form that neatly captures all the responses and stores them as Google Sheets' spreadsheet on Google Drive. The spreadsheet can be downloaded as CSV (comma delimited format) file and loaded into any statistical software. As suggested by Chawla and Sondhi (2011, p. 246) and Kothari (2007, p. 122), the downloaded data was carefully scrutinized for errors and omissions. During the

data editing process, no errors were detected since the validations are already ensured using the Google Form validations. For example, a respondent cannot enter text in place of numbers or numbers instead of texts since it would be restricted and an error message will be flashed to the respondents so that they can edit their responses. Nonetheless, the additional attributes assigned by Google Form such as “Timestamp” and consent agreements were deleted since they were not used for data analysis. Nonetheless, data editing can also be done after the coding phase (Frankfort-Nachmias & Nachmias, 2006).Furthermore, the downloaded CSV file contained variable names as strings (sentences) which are not accepted by statistical software such as SPSS and R. Hence, the next process ensued.

2. *Data coding* – The data collected are assigned numerical codes and other symbols so that responses can be captured into limited number of categories (Kothari, 2007, p. 123). As suggested by Kothari (2007), coding decisions were made during the designing stage of the survey questionnaire since the survey was to be conducted both online and offline (physically). Since the data collected has to be merged upon the completion of the survey, the variables (codes) should be same so that they can be merged or combined without errors. This is ensured by entering the physically collected data into the Google Form and validating the data using the validation attribute of Google Form.

   Since the variable names are in sentences (strings), they are changed into machine readable formats using the combination of character/s and numbers. It is important to rewrite all the long variable names into shorter and acceptable variable names so that they can be imported into R as desired. Leaving spaces

in variable names will result in creation of additional variables and using unauthorized characters will result in failure to load the data into R since R only accepts variables names with a combination of letters, numbers (digits), period (.) and underscore (_). And it must start with a letter or a period and if it starts with a period, it cannot be followed by a digit (.12Q will not be accepted). For example, “Category of business” of the questionnaire was coded as “Category” and “Your age” as “Age” to cite a few. After coding the variable names, the CSV file was read into R using *read.csv()* function of R.

Once the data was loaded into R, the actual coding of data was done. Numeric codes were assigned to categorical data (for example, gender, qualification, etc.) to make the computation easier (Chawla & Sondhi, 2011, p. 248). The Table 7 shows an excerpt of the codebook (please see detail in Appendix III).

Table 7: Codebook extract

Sl. No.	**Variable Name/Symbol**	**Coding Instruction**
1	Category	Medium = 3 Small = 2 Cottage = 1
3	Gender	Male = 1 Female = 0
4	Qualification	No formal education = 1 Some high school = 2 Diploma = 3 Bachelor degree = 4 Master degree and above = 5

5	Q12	A number from 1 to 5 SA = 5, A = 4, N = 3, D = 2, SD = 1, DK = 9

3. *Data classification* – Data coding was followed by data classification, wherein the data collected were grouped or classified based on common characteristics. Data were classified according to attributes as well as by class intervals (Chawla & Sondhi, 2011, pp. 253–254; Kothari, 2007, p. 124). An example of data classification according to attributes would be measuring the performance of the SME on the basis of educational qualification and experience. Similarly, some examples of data classification according to class intervals would be the categories of SMEs, age group and experiences of the SME owners/managers.
4. *Data tabulation* – it is the process of summarizing and arranging the raw data in a logical and compact pattern and making the data amendable for statistical analysis. Since the data was already in CSV format, data tabulation is not much of a concern. Nevertheless, it is ensured that the data is of the format to be read and analyzed using R.
5. *Data cleaning* – Once the data was tabulated, data cleaning became easier. Data cleaning does not mean deleting data or information but finding ways to maximize a data set's accuracy. Thus, data cleaning involves checking for missing data, wrong entry and existence of outliers. It also includes fixing spelling and syntax errors. All the aforementioned processes were completed using R functions. For example, checking range of age will ensure if unrealistic numbers were entered as age. Even a simple frequency distribution can be used to clean the data (Frankfort-Nachmias & Nachmias, 2006).

4.2.2 Data reliability and validity. Although the proposed study used questionnaire items from tested and published prior studies, according to Creswell (2009, p. 150), the original validity and reliability may not hold for the new instrument when an instrument is modified or combined with others. The three traditional forms of validity to look for are content validity (whether the items measure what they are intended to measure), predictive or concurrent validity (whether the scores predict the criterion measured and whether the results correlate with other results), and construct validity (whether the items measure hypothetical constructs or concepts) (Creswell, 2009, p. 149). Furthermore, Creswell also stresses on the importance of reliability such as internal consistency (whether items' responses are consistent across the constructs) and test-retest correlations (which means whether scores are stable over time when the instrument is administered again and again).

Since the test of reliability and validity are critical in survey designs, the questionnaire administered are tested with a pilot survey before administering in a large scale. This is because instruments with scales to combine items into scales need to follow certain statistical procedures – reliability checks for internal consistency of the scales (Creswell, 2009; Frankfort-Nachmias, 2006). One of the widely used checks for internal consistency is a helpful statistic called *Cronbach's alpha*, which estimates the average of all possible coefficients between 0 and 1. A high value of alpha (usually < 0.70) is an acceptable level indicating that the items in the scale are "tightly connect" showing higher reliability (Frankfort-Nachmias, 2006, p. 425).

In accordance with the aforementioned reliability test, the following *Cronbach's* alphas were computed. As reported in Table 8, all the Cronbach's alpha computed are greater than 0.70, thus confirming higher reliability.

Table 8: Cronbach's alpha of the scale items

Sl. No.	Theme	std_alpha
Part C	**Risk Management Process**	
1	Internal Environment	0.82
2	Objective Setting	0.90
3	Risk Identification	0.78
4	Risk Assessment	0.75
5	Risk Response	0.85
6	Control Activities	0.80
7	Information and Communication	0.87
8	Monitoring	0.82
Part D	**Personal Entrepreneurial Competency**	0.81
Part F	**Non-financial Performance**	
	Sales Growth	0.81
	Asset Growth	0.87

4.3 Descriptive Statistics

4.3.1 Characteristics of the SMEs. As discussed under the literature review, one of the important factors that needs to be considered while formulating and implementing risk management strategies or while managing risks are the size of the enterprise as well as the evidence of their survival in the highly competitive market. Prior studies have also outlined the importance of SME characteristics. Studies by Mardessi and Ben Arab (2018) and Turner and Ledwith (2018) stressed the requirement of more formal risk management strategy implementation by the bigger enterprises as compared to their smaller counterparts. Nevertheless, the characteristics of the SMEs need to be taken into account while analyzing their risk management capabilities.

4.3.1.1 Size of the SMEs

According to the records maintained by the Ministry of Economic Affairs, there are about 2490 Cottage, Small and Medium Production and Manufacturing Enterprises out of which, about 66% of them are in the micro or cottage category, followed by about 29% in the small category and only about 5% in the medium category. The most SMEs are located in the districts of Thimphu, Chhukha and Paro. There are only 5 SMEs (3 Micro and 2 Small) registered in the district of Gasa.

In total 300 SMEs are enumerated out of which the majority (50%) are cottage industries, followed by small with 46% and finally medium industries with 5%. The sample gathered also represents the reality of SME distribution in Bhutan as majority are cottage, followed by small and only a handful fall in the medium category. The survey captured SMEs in ten districts out of the total of 20 districts, however, most of the SMEs are located in the capital city of Thimphu and the neighboring district of Paro since these districts have the highest number of SMEs.

The SMEs are also asked about the number of employees they started the business with as well as the current number of employees they have. The average number of employees that the SMEs started with is about 5.09 with the highest being 30 employees. Over the course of their businesses, the number of employees seem to have increased. The average number of current employees went up to 6.45 with SMEs employing as high as 100 employees. However, there is no change in the median as both the initial and current status show a total of three employees as shown in Figure 9.

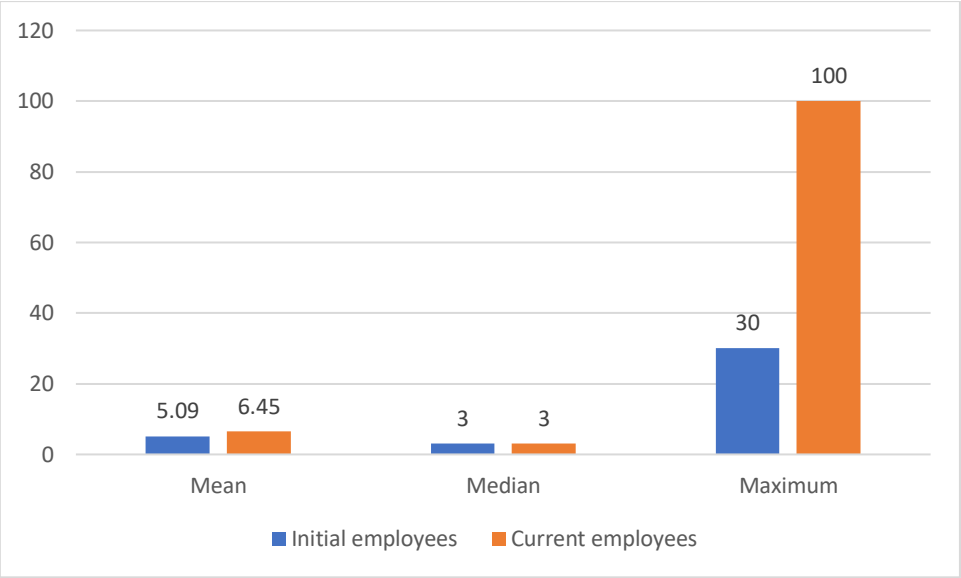


Figure 9: Number of employees in the SMEs

Furthermore, the SMEs are also asked about their opinions on the sufficiency of employees and their intention to recruit additional employees. A little above half (53.82%) of the SMEs indicated that they have enough employees while approximately 46.18% of them indicated that they do not have enough employees. Nevertheless, about 66% of the SMEs indicated that they have the intention to recruit more employees while about 34% mentioned otherwise (Figure 10).

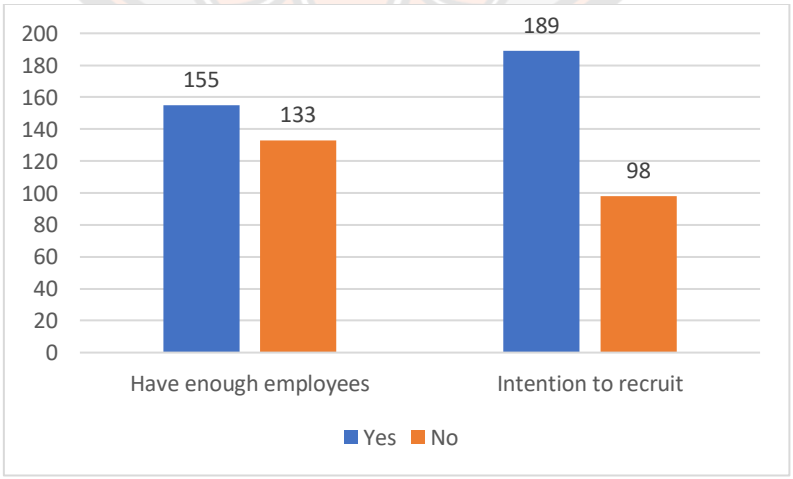


Figure 10: Number of employees and owners' intention to recruit more employees

4.3.1.2 Age of the SMEs

Out of the total SMEs, most of them have been in business over 10 years while about 19% have been in the business recently (less than two years) as shown in Figure 11. The highest initial investment made is about 150 million ngultrums while the lowest is about ngultrum 8,000 with an average investment of around 2.4 million.

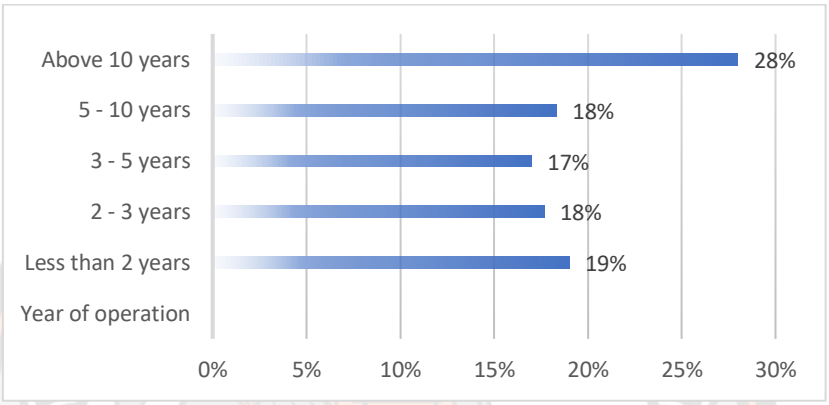


Figure 11: Year of operation of the SMEs

Further, 15 SME (5 medium, 5 small and 5 cottage) owners are interviewed so that their qualitative responses can be used to triangulate and supplement the quantitative responses. The 15 SMEs are strategically chosen to include the various type of business. For instance, some common businesses are sawmill and furniture houses, animation and film production, agriculture and handicrafts. All these types of businesses are captured by the interview as well.

4.3.2 Characteristics of the SME owner/manager. The characteristics of SME owner/manager have substantial impact on the performance of their businesses (Di & Bruning, 2011). According to the authors, the kind of human capital that the owner or manager brings to their businesses as well as the type of organizational culture they set up depends on the skills, experience and personality of the owners or managers, thus making it important to study and understand their characteristics.

4.3.2.1 Gender and age of the SME owner/manager

The survey enumerated either the owner or the CEO or some senior managers with good knowledge of the company and its operations. Out of the 300 business owners/CEOs/Managers, the majority (66%) are males while 34% are female. Most of the respondents are between the age of 30 to 50 years while there are also few above 60 years as well as below 20 years of age. A whooping majority of about 56% indicated to be owners while there are also different ways of expressing ownership, such as founder, owner cum CEO and so on. The survey also enumerated two staff members of two companies since the owners/CEOs are out of the country during the data collection period.

4.3.2.2 Qualification of the SME owner/manager

Regarding the qualification of the respondents, maximum number of the respondents have studied up to some high school followed by owners with no formal education. About 25% of them have a bachelor degree while about 5% have master degree or above. Those with diploma are the least represented at 1.36% (refer Figure 12).

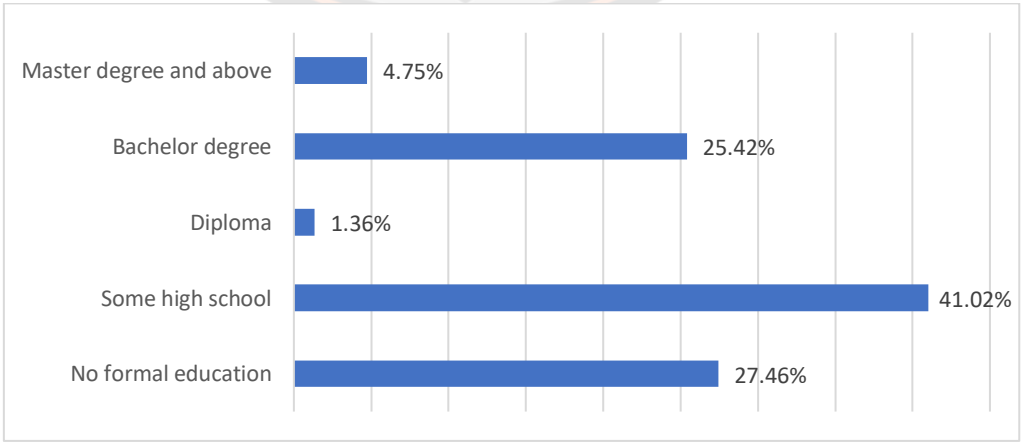


Figure 12: Qualification of the respondents

4.3.2.3 Experience of the SME owner/manager

While about 50% of the owners, CEOs or managers have been doing the same job for less than three years, quite a significant number, about 24% have been running the business over 10 years. However, it can be said that majority of the businesses have been established within the span of three years. Nevertheless, it can also be seen that more than 50% of the owners/managers have experience of over three years.

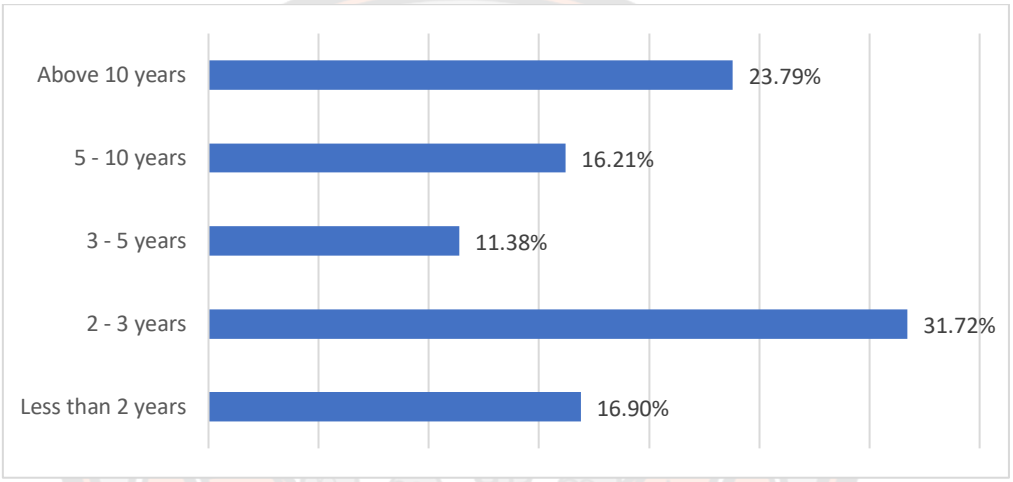


Figure 13: Tenure of the respondents

4.3.2.4 Personality of the SME owner/manager

The 'Theory of the Growth of the Firm' by Penrose clearly articulates the importance of the personality of the manager wherein the "businessman" or the manager is responsible for shaping the economic life of the business by guiding the actions of the business units (Penrose, 2009). Similarly, several studies have been published on the relationship between the personal characteristics of the business owners and the performances of their businesses. The concept of personal entrepreneurial traits (PECs) is used to determine the personality of the SME owners/managers since it is found to be having certain impact on the success of the businesses (Getnet, 2020).

According to the PECs, the highest corrected score is 25 per PECs item and the closer the score is to 25, the stronger the particular individual is to that particular PECs item. On the other hand, a core below 12.5 indicates that the individual needs to improve in that particular PECs item. Similar to the study of Kyguoliene and Svipas (2019), a PECs item score of 19 and above indicates "Strong", while a score of 16-18 would mean "Moderate" and a score of 15 and below indicates "Weak" PEC level. The highest score that can be obtained is 25 in each PECs item wherein there are 10 of them.

Using the aforementioned rules, four out of the 10 PECs items fall in the "Strong" category, which means the SME owners/managers are strong in Opportunity Seeking, Persistence, Commitment to Work Contract, and Demand for Quality & Efficiency. The remaining PECs items are in the "Moderate" category. However, there are no great variations in both the categories as evidenced in Table 9.

Table 9: Personal Entrepreneurial Competencies (PECs) score

Code	PECs	Mean	Std. Dev.	Interpretation
1	Opportunity Seeking	19.01	1.81	Strong
2	Persistence	19.16	1.86	Strong
3	Commitment to Work Contract	19.36	1.66	Strong
4	Demand for Quality & Efficiency	19.12	1.85	Strong
5	Risk Taking	18.09	2.20	Moderate
6	Goal Setting	18.66	1.96	Moderate
7	Information Seeking	18.79	1.79	Moderate
8	Systematic Planning & Monitoring	18.37	1.93	Moderate
9	Persuasion and Networking	18.26	2.05	Moderate
10	Independence and Self-Confidence	18.29	1.93	Moderate

4.3.3 Perceptions of the SMEs on Risk Management Process. The perceptions of the SME owners and managers on the risk management processes as well as their

financial statuses are gathered using a 5-point rating scale. In total, there are eight steps in the process of risk management: internal environment, objective setting, risk identification, risk assessment, risk response, control activities, information and communication of the risks, and monitoring of the risk and risk management processes as discussed in Chapter 2. The risk management processes are the latent variables measured by perception rating scales (observed variables), where the sale ranges from Strongly Disagree (1) to Strongly Agree (5).

4.3.3.1 Internal Environment

The first step in the process of ERM is understanding the Internal Environment of the organization as it shapes the culture and the governance of that organization. The Internal Environment domain is determined by five items, which are measured on a 5-point scale. The items asked the respondents to rate their level of understanding regarding risk management processes such as their common understanding of risk management, existence of risk management policies, and their organizational view on risk management. Although the majority of the respondents agreed to all the five statements (items), there are also a significant number of respondents who are either neutral or who disagreed to the statements. The frequency of respondents who disagreed lies between about 5% and 11% (Refer Table 10).

Table 10: The Internal Environment

C1	**Internal Environment**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q12	There is common understanding of risk management across the organization.	19%	44%	25%	9%	2%	300
Q13	Your organization has an effective risk management policy.	11%	50%	33%	5%	1%	300

Q14	In your organization, risk appetite is considered in strategy setting.	14%	51%	29%	5%	0%	300
Q15	Responsibility for risk management is clearly set out and understood throughout your organization.	21%	47%	27%	5%	1%	300
Q16	Risk management is embedded in your organization's culture.	16%	51%	27%	5%	1%	300

4.3.3.2 Objective Setting

The second step, Objective Setting determines whether the organization or the firm set their objectives before executing their decisions. On average, over 68% of the respondents agreed to the statements while about 4% disagreed to setting risk related objectives. About 28% chose to remain Neutral and the detail statistics is given in Table 11.

Table 11: Objective Setting

C2	**Objective Setting**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q17	The management has, in place, a process and procedure to set business objectives (strategic, operational, reporting, compliance).	22%	49%	26%	1%	1%	300
Q18	The organization's objectives support entity's mission and are aligned with that.	15%	51%	29%	3%	1%	300
Q19	When formulating the Strategic plans, all the possible risks are identified and factored in.	19%	48%	29%	4%	0%	300

Q20	When formulating the Budget plans, all the possible risks are identified and factored in.	19%	50%	27%	1%	2%	300
Q21	When formulating the Operational plans, all the possible risks are identified and factored in.	21%	51%	25%	3%	1%	300
Q22	When formulating the Project management plans, all the possible risks are identified factored in.	20%	47%	29%	3%	1%	300
Q23	When formulating the Capital investment plans, all the possible risks are identified and factored in.	24%	43%	27%	4%	1%	300

4.3.3.3 Risk Identification

The Risk Identification step is considered as one of the most important steps in the process of risk management since the type and category of risks are identified during this phase. The Risk Identification domain is determined by three items that checks the existence of internal, external and other events that could hamper the business. Less than 6% of the respondents disagreed to all the three items and less than 30% of the respondents chose to remain neutral while the majority agreed to practicing the Risk Identification process (Refer Table 12).

Table 12: Risk Identification

C3	**Risk Identification**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q24	Your organization considers external factors driving events that could affect the achievement of	13%	52%	30%	4%	1%	300

	objectives (e.g. PESTLE).						
Q25	Your organization considers internal factors driving events that could affect the achievement of objectives (e.g. Infrastructure, Personnel, Process, Technology).	18%	52%	26%	3%	1%	300
Q26	Your organization considers the positive events and opportunities that could affect the achievement of objectives.	16%	56%	24%	3%	1%	300

4.3.3.4 Risk Assessment

Once the risks are identified, the next step involves the process to determine the magnitude of risks. This phase is called Risk Assessment and four items are used to measure it. A significant number of respondents (almost 10%) disagreed to the use of quantitative methods to assess risk while almost 73% of the respondents reflected to examine both the positive and negative impacts of potential evens across the business entity. As shown in Table 13, four items are used to measure Risk Assessment.

Table 13: Risk Assessment

C4	**Risk Assessment**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q27	The positive and negative impacts of potential events are examined across the entity.	23%	50%	25%	2%	0%	300
Q28	Your organization's risks are assessed by using qualitative	14%	45%	33%	6%	1%	300

	analysis methods (e.g. high, moderate, low).						
Q29	Your organization's risks are assessed by using quantitative analysis methods (e.g. percentages or probability charts, or using tools such as metrics and software).	12%	43%	35%	9%	1%	300
Q30	Your organization is effective at prioritizing risks and determining the residual risks.	15%	52%	29%	4%	0%	300

4.3.3.5 Risk Response

After knowing the magnitude of the risks, then the business or the management needs to strategize accordingly, which means responding to the risks or Risk Response. Although there are a greater number of respondents agreeing to the measurement used for Risk Response variable as depicted in Table 14, a significant number of them chose to remain neutral. However, those who disagreed are 5% or less.

Table 14: Risk Response

C5	**Risk Response**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q31	Your organization selects a set of actions to align risks with the entity's risk tolerance and risk appetite.	12%	51%	33%	3%	1%	300
Q32	In determining risk response, your organization considers possible opportunities to achieve entity objectives going beyond dealing with the specific risk.	16%	52%	28%	3%	1%	300

Q33	In determining risk response, your organization considers possible residual risk and assesses and determines that the residual risk is within the entity's risk tolerance and appetite.	20%	40%	35%	3%	2%	300
Q34	Your organization's response to analyzed risks includes prioritizing risk treatments where there are resource constraints on risk treatment implementation.	17%	45%	33%	3%	2%	300

4.3.3.6 Control Activities

The Control Activities are vital in the everyday functioning because it ensures that the risk management procedures are appropriately carried out. The perceptions on the Control Activities are gathered using four items. Most of the respondents agreed to all the four items, ranging from 55.06% to 66.54% while a significant number of them (around 34.30% on average) remained Neutral. The remaining respondents disagreed to the statements as shown in Table 15.

Table 15: Control Activities

C6	**Control Activities**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q35	Your organization's risk management procedures include policies and processes which help to ensure that risk responses are appropriately carried out.	15%	51%	30%	2%	1%	300

Q36	In your organization control activities are executed to ensure responses are in a timely manner.	18%	47%	32%	3%	1%	300
Q37	The level of existing control activities by your organization are sufficient and appropriate for the risks that it faces.	14%	45%	36%	4%	2%	300
Q38	Many different types of control activities are performed by your organization at various organizational level and entities.	11%	44%	39%	4%	1%	300

4.3.3.7 Information and Communication

Once the aforementioned risk management phases are in place, the next important step is to communication the information to all the relevant stakeholders, hence, Information and Communication. The Information and Communication variable is constructed using five rating scales. Similar to the preceding steps, the majority of the respondents agreed to all the five statements while there are also significant number of respondents who chose to remain Neutral as detailed in Table 16.

Table 16: Information and Communication

C7	**Information and Communication**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q39	In your organization relevant information is identified, captured and communicated in a form and time frame that enable people to carry out their responsibilities.	20%	45%	32%	2%	1%	300

Q40	The information infrastructure is consistent with an entity's need to identify, assess, and respond to risk and remained within its risk tolerance.	15%	50%	31%	4%	0%	300
Q41	Formal procedures are in place for reporting risks.	19%	40%	36%	4%	0%	300
Q42	Changes to risks are assessed and reported on an ongoing basis.	17%	43%	36%	3%	2%	300
Q43	In your organization, there is appropriate communication with people outside of the organization (e.g. customers, suppliers, shareholders).	22%	47%	27%	2%	1%	300

4.3.3.8 Monitoring

The final step in the ERM process is the Monitoring of the overall risk related activities to ensure effective management of risks. The Monitoring domain is based on four statements gathering respondent perceptions on the importance of risk monitoring in their organizations. Over 60% of the respondents agreed to all the four statements, over 32% indicated being neutral and less than 6% disagreed to all the items as evidenced in Table 17.

Table 17: Monitoring

C8	**Monitoring**	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree	Total (n)
Q44	In your organization some combination of ongoing monitoring and separate evaluations will ensure that ERM maintains its effectiveness over time.	12%	51%	35%	2%	0%	300

Q45	Monitoring the effectiveness of risk management is an integral part of routine management reporting.	19%	43%	32%	5%	0%	300
Q46	Your organization has highly effective continuous review/feedback on risk management strategies and performance.	17%	44%	33%	4%	2%	300
Q47	Your organization regularly reviews internal controls.	10%	52%	33%	3%	1%	300

4.3.4 Enterprise Risk Management. The overall Enterprise Risk Management variable (domain) is determined by the eight processes discussed above. As can be seen in Table 18, the overall average of all the eight domains lie between 3.71 and 3.83 on a 5-point scale. The data is not perfectly normal as seen from the measures for skewness and kurtosis, however, they do not have huge outliers as well.

Table 18: The overall perceptions on ERM domains

Descriptive Statistics

ERM Domains	N	Min	Max	Mean		Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
IntrlEnv	300	1.2	5	3.72	0.04	0.63	-0.52	0.14	0.90	0.28
ObjSet	300	1	5	3.83	0.04	0.63	-0.72	0.14	2.04	0.28
RiskId	300	1	5	3.78	0.04	0.65	-0.81	0.14	2.70	0.28
RiskAss	300	1.25	5	3.74	0.03	0.60	-0.54	0.14	1.50	0.28
RiskResp	300	1	5	3.74	0.04	0.65	-0.41	0.14	1.41	0.28
ControlAct	300	1	5	3.71	0.04	0.61	-0.64	0.14	1.92	0.28
InfoCom	300	1.2	5	3.79	0.04	0.64	-0.36	0.14	1.00	0.28
Monitoring	300	1	5	3.72	0.04	0.62	-0.49	0.14	1.65	0.28

4.3.5 SME Non-Financial Performance. The SME performances are measured using both non-financial and financial measures. The most frequently used nonfinancial indicators are sales growth (Bruton et al., 2018; Cucculelli & Bettinelli, 2015; De Clercq et al., 2014; Gupta & Batra, 2016; Hiebl et al., 2019; Johnsen, 2005; Kemayel, 2015; Rehman & Anwar, 2019)**,** employee growth (Burvill et al., 2018; Johnsen, 2005; Maliranta & Nurmi, 2019; Sidik, 2012) and asset growth (Johnsen, 2005; Yiannaki, 2012). Thus, the respondents (SMEs) are asked about their assets as well as their opinions regarding their performances as detailed hereunder.

4.3.5.1 Sales Growth

The Sales Growth (Table 19) is considered as a metric to gauge the non-financial performance of the SMEs. Since it is a non-financial measure, the research participants rated three statements on a 5-point scale based on their perceived satisfaction, wherein 5 = Very Satisfied and 1 = Very Dissatisfied. More than half (54.3%) of the respondents indicated that they are satisfied with their sales growth performance over the past three years while only 35.1% of them are satisfied with their sales growth relative to their direct competitors. Quite a significant number (about 40%) of the respondents took a neutral position with regard to their sales performances and about 56% are also not sure about their sales growth relative to their direct competitors. Nevertheless, there are also significant number of people who are dissatisfied with their Sales Growth.

Table 19: Sales Growth

	Sales growth	Highly Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Highly Dissatisfied	Total (n)
Q120	Our sales growth performance during past three years.	11%	43%	40%	4%	2%	300
Q121	Our sales have been increasing significantly.	10%	38%	43%	7%	2%	300

Q122	Sales growth relative to direct competitors.	8%	27%	56%	7%	2%	300

4.3.5.2 Employee Growth

The number of employee that the company (SME) started with and their current number of employees also signify the performance of the SME. The details regarding the number of employees is elaborated under SME Characteristics section.

4.3.5.3 Asset Growth

The respondents are asked to indicate their satisfaction level on a 5-point scale with regard to their asset growth as well as to recall and write down the worth of their initial assets and the worth of their present assets. The perception of their asset growth is measured using three items and almost half (50%) of the respondents indicated their satisfaction on all the three items whereas under 40% are neutral while quite a significant number are dissatisfied with their perceived asset growth as seen in Table 20.

Table 20: Perception on Asset Growth

	Asset growth	Highly Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Highly Dissatisfied	Total (n)
Q125	Our asset values have increased over the course of time.	16%	36%	38%	7%	3%	300
Q126	Our assets are having a constant growth rate.	12%	38%	38%	9%	4%	300
Q127	Overall, our business is growing at a steady rate.	11%	39%	37%	8%	5%	300

Furthermore, the values of the SMEs' initial and present assets are collected to gauge the change in assets. The average value of the initial asset is Nu.2,153,134 with a median value of Nu.500,000 while the average of the present asset is Nu.4,867,080

with a median of Nu.900,000. The highest initial asset was worth 200 million and at present the highest asset is worth 260 million Ngultrums while the lowest are Nu.4,000 and Nu.6,000 respectively.

4.3.6 SME Financial Performance. Financial performance is believed to be an objective measure of how well a business is performing based on the actual financial indicators of the business firm (Kendirli et al., 2020). The most commonly used measure of financial performances are ROA (Bruton et al., 2018; Dahmen & Rodríguez, 2014; De Clercq et al., 2014; Pratono, 2018; Yang et al., 2018; Yiannaki, 2012), ROE (Johnsen, 2005; Yang et al., 2018; Yiannaki, 2012), ROS (Bruton et al., 2018; Dahmen & Rodríguez, 2014; Johnsen, 2005; Pratono, 2018; Rehman & Anwar, 2019; Yang et al., 2018) and net profit margin (Bruton et al., 2018; Dahmen & Rodríguez, 2014; De Clercq et al., 2014; Gupta & Batra, 2016; Kemayel, 2015; Sidik, 2012; Yiannaki, 2012).

4.3.6.1 Return on Assets

The return on assets (ROA) have been used by many researchers as a measure for financial performance of firms. The ROA is derived as a ratio of net income to total assets:

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

The respondents were asked to state the estimate of their net income and total assets over a period of three years – 2017 to 2019. However, many respondents were not comfortable disclosing even the estimates of their financial details hence, a lower response rate for the financial performance data. Nevertheless, about 145 respondents out of 300 have shared some information. The ROA for the three years (2017 to 2019) are 0.44, 0.50 and 0.41 respectively, as shown in Figure 14.

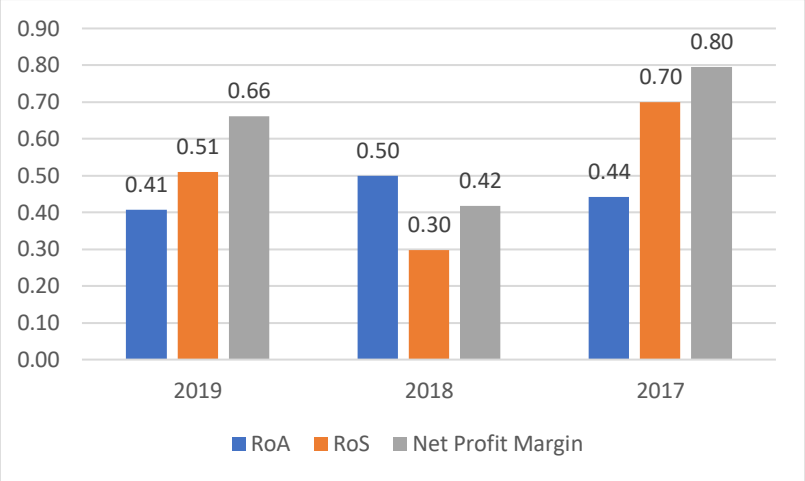


Figure 14: The three measures of Financial Performance computed over 3 years

4.3.6.2 Return on Sales

The return on sales (ROS) is a ratio that can be used to evaluate the efficiency of a company's operational activities based on the profit generated per unit of sales. The ROS is calculated as follows:

$$ROS = \frac{Operating\ Profit}{Net\ Sales}$$

As shown in Figure 14, the ROS fluctuated between 0.70 and 0.30 over the past three years.

4.3.6.3 Net Profit Margin

The net profit margin (NPM) portrays the amount of net income earned as a percentage of the revenues generated. Thus, the net profit margin is also used as an indicator of financial performance and as computed as:

$$NPM = \frac{Net\ Income}{Net\ Sales}$$

The NPM is computed based on the net income and sales as reported by the respondents. The NPM for 2019 is 0.66 which is higher compared to 2018 (0.42) but lower than that of 2017 (0.80).

4.4 Data Normality

The methods of parameter estimation depend on the distribution of data. According to Raykov and Marcoulides (2006), there are four main estimation methods: unweighted least squares (UWLS), maximum likelihood (ML), generalized least squares (GLS), and asymptotically distribution free or weighted least squares (WLS). For instance, the GLS and the ML methods are used for normally distributed observed data while the ULS method is used when similar scales of measurement are there in the analyzed data. It is important to determine the normality of the observed data since assuming normality can affect the accuracy of statistical tests (Weston & Gore, 2006). As a result, the first step in preparing data for a SEM is to confirm its distribution.

In order to test for normality, the R package called “MVN” with an option to compute the univariate tests. As advised by Weston and Gore (2006), the data is examined for the presence of both multivariate and univariate normality. The multivariate normality test and the univariate test indicated that the data is not normal (Table 21). However, many studies such as the one by Weston and Gore (2006), suggested that a univariate normality exists if the absolute value of Skewness is below 3.0 and that of Kurtosis not higher than 10.0. Although the ideal normality does not exist, the Skewness and Kurtosis are in the acceptable threshold for normality (Refer Table 22).

Table 21: Normality tests

$multivariateNormality

	Test	Statistic	p-value	Result
1	Mardia Skewness	4495.945	1.90E-286	NO
2	Mardia Kurtosis	46.96892	0	NO
3	MVN	<NA>	<NA>	NO

$univariateNormality

	Test	Variable	Statistic	p-value	Normality
1	Shapiro-Wilk	IntrlEnv	0.9722	<0.001	NO
2	Shapiro-Wilk	ObjSet	0.9546	<0.001	NO
3	Shapiro-Wilk	RiskId	0.9241	<0.001	NO
4	Shapiro-Wilk	RiskAss	0.9587	<0.001	NO
5	Shapiro-Wilk	RiskResp	0.9586	<0.001	NO

Table 22: The descriptive statistics for normality

$Descriptives

	n	Mean	Std.Dev	Median	Min	Max	Skew	Kurtosis
IntrlEnv	300	3.72	0.63	3.8	1.2	5	-0.52	0.84
ObjSet	300	3.83	0.63	3.8	1	5	-0.71	1.95
RiskId	300	3.78	0.65	3.8	1	5	-0.80	2.60
RiskAss	300	3.74	0.60	3.75	1.25	5	-0.53	1.42
RiskResp	300	3.74	0.65	3.75	1	5	-0.40	1.34
ControlAct	300	3.71	0.61	3.75	1	5	-0.63	1.83
InfoCom	300	3.79	0.64	3.8	1.2	5	-0.36	0.94
Monitoring	300	3.72	0.62	3.75	1	5	-0.49	1.57
Opp_Seek_f	300	19.01	1.71	19	11	23	-0.97	2.44
Persistance_f	300	19.17	1.75	19	12	24	-0.21	1.30
Work_Commit_f	300	19.37	1.56	19.41	14	23	-0.25	0.36
Qual_Effi_f	300	19.12	1.74	19	12	25	-0.31	1.46
Risk_Taking_f	300	18.10	2.06	18.16	9	23	-0.89	2.12
Goal_Setting_f	300	18.67	1.84	18.73	12	24	-0.34	0.42
Info_Seeking_f	300	18.80	1.67	18.87	14	24	0.00	0.37
Plan_Monitor_f	300	18.38	1.81	18.44	10	24	-0.84	3.21
Per_Networking_f	300	18.27	1.92	18.33	13	23	-0.14	-0.10
Self_Confidence_f	300	18.29	1.82	18.17	11	24	-0.07	1.06

Sales_growth	300	3.45	0.70	3.33	1	5	-0.09	0.88
Asset_growth	300	3.48	0.82	3.55	1	5	-0.57	0.90

4.5 Missing Data

Missing data can occur in three categories – missing completely at random, missing at random, or not missing at random (Weston & Gore, 2006). The authors mention that the first two categories of missing data pose less problem compared to the third category, 'not missing at random'. However, determining whether the data are missing at random is not possible. Some missing data for this research is data not missing at random since it is due to attrition as many respondents did not want to disclose their financial details. As a result, the financial variables are dropped from the structural model since it significantly reduces the response rate.

4.6 The Structural Equation Model (SEM)

The fitting of the Structural Equation Model (SEM) occurs in two steps: first the CFA models for the latent factors must be estimated to ensure that the model fit the data and then second step is to fit the structural components (SEM) (Finch & French, 2015). The measurement model is to explore and ascertain the relationship between observed variables (for example, instruments) and the construct or constructs that are hypothesized to be measured those variables. On the other hand, the structural model is the interrelationships among the constructs. Thus, when the measurement model and the structural model are considered together, the model is called the composite or the full structural model (Weston & Gore, 2006).

4.6.1 Measurement model analysis. As briefly mentioned earlier, the CFA is used to test the fit of the measurement model and the hypothesized factors referred to as latent variables. For this research, the latent variables are the enterprise risk

management (*Enterprise_Risk*), personal entrepreneurial competencies (*Personal_Competency*) and the dependent variable, enterprise performance (*Performance*). The latent variable *Enterprise_Risk* is represented by the eight risk management process indicators, which are computed as means of the questionnaire items. Similarly, the *Personal_Competency* latent variable is measured by its 10 indicators and the endogenous latent variable, *Performance,* is measured by the six indicators representing sales and asset growths.

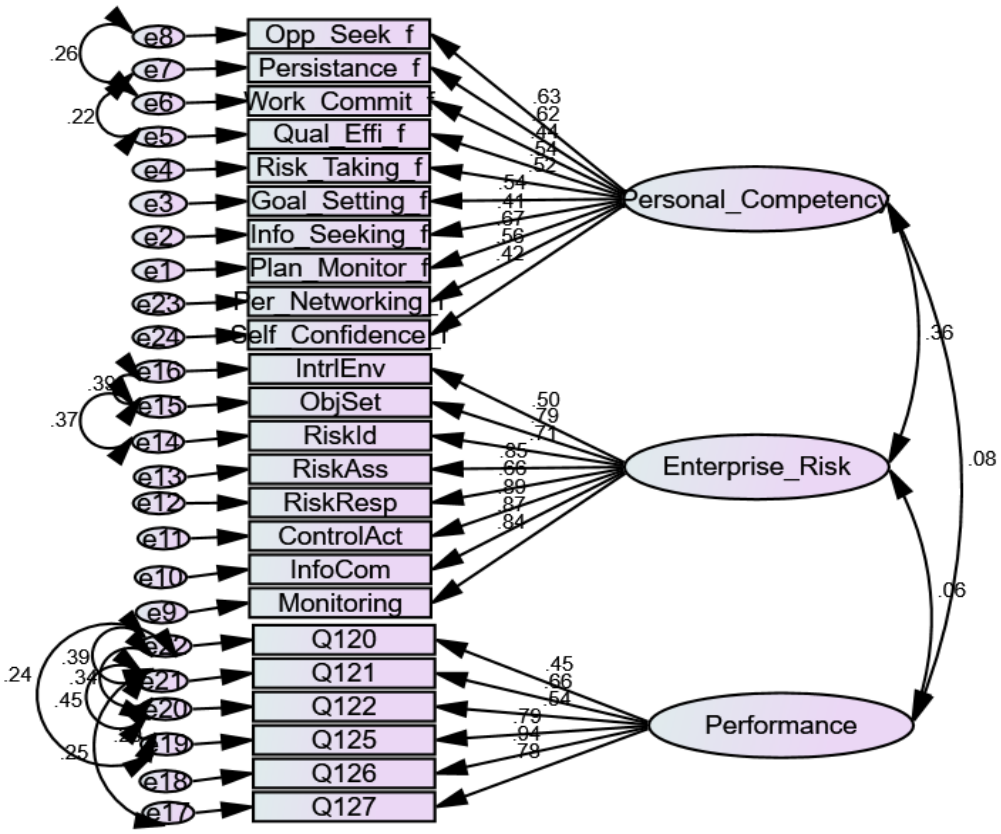


Figure 15: The measurement model with factor loadings and correlations

Following the suggestion of Finch and French (2015), the purpose of fitting the measurement model is to ascertain that the measurement models for each latent variable fit the data. This mean checking whether the hypothesized factor structures for

Personal_Competency, *Personal_Competency* and *Performance* are supported by the data collected. The factor loadings in Figure 15. indicated that the correlations of the variables with the factors are moderately high (0.3 to 0.6) to high (0.6 and above) (Kline, 1994). Since there are no factors with loadings below 0.3, the factors are not adjusted. Thus, the CFA (measurement model) fit to proceed to determine the model fitness, reliability and validity of the constructs.

4.6.2 Model parameter estimation. Out of the various different model parameter estimation methods, the default ML estimation in AMOS has been chosen in particular to choose the most appropriate and the accurate for the estimation. Raykov and Marcoulides (2006) suggested using the maximum likelihood (ML) method for indicators with minor deviation from normality since ML is one of the most commonly used techniques for moderately nonnormal data even according to Weston and Gore (2006). Thus, the default method of SPSS AMOS version 21 is used to estimate the model fit and its parameters.

4.6.3 Assessing model fit. The model parameter estimated needs to be ascertained that the model fits the data and there are many different ways to do that. However, the most commonly used methods such as the chi-square goodness of fit test (χ^2), Chi-square/df (cmin/df) (Hu & Bentler, 1999), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR) (Finch & French, 2015; Kline, 1994), goodness of fit index (GFI) and adjusted goodness of fit index (AGFI) (Hu & Bentler, 1999). The model fits are as discussed hereunder.

a) Chi-square goodness of fit test (χ^2)

Although as not as useful as it is with multivariate normal data (indicators), the χ^2 goodness of fit test is still used to ascertain the model fit in not multivariate normal data. The χ^2 actually tests model misspecification, which means that if the χ^2 is significant, the theoretical model does not fit the empirical data. In other words, if the χ^2 is significant, it indicates that the model does not fit the sample data (Weston & Gore, 2006) while a non-significant χ^2 indicates a good fit. However, the χ^2 statistics provide a direct test of the null hypothesis of exact model fit, which is hard to achieve in reality. Further, larger sample sizes increase the power and result in significance with small effect sizes. Thus, the other four relative fit indices need to be referred.

However, the Chi-square/df (cmin/df) ratio is considered insensitive to sample size unlike the Chi-square, thus, Kline (1994) recommends a ratio of 3 or less as acceptable fit.

b) Comparative fit index (CFI)

The CFI is an incremental fit index which "compares the improvement of the fit of the researcher's model over a more restricted model, called an independence or null model, which specifies no relationship among variables" (Weston & Gore, 2006).The CFI hypothesizes that no relationship exists between the latent and observed variables. The CFI ranges from 0 to 1.0 with values closer to 1.0 indicating a better fit.

c) Tucker-Lewis index (TLI)

The TLI is closely related to the CFI and is sometimes referred to as the nonnormed fit index (NNFI). Although many researchers recommend the cutoff to be around 0.90 or 0.95, a higher value indicates a better fit of the model to the data (Finch & French, 2015).

d) Root mean square error of approximation (RMSEA)

The RMSEA index corrects for a model's complexity and a value of 0.00 indicates that the model exactly fits the data. However, values of RMSEA less than or equal to ($RMSEA \leq 0.05$) are taken to indicate a good model and the values between 0.05 and 0.08 are also acceptable since they indicate adequate model fit while values above 0.08 indicate poor fit (Finch & French, 2015).

e) Standardized root mean square residual (SRMR)

The SRMR index is computed on covariance residuals wherein a smaller value indicating a better fit. The SRMR indicates the difference that exists between the observed data and the model so a SRMR = 0.00 indicates a perfect fit. In practice, the values of $SRMR \leq 0.08$ suggests good model fit to the data (Finch & French, 2015).

f) Goodness of fit index (GFI) and adjusted goodness of fit index (AGFI)

The goodness of fit inex (GFI) is used as an alternative to the Chi-square test and calculates the proportion of variance accounted by the estimated population covariance (Fornell & Larcker, 1981; Hu & Bentler, 1999). Although the traditional cut-off point of 0.90 is recommended GFI, lower factor loadings and sample sizes require a cut-off of at least 0.95. Similar to the GFI, the adjusted goodness of fit (AGFI) adjusts the goodness of fit based on degrees of freedom, meaning reducing the fit for more saturated models. The AGFI tends to increase with increase in sample size and the generally accepted value is 0.90 or above as the number closer to 1 means better fit.

The initial model showed weak fit as thus the model is revised to arrive at the final model as shown in Figure 15. As can be seen from Figure 15, the CFA proved that the measurement model fit the data after correlating some error terms of the few redundant items within the same latent variables. The final CFA model fit the data well

as shown in Table 23 where the majority of parameters pass the minimum threshold requirements as suggested by the mentioned sources.

Table 23: The measurement model fitness parameters

Measure	Estimate	Threshold	Sources
Chi-sq	388.79	p-value >.05	Meyers et al. (2005)
P-value	0	> .05	
Chi-square/df (cmin/df)	**1.6**	<3 good; <5 sometimes permissible	Bentler (1990); Kline (1994); Hair et al., (2009)
CFI	**0.96**	>.95 great; >.90 traditional; >.80 sometimes permissible	Bentler (1990); Hatcher (1994)
TLI	**0.95**	>.90 or .95	Finch & French (2015)
RMSEA	**0.05**	<.05 good; .05 -.10 moderate; >.10 bad	Hu & Bentler (1999); Meyers et al. (2005)
SRMR	**0.05**	<.09	Hair et al. (2009); Finch & French (2015)
PCLOSE	**0.80**	>.05	Hair et al. (2009)
AGFI	**0.87**	>.80	Yang (2018)
GFI	**0.90**	>.95 or .90	Yang (2018)
IFI	**0.96**	>.90	Meyers et al. (2005)
PRATIO	**0.866**	>.80	Hu & Bentler (1999)

Since the model fit indices indicate that the measurement model fit the data as they are all within the permissible threshold, the next step is to confirm the reliability and validity of the model.

4.6.4 Reliability and validity. When conducting CFA, it is absolutely necessary to establish and confirm reliability, convergent validity and discriminant validty. They determine the robustness and accuracy of the instrument and the reliability and validity of the analysis.

Construct reliability

The reliability demonstates the degree of consistency of an instrument, be it over time or among the participants. For crossectional studies, it is important to check the internal reliability of the instrument so that the scores received from participants are

consistent and stable (Creswell & Plano Clark, 2018). Although one of the measures of reliability (Cronbach's alpha) has been proved in the earlier section, composite reliability (CR), which represents a relationship between the indicator and the composite (latent variable) of which the indicator (Henseler et al., 2015) is a part of is another measure of reliability.

Construct validity

Construct validity is a confirmation that "scores received from participants are meaningful indicators of construct being measured" (Creswell & Plano Clark, 2018) and such validations help generalizing the results to other persons, settings, or times. The most widely used construct validity subtypes are convergent validity and discriminant validity, which are also a prerequisite for SEM in addition to composite validity. As detailed by Fornell and Larcker (1981), it is a must to demonstrate that the "measurement model has a satisfactory level of validity and reliability" before testing for a significant relationship in the structural model.

The Table 24 shows the reliability and validity measures of the measurement model (CFA). The first column represents the composite reliability (CR) determining the internal consistency of the constructs. All the three latent variables achieved the CR > 0.70 as suggested by Green and Yang (2009) and Hu and Bentler (1999). Furthermore, the AVE for *Enterprise_Risk* and *Performance* are greater than the minimum threshold of 0.5, however, the AVE for *Personal_Competency* is less than 0.5. Nevertheless, according to Malhotra and Dash (2011), "AVE is a more conservative measure than CR" and thus, convergent validity of the construct can be based on the CR alone. Regarding the discriminant validity, all the MSV values are less

than AVE (MSV < AVE) and the square root of AVE (diagonal elements) are greater than inter-construct correlations. Hence, discriminant validity is sufficed.

Table 24: Reliability and validity measures

	CR	AVE	MSV	Enterprise Risk	Personal Competency	Performance
Enterprise Risk	0.92	0.61	0.12	**0.78**		
Personal Competency	0.81	0.30	0.12	0.34	**0.55**	
Performance	0.88	0.56	0.01	0.06	0.09	**0.75**
Threshold	0.70	0.50		0.80		

4.6.5 Common method bias. Common method bias is a bias that occurs between two or more constructs when the self-reporting methods with similar measurements are used to collect data (Jakobsen & Jensen, 2015; Jordan & Troth, 2020; Podsakoff & Organ, 1986). According to Podsakoff and Organ (1986), self-reported or self-administered measures cause common method bias since they are not verifiable like the demography measures. For example, self-report demography measures such as age, gender and even income level and occupation can be verified by use of other means but self-report measure of job satisfaction cannot me verified. The presence of a common method bias in research can distort the reliability and validity of measures as well as result in "a bias of the parameter estimates of the relationships between two different constructs (Jordan & Troth, 2020). However, there are two strategies to minimize the impact of common method bias in general – procedural strategies and statistical strategies (Jordan & Troth, 2020; Podsakoff & Organ, 1986).

1. Procedural Strategy

Out of the several procedural strategies to minimize the common method bias, one of the prominent and recommended strategies is to remove common scale

properties (Jordan & Troth, 2020), which has been carried out in this research. Under this strategy, one of the strategies suggested is to minimize the scale properties shared by the measures of the independent (predictor) variables and dependent (criterion) variables. Jordan and Troth (2020) recommended to alter the anchors for scales (say, attitudinal scale, such as “strongly agree to strongly disagree” to a frequency a frequency scale of “never” to “frequently”). Similar to the recommendations, the current study used three types of scales, “strongly agree to strongly disagree” and “always to never” for the independent variables and “very satisfied to very dissatisfied” for the dependent variables. Furthermore, the financial data are also collected to measure performance (dependent variable).

However, several published resources stated that minimizing common method biases using procedural strategies are difficult owing to consistency motif and social desirability problems. According to Podsakoff and Organ (1986), consistency motif means the urge of the respondents to maintain consistency while providing the answers while social desirability is the attempt made to present themselves in a favorable manner. Thus, according to the authors, there will be artifactual covariances due to the common method.

2. Statistical Strategy

Since the procedural strategies can only minimize and not eliminate the common method bias, certain statistical strategies need to be used to ensure that the bias is minimal. One of such strategies, the most commonly used is the Harman’s one factor test (Cooper et al., 2020; Jakobsen & Jensen, 2015; Jordan & Troth, 2020; Podsakoff & Organ, 1986). According to Podsakoff and Organ (1986), Harman’s one factor, also

known as Harman's single-factor test is the first statistical procedure to used for controlling common method bias.

In the Harman's one factor test, all the variables of interest are loaded into a single factor and a factor analysis is executed. The unrotated factor loadings are examined to determine the presence of common method bias. According to Podsakoff and Organ (1986), the presence of a substantial common method bias is indicated by either a single factor emerging from the factor analysis or one "general" factor accounting for the majority of the covariance in the independent and dependent variables. Although disputable, a single factor that accounts for more than 50% of the factors suggests the presence of common method bias (Cooper et al., 2020; Podsakoff & Organ, 1986).

In order to determine the presence of common method bias, all the variables (items) of both the dependent and independent variables (scale variables) are loaded as a single factor in R with the following command:

subsetcommon <- subset(data, select = c(Q12,Q13,Q14,Q15,Q16,#Internal Environment

Q17,Q18,Q19,Q20,Q21,Q22,Q23,#Objective Setting

Q24,Q25,Q26,#Risk Identification

Q27,Q28,Q29,Q30, #Risk Assessment

Q31,Q32,Q33,Q34, #Risk Response

Q35,Q36,Q37,Q38, # Control Activities

Q39,Q40,Q41,Q42,Q43,#Information and communication

Q44,Q45,Q46,Q47, #Monitoring

Q56,Q57,Q58,Q59,Q60,Q61,#Enterprise Risk Management

Q120,Q121,Q122, #Sales growth

Q125,Q126,Q127 #Asset growth

))

singlefactor <- fa(subsetcommon, nfactors=1, rotate="none", fm="ml")

The aforementioned code loaded all the variables of interest into one factor (*nfactors = 1*) called *subsetcommon* and performed factor analysis with the command *fa* without any rotation (*rotate = "none"*) using the maximum likelihood (*fm = "ml"*) method. As suggested, the single factor accounted for only 36% (Proportion var =.36 < .50) of the variance explained, indicating that the effect of common method bias is acceptable since it is within the recommended threshold.

4.6.6 The structural model. The structural model makes use of regression analysis to relate the factors to one another but instead of observed variables, latent variables are used (Finch & French, 2015). The general structural equation model can be written as

$$\boldsymbol{\eta = B\gamma + \zeta}$$

where, η = endogenous (dependent) latent variable,

γ = exogenous (independent) latent variable,

B = coefficient of the two latent variables, and

ζ = random error (assumed to be normal distribution with mean of 0 and variance of 1).

As hypothesized in Chapter 2, the existing theories and empirical researches indicate that the firms' performance depend on the risk management strategies that they

employ which in turn is determined by the personal attributes of the owners or managers that run the business. In other words, it is hypothesized that financial performance (*Performance*) of a firm is a function of the enterprise risk management (*Enterprise_Risk*), and the enterprise risk management, in turn, are dependent on the personal entrepreneurial competencies (*Personal_Competency*) of the owners or manager as shown in Figure 16.

The structural model is constructed based on the theoretical model by following the parameter adjustment suggestions of AMOS. The relevant and logical error terms and control variables are allowed to covary based on modification indices suggested by AMOS. Since there are three latent variables with *Performance* being the endogenous variable, three different relationships were possible. The final structural models' fit are as computed in Table 25. As discussed under the CFA (measurement model fit), all the model fit parameters of the three different SEMs also satisfy the minimum or maximum model parameter requirements.

Table 25: The model fit indices of the three different SEMs

			Model fit parameters							
Sl. No.	Relationship	Model	cmin/df	CFI	TLI	RMSEA	SRMR	PCLOSE	AGFI	GFI
1	Mediating	SEM_1	1.62	0.96	0.95	0.05	0.06	0.80	0.87	0.90
2	Direct	SEM_2	1.63	0.96	0.95	0.05	0.05	0.80	0.87	0.90
3	Direct and mediating	SEM_3	1.63	0.96	0.95	0.05	0.05	0.80	0.87	0.90

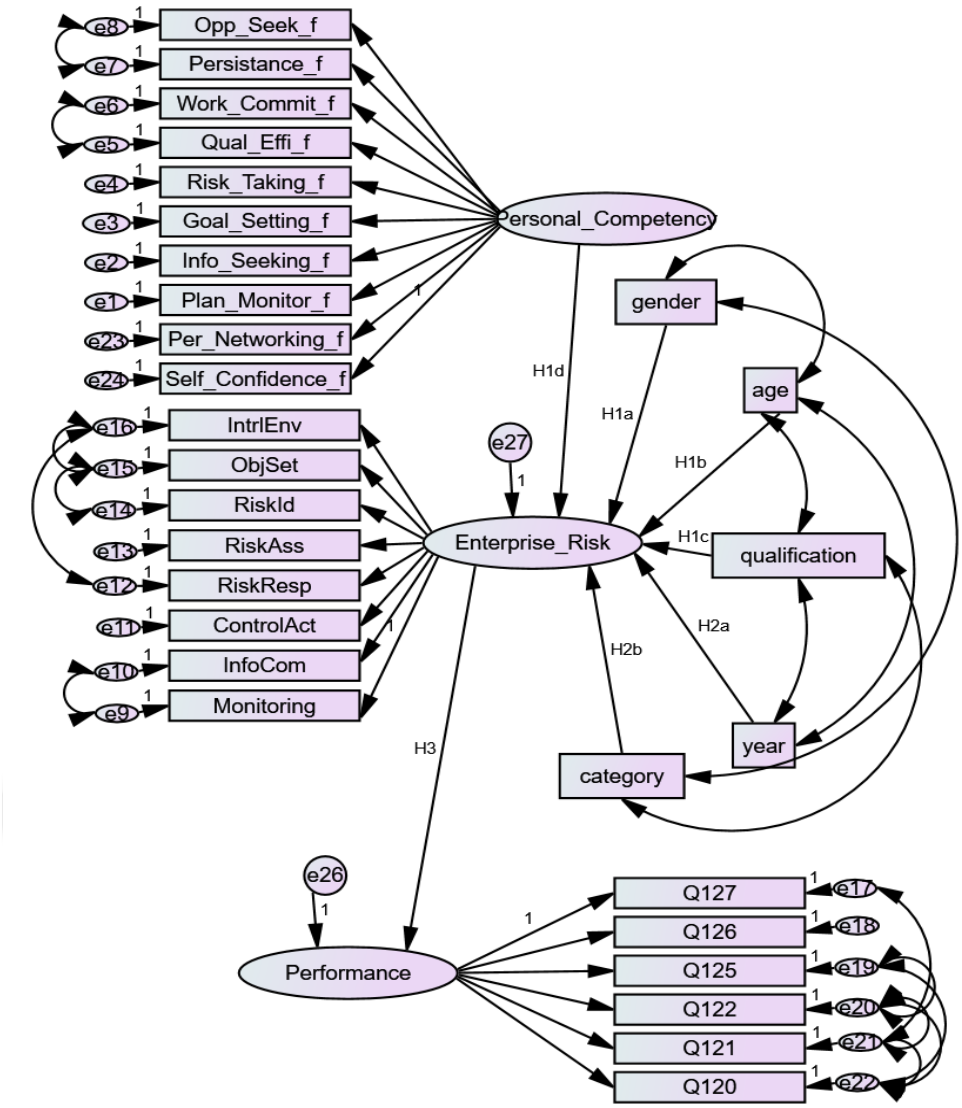


Figure 16: The final structural model

Further, the R-squared values and significance of the relationships are tested using the output functions of AMOS. However, only the relationship between *Personal_Competency* and *Enterprise_Risk* are found to be statistically significant with R-square value of 0.13. The relationship between *Personal_Competency* and *Performance* as well as the relationship between *Enterprise_Risk* and *Performance* are not significant (Refer **Appendix III**). Since all the three different relationships have same model parameters, the final model used for hypothesis testing is as shown in Figure 17.

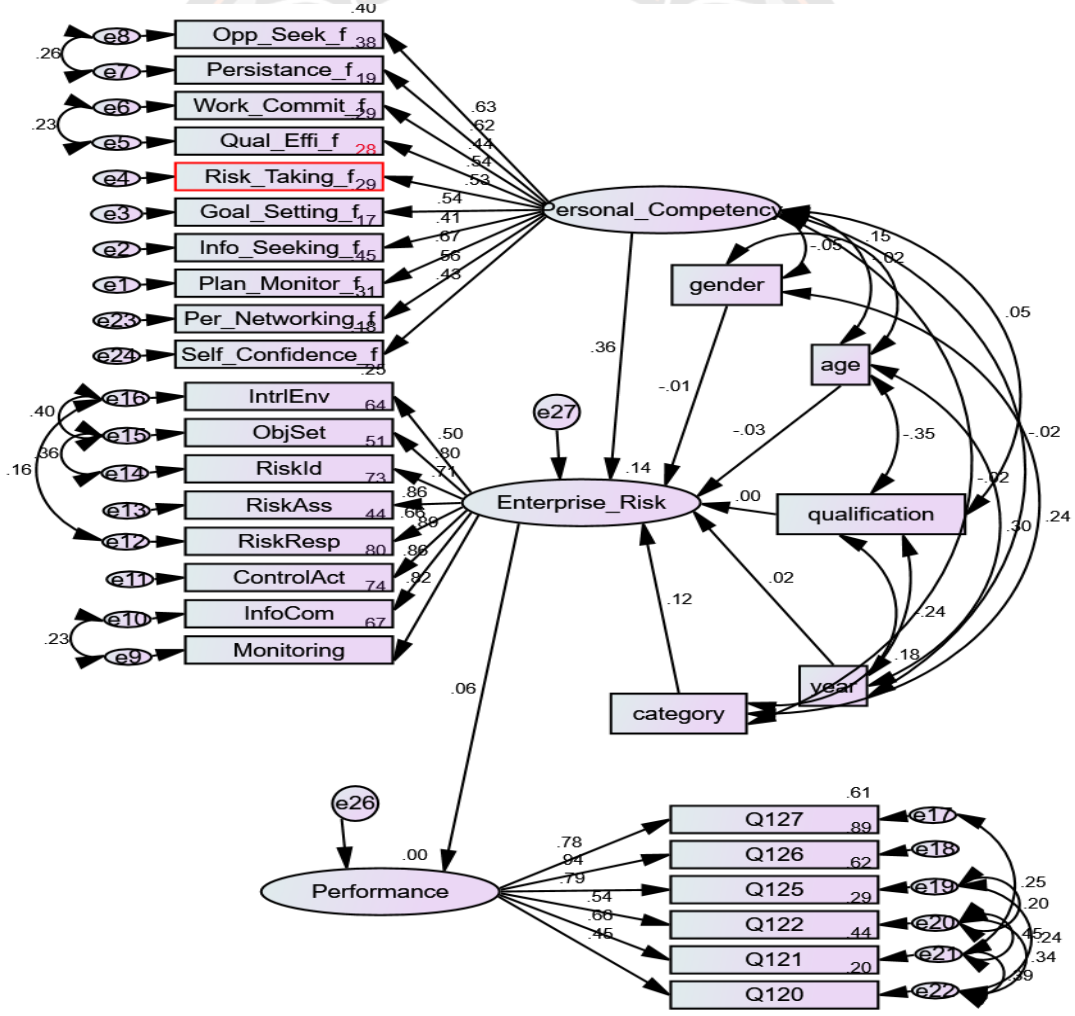


Figure 17: The SEM with factor loadings, R-square and regression weights

4.7 Hypothesis Testing

As discussed in the earlier sections, there are seven hypotheses to be tested with six being direct effects to *Enterprise_Risk* and the last one to see if *Enterprise_Risk* has direct effect on *Performance*. However, both mediating and direct effect have been tested on Performance by *Enterprise_Risk*. Before looking at the hypothesis attributes, the model fit and regression weights are studied to ensure that the model fit the data and also that there are significant relationships between the variables of interest.

Table 26: Summarized statistics on standardized regression weights

Statistical relationships	**Estimate**	**S.E.**	**C.R.**	**P**	**Label**	**P-value (Bootstrap)**
Enterprise_Risk <--- Personal_Competency	0.36	0.05	4.40	***	H1d	**0.001*** **
Enterprise_Risk <--- gender	-0.01	0.06	-0.19	0.85	H1a	
Enterprise_Risk <--- age	-0.03	0.03	-0.47	0.64	H1b	
Enterprise_Risk <--- qualification	0.00	0.03	0.05	0.96	H1c	
Enterprise_Risk <--- size	0.12	0.05	2.04	**0.04**	H2b	**0.044** **
Enterprise_Risk <--- year	0.02	0.02	0.37	0.71	H2a	
Performance <--- Enterprise_Risk	0.06	0.09	1.02	0.31	H3	

As can be seen in Table 26, only the regression weight between *Enterprise_Risk* and *Personal_Competency* are significant with CR = 4.40, meaning the regression weight estimate is 4.40 standard errors above zero. A further analysis by bootstrapping 2000 samples at 95% confidence level indicated that the p-values for relationships between *Enterprise_Risk* and *Personal_Competency*, and *Enterprise_Risk* and *size* are below the 5% confidence level.

The summaries of the hypotheses test results are as shown in Table 27 and Table ***28***, and are further elaborated.

Table 27: Direct effect results

Sl.No.	Hypothesis	Direct Effect Results	Conclusion
1	**H_{1a}**: The gender of the owner/manager has significant effect on the management of risks in the SMEs	β = -0.008, p = 0.928 > 0.05	Not supported
2	**H_{1b}**: The age of the owner/manager has significant effect on the management of risks in the SMEs	β = -0.031, p = 0.859 > 0.05	Not supported
3	**H_{1c}**: The educational qualification of the owner/manager has significant effect on the management of risks in the SMEs	β = -0.001, p = 0.298 > 0.05	Not supported
4	**H_{1d}**: The personal competency of the owner/manager has significant effect on the management of risks in the SMEs	β = 0.356, **p = 0.001*** ** < 0.05	**Supported**
5	**H_{2a}**: The age of the enterprise significantly influences the risk management strategies of the SME	β = 0.023, p = 0.766 > 0.05	Not supported
6	**H_{2b}**: The size of the enterprise significantly influences the risk management strategies of the SME	β = 0.123, **p = 0.044** ** < 0.05	**Supported**
	**p < 0.05; **p < 0.01; ***p < 0.001*		

Table 28: Mediating effect results

Mediating Effect Results	Direct	Indirect	Total	Result	Conclusion
H3: The SMEs employing ERM practices are performing significantly better than those who aren't	0.07	0.014	0.084	p = 0.379	Not supported

In addition to the hypothesis tests, the model fit parameters are also considered to make sure that the model still fit the data and satisfy all the underlying conditions. The Table 29 indicates that all the model fit indices meet the criteria as specified earlier,

except for GFI, which is less than .90 but very close, hence it can be concluded that the hypothesized model fit the data.

Table 29: The model fit indices of the hypothesized model (after drawing all the relationships)

Measure	**cmin/df**	**CFI**	**TLI**	**RMSEA**	**SRMR**	**PCLOSE**	**AGFI**	**GFI**
Estimate	**1.57**	**0.94**	**0.94**	**0.04**	**0.06**	**0.94**	**0.86**	0.89
Threshold	< 3	>.90	>.90	<.05	<.09	>.05	>.80	>.90

***H_{1a}**: The gender of the owner/manager has significant effect on the management of risks in the SMEs.*

In order to test the hypothesis **H_{1a}**, the control variable (*gender*) is pseudo-coded, as 0 = female and 1 = male. Then the regression path is drawn from the *gender* variable to *Enterprise_Risk* in AMOS, similar to all the other control and exogenous variables. However, the p-value of the regression equation indicated that the relationship between gender and ER is not statistically significant (*p = 0.928*). The other way of stating this is that the regression weight for *gender* in the prediction of *Enterprise_Risk* is not significantly different from zero at 0.05 level. Thus, the conclusion is that the ER is no different between males and females in the population, meaning the null hypothesis cannot be rejected.

***H_{1b}**: The age of the owner/manager has significant effect on the management of risks in the SMEs.*

Another prominent characteristic of the owner/manager that influences the risk management of a firm is the age since age is a determinant of experience. The model parameter estimates confirmed that the model fit the observed data but the p-value of

the regression indicated that the relationship between *age* and *Enterprise_R* is not statistically significant ($p=0.859 > 0.05$).

***H_{1c}**: The educational qualification of the owner/manager has significant effect on the management of risks in the SMEs*

Similar to the above hypotheses, the relationship between the educational *qualification* of the owner/manager and the *Enterprise_Risk* in the SMEs is tested. Similar to the two previous hypotheses, the model parameter estimates supported the model fit, however, the p-value ($p = 0.298$) is not statistically significant to reject the null hypothesis. Therefore, it can be concluded that the educational qualification of the owner/manager does not significantly affect the management of risks in the SMEs.

***H_{1d}**: The personal competency of the owner/manager has significant effect on the management of risks in the SMEs*

Unlike the previous three hypotheses (categorical and continuous variables), the personal competency of the owner/manager is measured by a latent variable comprised of the ten attributes of personal entrepreneurial competencies (*Personal_Competency*). The model parameter estimates supported that the model fit the data with all the estimates within the acceptable threshold. Furthermore, the p-value of the regression coefficient supported the alternative hypothesis with a p-value < 0.05, meaning there is a statistically significant relationship between the personal competency (*Personal_Competency*) of the owner/manager and the management of risk (*Enterprise_Risk*) in the SMEs.

A further analysis (linear regression) of the relationship between *Personal_Competency* (PEC) and *Enterprise_Risk* (ERM) showed that the 10 domains of the PEC correlated with the ERM at a significant level with p-value < 0.05. However,

only two domains of the *Personal_Competency* (Info_Seeking_f with p-value = 0.037 < 0.05 and Plan_Monitor_f with p-value = 0.029 < 0.05) were unique predictors of ERM as shown in Table 30.

Table 30: The correlation between 10 PEC domains and ER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.118	0.506		2.207	0.028
	Opp_Seek_f	0.014	0.021	0.048	0.672	0.502
	Persistance_f	0.023	0.021	0.079	1.110	0.268
	Work_Commit_f	0.013	0.020	0.041	0.658	0.511
	Qual_Effi_f	0.009	0.019	0.032	0.476	0.635
	Risk_Taking_f	-0.024	0.016	-0.099	-1.551	0.122
	Goal_Setting_f	0.015	0.018	0.053	0.831	0.407
	Info_Seeking_f	0.038	0.018	0.125	2.095	**0.037***
	Plan_Monitor_f	0.042	0.019	0.152	2.197	**0.029***
	Per_Networking_f	0.023	0.017	0.087	1.349	0.178
	Self_Confidence_f	-0.013	0.017	-0.048	-0.783	0.434

a. Dependent Variable: ER

**p < 0.05; **p < 0.01; ***p < 0.001*

***H_{2a}**: The age of the enterprise significantly influences the risk management strategies of the SME.*

According to prior studies, there are mixed findings about the impact of an age of an enterprise on their risk management strategies. Some found older firms implementing more risk management strategies owing to their experiences while some studies found otherwise. Similarly, this study also tested whether the age of the enterprise (SME) is a factor when it comes to risk management strategies. Although the model parameter estimates confirmed the model fit the data, the regression coefficient's p-value indicated that the age of the enterprise (*year*) did not significantly influence the risk management strategies in the SMEs since $p = 0.766$.

***H_{2b}**: The size of the enterprise significantly influences the risk management strategies of the SME*

The SMEs in Bhutan are also categorized into three – cottage (micro), small and medium enterprises. Prior studies have found that the risk management strategies are practiced more in bigger enterprises than in smaller ones. Similarly, this study also intended to ascertain whether the risk management strategies differ on size of the enterprises. Bigger the size of the enterprise, higher the risk would be owing to the amount of its capitalization as well as other related factors. The model parameter estimates confirmed that the observed data fit the model and the regression model also confirmed that the size of the enterprise significantly influence the risk management strategies of the SMEs with $p = 0.044 < 0.05$.

***H_3**: The SMEs employing ERM practices are performing significantly better than those who aren't*

Finally, one of the objectives of the study was to determine if the SMEs employing or practicing ERM are performing significantly better than those who aren't. The ERM is measured based on the ERM processes while the SME performance is measured by six item parcels representing *Sales_growth* and *Asset_growth*. The model parameter estimates showed that the defined model fit the data since $CFI \,\&\, TLI > 0.9$ and $RMSEA\&SRMR < 0.08$. However, the significance value of the regression equation is above the acceptable threshold ($p = 0.38 > 0.05$) indicating that practicing risk management did not necessarily led to better performances in the SMEs. Therefore, the null hypothesis cannot be rejected.

4.8 Chapter Summary

This chapter presented the result of the quantitative part of the data. The reliability and validity of the quantitative data collected using a survey method are tested using the standard best practices. Once the reliability and validity are confirmed, all the variables of interest are analyzed and their descriptive statistics are presented with brief interpretations. The analyzed data are presented in the form of tables and charts for easy readability and understanding.

Upon the completion of the descriptive interpretation, the analysis and interpretation of the inferential statistics is carried out. The process of SEM analysis, starting from data validity to measurement model confirmation (CFA) up to the structural model analysis (SEM) are described in this chapter. The SEM is confirmed using nine different model fitness parameters and then the hypotheses of the study are tested using the most fit model. Out of the seven hypotheses tested, only two hypotheses are supported by the data.

Chapter 5 Qualitative Data Results

This chapter covers the complete method of qualitative data analysis using the thematic analysis. Although rarely credited, thematic analysis is one of the widely used methods of qualitative data analysis. The chapter starts with data preparation for qualitative analysis to the thematic analysis of the qualitative data. It also demonstrates the use of *R*-based *Q*ualitative *D*ata *A*nalysis (*RQDA*), a packaged that can be used with either R program or R-studio. The chapter discusses in grave detail starting from data preparation to coding and categorizing the qualitative data. It also presents how such sophisticated data manipulations can be done using an opensource software. The topics covered in Chapter 5 are as follows:

5.1 Chapter Overview

5.2 Qualitative data preparation

5.3 Qualitative data analysis

5.4 Results of the qualitative data

5.5 Summary of ERM

5.1 Qualitative Data Preparation

Similar to the quantitative data analysis, the qualitative data analysis also followed the basic steps such as data preparation, data exploration, data analysis and data interpretation. The first step in qualitative data analysis, after data collection, is to prepare the data for analysis and this means “transcribing text from interviews and observations into word processing files for analysis” (Creswell & Plano Clark, 2018). Verbatim (word-for-word) translation and transcription are done so that the essence of the interview is not lost. The audio files are played on VLC media player and transcribed on MS Word. The interviews are transcribed based on the interview questions/themes that led to answer from the respondents. Once the transcription is completed, the transcribed data are proof-read to minimize grammatical and spelling errors, which is also referred to as data exploration.

5.2 Qualitative Data Analysis

Once the transcribed data is ready, the data is imported into the RQDA package of R. The RQDA package, which stands for *R-based Qualitative Data Analysis* (RQDA), is a package developed by Huang (2018) and provides standard Computer-Aided Qualitative Data Analysis (CAQDA) features. The RQDA package has a Graphical User Interface (GUI) unlike its command-based R platform, wherein the GUI offers clickable features to import plain text documents (.txt format) and then code and organize into categories as per codes or files. It is versatile and efficient.

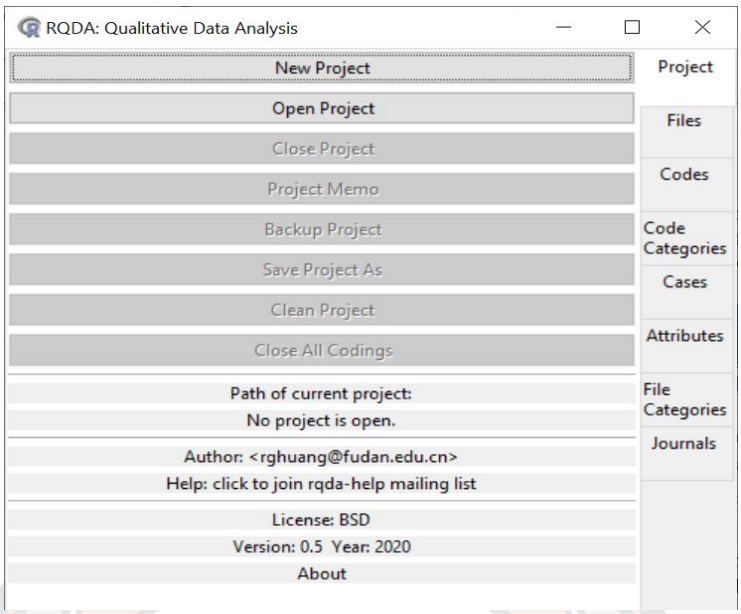


Figure 18: A screenshot of the RQDA user interface

The RQDA package has the capacity and the capability to store text documents and visuals for data analysis. It also has the capability to label text segments with codes that can be easily retrieved or edited and further organize codes into visuals, map out codes and perform a perfect thematic analysis. According to Creswell and Plano Clark (2018), the core feature of qualitative data analysis is coding and the RQDA package can do it seamlessly.

Although there are different methodologies of qualitative data analysis when qualitative research is carried out on its own, this particular research used a mixed methods methodology and hence, used thematic analysis, which is more of a qualitative data analysis method than a methodology (Braun & Clarke, 2006). The authors further specify six non-linear phases of thematic analysis which starts from familiarization with data and ends with the production of a written report as summarized in Table 31.

Table 31: The six phases of thematic analysis

Phase	Brief description of the process
1. Getting familiar with data:	Once the interview was conducted, the first task was to listen to the recorded audio and translate and transcribe. Then, the transcription was read and re-read to generate initial ideas.
2. Generating initial codes:	After the third reading, interesting and relevant features of the data are coded into a systematic fashion across the entire data set. Short memos were written against each code so that the all the relevant codes are collated and applied uniformly.
3. Generating initial themes:	Once the transcribed data are coded, the next phase was to collate those codes into potential themes.
4. Reviewing themes:	This process involved checking if the themes make sense in relation to research objectives and also generating a thematic map of the analysis.
5. Defining and naming themes:	To ensure the themes are relevant and aligned with the research objectives, the themes must be succinct and tell overall story of the analysis.
6. Producing the report:	The final phase is to produce a scholarly report of the analysis relating back to the research question and the literature review.

Source: Braun and Clarke (2006)

Using the framework of Braun and Clarke (2006), the phases are as described hereunder.

1. Getting familiar with the data

As mention earlier in the preceding chapters, after transcription and compilation of the interview data, the transcripts were checked once again to ensure that it has

captured the essence of the interview, especially the answers of the interviewees (SME owners). As suggested by Braun and Clarke (2006), a "rigorous and thorough orthographic transcript" was ensured. The transcripts were then read and re-read for grammatical and spelling errors. All the fifteen transcripts were read more than two times to ensure uniformity of tone and language.

Once the data is ready, they are imported into the RQDA program after creating a new project. Once a new project is created and opened, the RQDA window changes (see Figure 19) with more options becoming functional compared to the initial window shown in Figure 18.

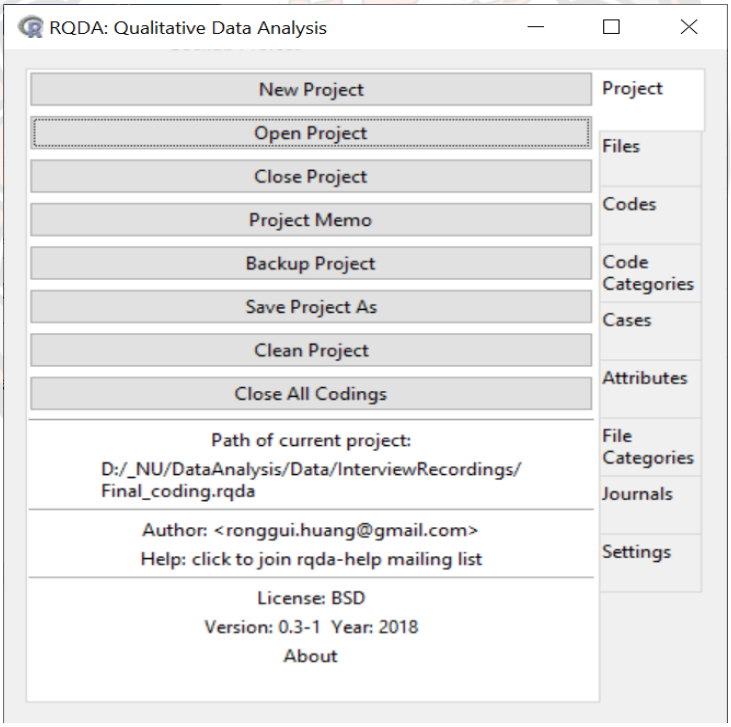


Figure 19: The display window of the RQDA program after the project is created

The text files (interview transcriptions) are imported to the RQDA program using the "Files" tab and clicking on "Import" button. After importing all the files, they are then categorized into different "File Categories" based on the size of the SME. The files

are coded using alpha-numeric notations where the prefix “C” was for “Cottage”, “S” for “Small” and “M” for “Medium” enterprises. Since there were 15 SMEs, 5 from each category, the highest number in each category is 5 (Figure 20). Once the files are correctly categorized and labelled, they were coded.

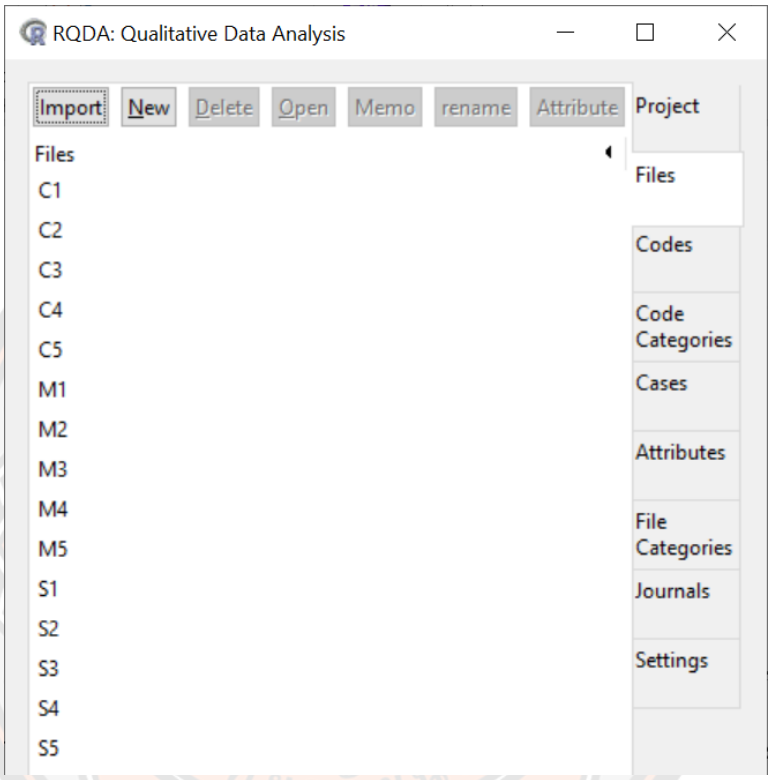


Figure 20: The view after importing all the case files (Interview data)

2. Generating initial codes (coding)

Creswell and Plano Clark (2018) define coding as “the process of grouping evidence and labeling ideas so that they reflect increasingly broader perspectives”. Coding in qualitative research means basically dividing exact words (in vivo coding) of the participants in the transcribed data into smaller units such as single words, phrases, sentences or paragraphs. A deductive coding process is followed for this research since it is based on existing concepts and ideas of risk management and its attributes. The purpose of coding here is to look for words, phrases, paragraphs or ideas

that are useable to answer the research questions and the hypotheses. The use of words or terms related to risk management and business performances indicate the owners' knowledge of these concepts (Braun & Clarke, 2006).

The RQDA package provides an efficient way of coding. The coder just needs to highlight the relevant word or phrase and then assign it to the existing code or define a new code and assign it. The program automatically links and stores the codes and their corresponding statements together and they can be accessed any time for review or analysis. The codes are also represented in different color-coding so they are more readable. According to Butler-Kisber (2018), "rules of inclusion are written by the researcher that refer to what is required for a certain chunk of a field text to be placed in a particular category" so, accordingly the field texts are coded based on the categories that came from the worlds of the participants. Once the coding is done, the evidences are grouped into broad themes (Creswell & Plano Clark, 2018).

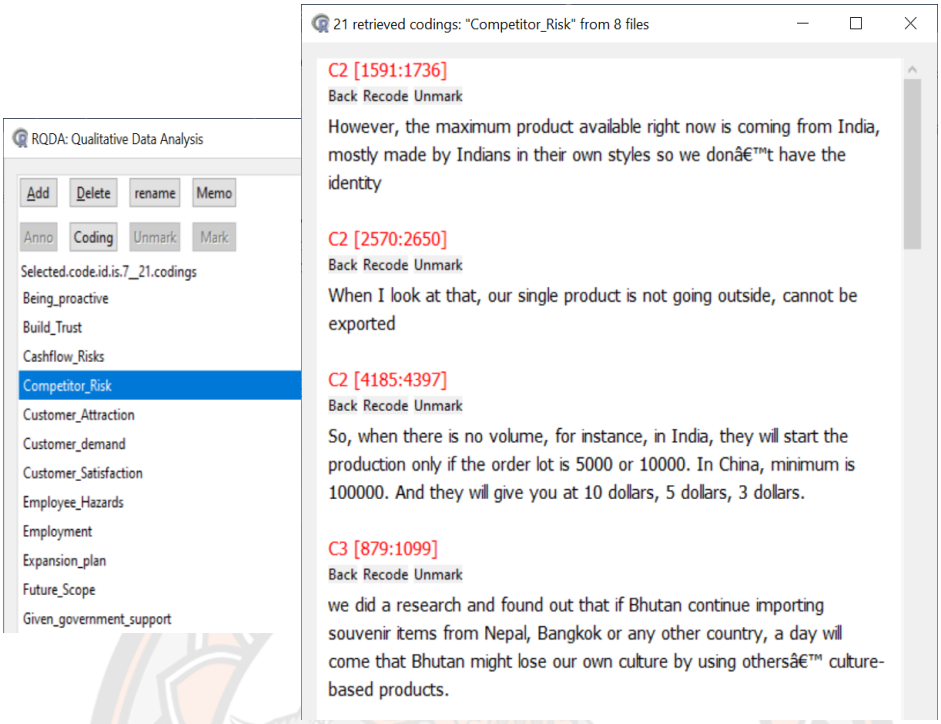


Figure 21: An excerpt of coding in RQDA

3. Generating initial themes

Since a deductive coding approach is followed, many of the codes and themes are generated from the extant literature reviews. For instance, personnel characteristics and SME performances are extensively studied and thus, they are used as themes with relevant codes to link them to the transcribed interview data. Similarly, the entire eight-step process of risk management are categorized under one theme (strategic risks). Nevertheless, relevant new themes are also generated based on the relevance and repetition that occurs among the respondents. Themes are, according to Bryman (2012), a category that are being built on codes or identified by the analysist, which relates to the research focus and possibly the research questions.

The author further elucidates that themes can be generated or construed based on the following:

a. *repetitions*: the topics, ideas or phrases that recur repeatedly;

b. *indigenous typologies*: unfamiliar local expressions;

c. *metaphors and analogies*: the way participants express their thoughts;

d. *transitions*: the ways topics or ideas shifts in transcripts;

e. *linguistic connectors*: examining the use of words like 'because' or 'since' as they point to causal connections in the minds of interviewees;

f. *theory-related materials*: using social scientific concepts as a foundation for themes.

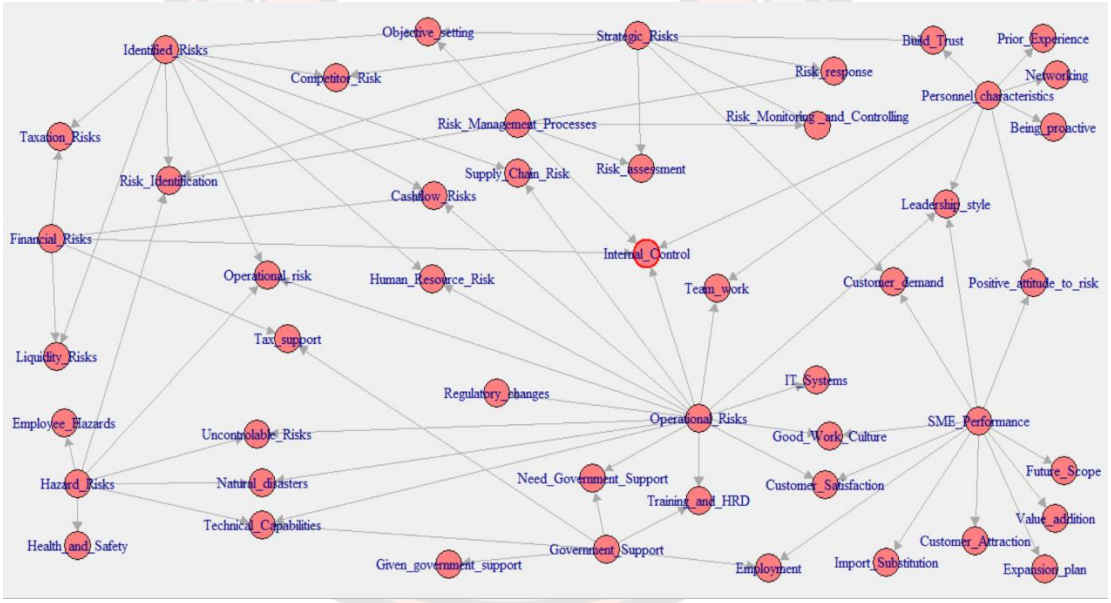


Figure 22: A mind map of the initial themes

4. Reviewing themes

Coding and arranging the codes according to themes is not a linear process. It followed more of an iterative process wherein checking relevance of the codes and their uniformity and applicability across all the respondent data. Doing this will ensure that the themes are accurately representing the data thus making them useful for the research by achieving its objectives. The purpose of reviewing is to ensure that there is not only

coherence within themes but also to make sure that there are clear and identifiable distinctions between themes (Braun & Clarke, 2006). In order to make an inclusive as well as a conclusive remark, only those codes with more than 50% of the representation of the SMEs are considered for final analysis, interpretation and drawing conclusions.

5. Defining and naming themes

One of the objectives of this study is to find out if the SME owners or managers are aware and abreast of the term risk management in general and enterprise risk management in particular. Being familiar with the terms or practicing risk management would indicate that the SMEs are aware and implementing the risk management process in their daily business affairs.

Once the themes are finalized, then they are named and defined according to their intent and significance for the research. The themes for this research are defined and arranged according to the variable value labels used in the quantitative portion, that is, arranging them according to the SME activities and characteristics which would lead to a better performance. Thus, the supposition of the study was that those SMEs who are aware of risks and management of risks would be performing fairly better than their counterparts and as business entities, they should be aware of risk management. Nevertheless, the intention of collecting qualitative data was to capture the qualitative aspects of risk management that may not have been captured by the survey questionnaire.

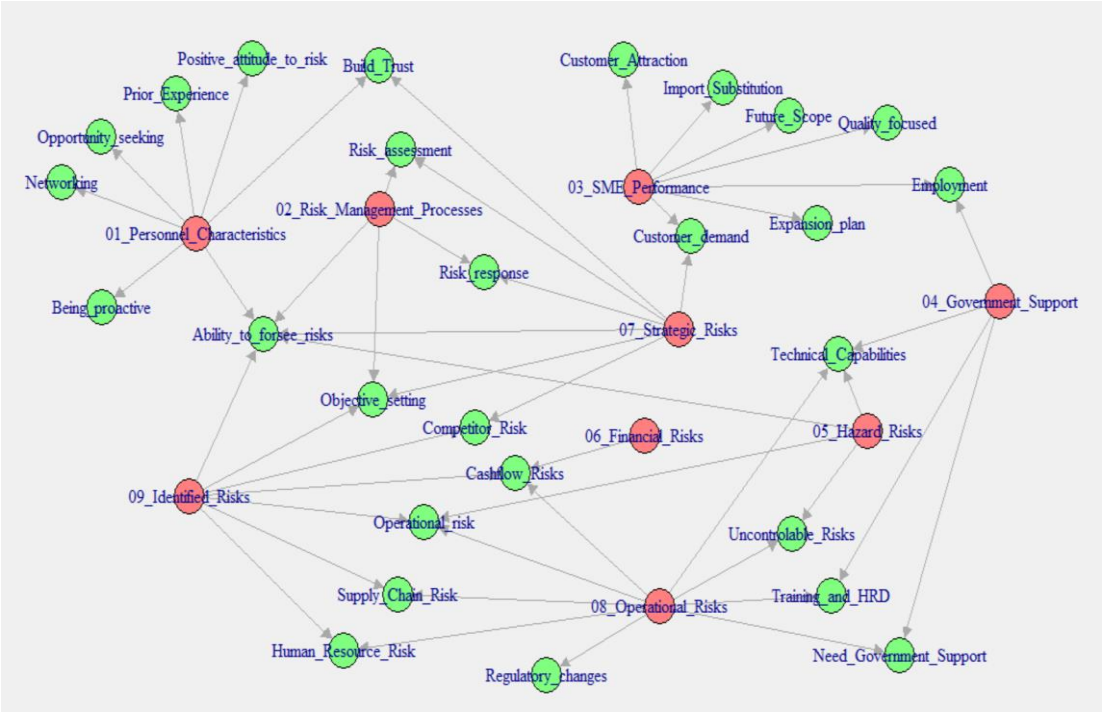


Figure 23: The thematic map developed from the initial coding

A condition was set so that there is neither under representation nor over crowding of themes and codes. The condition was that only the relevant codes that were represented by more than 50% of the respondents were selected. This meant selecting codes with at least eight respondents (at least eight respondents should have mentioned the code) in order to be selected and grouped under a theme. As indicated in Figure 23, where the red vertices represent themes and the green circles represent codes, the codes and themes are revised and modified. The scope and focus of the selected themes are as explained hereunder.

Table 32: The themes and selected coding with number of cases

Themes	Description	Codes	Number of Cases
01 Personnel Characteristics	This theme constitutes the personnel attributes, that is the characteristics of the	Being_proactive	12
		Build_trust	10
		Networking	13

	owners interviewed. Characteristics such as leadership style, their views on risk, prior experiences, and other relevant characteristics are used to define this theme.	Opportunity_seeking Positive_attitude_to_risk Prior_experience	9 11 8
02 Risk Management Processes	Although there were eight steps or processes involved in the holistic risk management processes. Only seven are mentioned in the interview. For example, the owners talked about internal control and monitoring, the objectives they set, their views on risk and how they respond. However, the flow of information and communication are not captured by the interview.	Objective_setting Ability_to_forse e_risks Risk_assessment Risk_response	11 11 9 8
03 SME Performance	According to the existing theories and literature, a business performance can be measured by their customer satisfaction, employment trend, the nature of business and their future scope.	Customer_attraction Customer_demand Employment Expansion_plan Future_scope Import_substitution	11 11 12 13 13 9

		Quality_focused	11
04 Government Support	One of the objectives of this research is to ascertain if the government is really supportive of the production and manufacturing SMEs. Government supports are given in the form of tax support, training and human resource development.	Employment Need_government_support Technical_capabilities Training_and_HRD	12 9 12 9
05 Hazard Risks	Unlike the general risk, hazard means a negative impact, a mishap that can negatively impact the business. For example, natural disasters, technical problems, employee health and other uncontrollable risks would cause hazards.	Operational_risk Technical_capabilities Uncontrolable_risks	13 12 9
06 Financial Risks	Financial risks comprised of having good internal control systems, taxation support from the government, cashflows and liquidity risks.	Cashflow_risks	8
07 Strategic Risks	A business, irrespective of its size or function, needs to have certain strategy to perform and survive. Thus, strategic risks comprise of the overall business setting	Ability_to_forse_risks Build_trust Competitor_risks Customer_demand	11 10 8 11

	starting from setting of business objectives to risk identification and responding to risks. Being aware of customer demands, competitors and building trust with employees as well as customers and suppliers were also considered under strategic risks.	Objective_setting	11
		Risk_assessment	9
		Risk_response	8
08 Operational Risks	Any risk that would impact the operation of the SME business such as human resource risks, operational risk, regulatory risks, leadership style, work culture and technical capabilities.	Cashflow_risks	8
		Human_resource_risks	9
		Need_government_support	9
		Operational_risk	13
		Regulatory_changes	9
		Supply_chain_risks	13
		Technical_capabilities	12
		Training_and_HRD	9
		Uncontrolable_risks	9
09 Identified Risks	This theme indicated whether the SME owners are aware of the various risks and risk management techniques such as objective	Cashflow_risks	8
		Competitor_risks	8
		Human_resource_risks	9
		Operational_risk	13

setting, supply chain risk (e.g. raw material, customers, etc.), competitors, human resources and so on.	Supply_chain_risks	13

However, since some codes and subthemes are overlapping, the data and the codes are further scrutinized to finalize and come up with a more meaningful analysis. For example, the theme 06 Financial Risks from Table 32 has been removed since it only had one code that can be clubbed under the theme 08 Operational Risks. Similarly, some overlapping sub-themes (codes) have also been deleted from one theme and assigned to another unless they serve dual purpose. For instance, the sub-them 'Employment' has been viewed from two different angles 'Government Support' and 'SME Performance' since the respondents have mentioned about employment from these two perspectives.

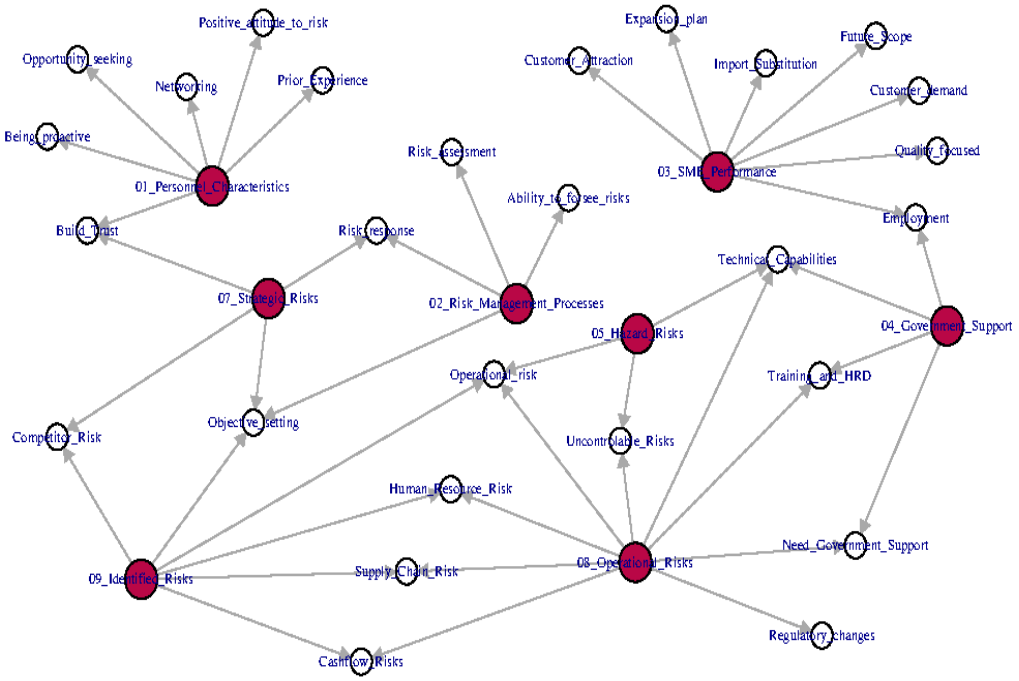


Figure 24: The finalized themes and their sub-themes (codes)

Based on a deductive thematic analysis, the sub-themes and themes were identified above and summarized in **Appendix IV**.

5.3 Results of the Qualitative Data

The primary purpose of this qualitative strand of the mixed method research is to corroborate and triangulate the findings of the quantitative data. This qualitative part was felt necessary since the survey alone was not able to capture the essence of the importance of risk management. One of the objectives of the research is to determine the most prominent risk in the production and manufacturing SMEs in Bhutan and this was deliberately not listed in the survey since the respondents could directly tick or select any option. Instead, selected SME owners were asked regarding the same to determine if they are aware of have the knowledge of risk management and whether they are practicing it in their organizations. The results of the qualitative data analysis are as presented in the following sections.

5.3.1 Demographics of participants. The results of the qualitative strand of this research are based on the interviews of fifteen SMEs, five each representing cottage (micro), small and medium enterprises. Out of the fifteen SME owners interviewed, only three of the respondents were females and the remaining 12 were males. The SMEs interviewed are selected strategically so that they represented both manufacturing and production industries. Further, the SMEs also varied in size and type of business they are into. The businesses ranged from reuse of used cardboards to make new packaging materials to manufacturing of female sanitary pads and production of feature films. The average interview lasted about half-an-hour and the interviews are conducted face-to-face with the selected owners. The names of the SMEs are then assigned representative codes to make them anonymous as per ethical research practices. A brief profile of the respondents is provided under **Appendix V** for reference.

5.3.2 Research Results. The overall result of the qualitative data is reported in the form of four distinct themes: Personnel Characteristics, Risk Management Processes, Government Support and SME Performance. This is because the performance of SMEs depends on how their owners and management handle risk and also whether the SMEs get appropriate and adequate government support. All the themes related to risk and risk management are covered under the Risk Management Process. The four themes are analyzed and explained in detail in the following sections.

Theme 1: Personnel Characteristics

The first theme, Personnel Characteristics, is to understand the characteristics of the SME owners. According to the Administrative Theory, the five central elements of management – planning, organizing, commanding, coordinating and controlling are the attributes required by the manager. Prior studies have shown that the prior experiences

of the owners and managers, their personal characteristics such as qualification, experience and attitude as well as entrepreneurial competences such as attitude towards risks, being able to spot and take opportunities, and leadership. However, from the interview data, eight distinct attributes that portray the characteristics of the SME owners are observed: a) being proactive; b) building trust; c) networking; d) opportunity seeking; e) positive attitude towards risk; and f) prior experience. Thus, the theme of personnel characteristics is described in eight parts.

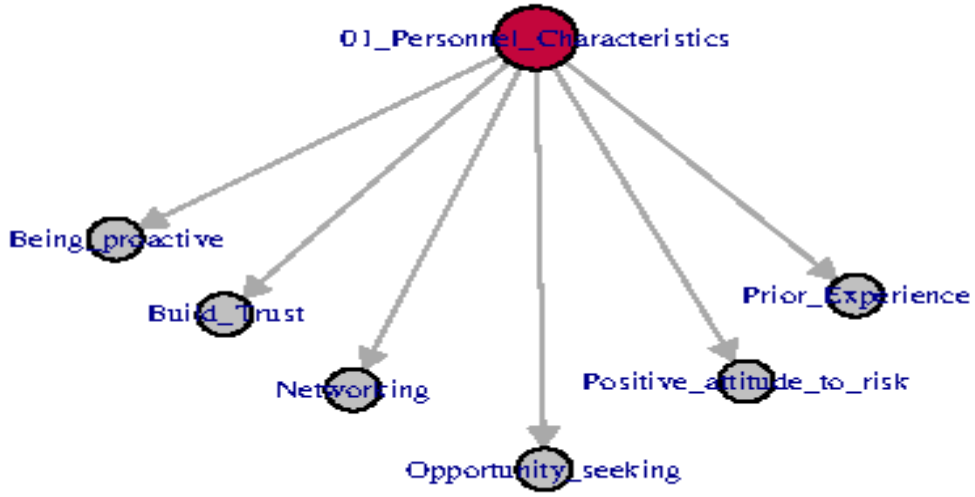


Figure 25: The general themes defining the characteristics of SME owners/managers

a) Being proactive

Although the interviewer did not specifically ask about "being proactive" with what they do, majority of the respondents seemed to indicate that being proactive is a part of their business. As aptly mentioned by a respondent (C3), "our survival in the business is changing accordingly to the trend so we change according to the customers, not the customers changing according to us". Instead of waiting for something to happen, 12 out of the 15 respondents have mentioned about being proactive. Being

proactive ranged from taking initiative of doing something to having an enthusiasm for learning and keep learning, “doing everything you can is the key” (Respondent M4).

Being proactive also involves being ahead in the game of business and being able to anticipate what the future holds. This involves being proactive and conducting market researches like respondents C1, C2, C5, M4, S1 and S2. All these SME owners spoke about conducting market research as well as collecting customer feedbacks. For example, respondent C2 mentioned about “doing survey regarding what kind of product needs what kind of packaging” while respondent M3 insisted on being proactive saying, “instead of things coming to you and things happening by the process of nature just like that, I am saying that we need to be proactive”.

Furthermore, being proactive also means to keep learning constantly, being it new technologies or new trends of the market. Respondents M3 and S2 have specifically mentioned about the use of internet to learn new things or to keep constantly improving on what you already know as “access to internet makes it easily possible”, Respondent M3.

b) Building trust

Another prominent idea that emerged out of the interview data is the need to “build trust” not only with the employees but with the customers and relevant stakeholders. There are 29 mentions related to building trust among 10 respondents. According to Respondent C2, there is a lack of trust and confidence in the SMEs of Bhutan. This is because only “when I show the prototype then only people realize that I can make this one” is a testimony to it. Similarly, Respondent M3 also mentioned about the importance of building trust with the clients or potential customers. For instance, “working as pro bono” is a way to “make people realize the existence of a

company that could do something". Respondent C5 stated that convincing the community (potential customer) was the most difficult part since they do not believe that the Bhutanese SMEs can deliver better compared to the imported furniture.

Nevertheless, building trust with the employees is also vital as pointed out by almost all the 10 respondents. Respondent M3 iterated the importance of building trust with the employees as a business owner and a leader, saying:

> As a leader, genuine care and concern about the employees and subordinate is very important. I was also experimenting my leadership style and most of the time I am situational. However, at the back of the mind, genuineness is very important. Whether you are a blunt leader, if your expression is genuine, people knows. The apex leader's leadership style will influence the whole company's work culture.

Similarly, Respondent S2 mentioned that almost 99% of the businesses in Bhutan ignores the employees' benefits and welfares and fails while those businesses who kept their employees happy boomed. Respondent S3 also talked about maintaining good reputation with their employees.

c) Networking

Being able to network is also seen as one of the most prominent qualities a promotor or owner of a business should possess. Not only networking with existing clients but also with potential clients and other stakeholders, especially suppliers and retailers. One of the hurdles faced by the SMEs in Bhutan is the availability of raw materials. They either have to be imported or produced within the country. Networking plays crucial role in achieving and maintaining a continuous supply of raw material. For example, Respondent C1 mentioned about networking with the District Agriculture

Officers to not only create awareness but also exchange cereal seeds so that seeds are made available for farming. Similarly, Respondent M2 also mentioned about

> "working closely with the farmer groups so that every year we can give training, one organic farming training, on top of that, one bookkeeping training and main thing is sustainability".

Networking also means building relationship and gaining trust of the potential clients. The company of Respondent M3 gives "pro bono services and voluntary contribution work" to not only network but also to reach a wider audience, hence, a good marketing strategy. "If we can offer such services going from office to office making your possible clients or future client or potential client aware", Respondent M3.

d) Opportunity seeking

Most successful business people are opportunity seekers since they are good at acting and grabbing business opportunities even in the most direful situations. Opportunity seeking also entails a person's ability to recognize and seize unusual opportunities to start a new business, obtain financials, equipment, land workspace or assistance (Kyguoliene & Svipas, 2019). This means anticipating and doing things before being asked or forced by events.

Almost all the SME owners interviewed started their businesses while they were seeking certain opportunities. For instance, the respondent, C2, saw an opportunity in packaging business since other manufacturing and production SMEs were using rudimentary packaging and labels. Similarly, the respondent, M1, grabbed the opportunity of reducing e-waste by venturing into cartridge recycling. As mentioned above, opportunity can knock any time. Despite its adverse effects, the COVID-19 pandemic has created opportunities as well. The SME owner, M3, "got a huge

opportunity to provide our services and then show case to people in Bhutan starting from children as young as 3-5 years old to senior bureaucrats and senior citizens", when they got the offer to make online tutorial lessons and health and safety related announcements and advertisements, which they accepted without hesitation.

e) Positive attitude towards risk

Having a positive attitude is very important no matter what kind of work we do or what kind of people we deal with. Further, risk-takers are usually the ones that succeed. As entrepreneurs and business owners or managers, risk is inherent in their daily businesses. Risk-taking means going out of one's comfort zone and doing something that might result in something unpleasant or dangerous. However, having a positive attitude towards risk or being able to take risk is a must have quality in business leaders. Although not spoken succinctly or exactly in the terms, the researcher was able to determine that certain words or phrases are related to positive attitude towards risk. For instance, respondent M1 mentioned about being resilient to the ups and downs of the business while respondent C5 mentioned about investing and experimenting.

Risk can come in any form and one that surprised the most is the current pandemic, COVID-19. Risk can also mean making mistakes and learning from it. As respondent S2 puts it, "I made quite a lot of mistakes but knowing that I will go through it made me survive and still surviving". Furthermore, the respondent S2 is "committed in sustaining them even during the COVID-19 pandemic", even though the pandemic risked the business' profitability, the owner is committed in keeping the employees and sustaining them. Similarly, the respondent S3 also mentioned that everything has risks and "if we are not able to manage, then we won't become successful". So, these are the positive attitudes towards risk that the interviewees possessed.

f) Prior experience

A study by Maliranta and Nurmi (2019) found that the pervious experiences of entrepreneurs in high productivity organizations strongly correlated to the high productivity and probability of survival of their new firms. Similarly, many started the businesses owing to their prior experiences or the interests they developed owing to their prior experiences. Prior experiences also play an important role since it also determines one's future interest. For instance, respondent M4 worked in a woodcraft business before starting his own sawmill and furniture business. He not only got the experience of working and marking of wooden products but also got knowledge and hands-on skills for the operation of machineries. He also brought along with him the whole team, "these people are trained from Woodcraft, where all the machines there are Danish machines with trainers from there".

Another respondent, C2, started a packaging business since he had the prior experience of designing while respondent C3 ventured into multimedia and marketing since he had the required prior experience and knowledge. Not only directly relevant experiences but other modes of experiences can also be utilized as mentioned by respondent M5, "So when I was working as a government servant before, I got an opportunity for office advance management trainings, client care trainings s that I can implement these in my current business". The respondent S2 also had a similar experience to share, "I did a degree in business management and when I was in college only, we were sent for a lot of marketing research and all". In addition, respondent S5 also worked as technical officer in various companies prior to establishing the current fabrication unit.

Theme 2: Risk Management Processes

One of the main objectives of this study was to determine if the SME owners/managers were aware of the term risk and the risk management processes involved, in particular with regard to enterprise risk management (ERM). Although there are eight important processes in ERM (refer Chapter 2), the most prominently and repeatedly mentioned as well as implied were: a) Objective setting; b) Risk identification; c) Risk assessment; and d) Risk response. The code, 'Ability to foresee risks', is synonymous to risk identification since it demonstrated their abilities to identify risk or know what kind of risk would impact their businesses. Hence, the sub-theme is changed to 'Risk identification'.

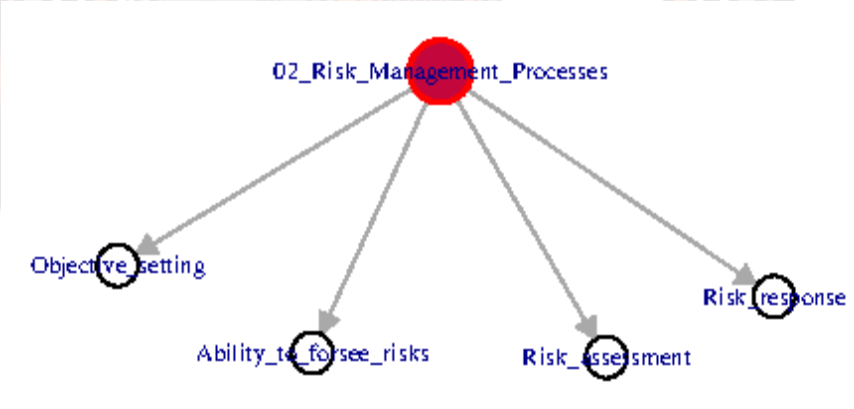


Figure 26: The risk management processes

a) Objective setting

Having a clear set of objectives signifies the importance of the strategic-planning process as these objectives assist in the identification, assessment and response to risks. Renault et al. (2018) mentioned that a clearly defined objective is imperative for risk management. As Bhutan saying goes, and aptly stated by respondent C1, starting a business without proper plan would be like a "blind horse crossing the river". It means

that just as the blind horse does not know where it is headed, same would be the future of the business. The objective of this code was to identify whether the SME owners interviewed have set objectives before starting their businesses as well as define their objective/s before starting any other tasks.

From the data, it can be observed that almost all the SMEs had their objectives set. According to respondent M1, “we established the company with broad objectives and also keeping in mind the importance of environmental conservation and to create awareness among people about utilization of e-waste in the country”. Furthermore, they have also set their mission to reducing e-waste in the country and providing top quality products “while instilling positive feeling about the feasibility of using eco-friendly manufactured products to our customers”. Objective setting would mean not only setting a company’s mission and vision but also the identification of roles and responsibilities to achieve their objectives. Roles and responsibilities of the employees, managers and others need to be assigned as substantiated by respondent M3, “we have a very clear identification of roles and responsibilities”. In addition to the clear identification of roles and responsibilities, the respondent M3 also mentioned about having a strategic roadmap of the company at the management level and undisclosed to others.

The respondent S2 also mentioned about having a business proposal conducing SWOT analysis on the overall vision of the company including the profiling of the business to cater to different levels of customers. The SMEs do not set business objectives for profitability but to benefit the society at large. “First objective of doing a business is to have enough for ourselves, second is to give jobs to the youths and third is to benefit the society”, Respondent S3.

b) Risk identification

Risk identification is yet another important process under the enterprise risk management as it entails the identification of any probable risk to the operation and existence of the business. Risk can be identified in many different ways and use different terminologies but for this current research, risks are categorized into strategic risks, operational risks, financial risk, and hazard risks. For example, for the qualitative data analysis, the respondent may not have specifically mentioned operational risk or hazard risk but might have mentioned, “there is a risk of the machines breaking down”, Respondent C1. So, the mention of such statements and phrases indicated that the ability of the SME owners’ identification of various risks. However, owing to the importance of this process, the risk identification themes are being dealt in grave detail in the subsequent sections.

c) Risk assessment

The process of risk assessment takes place after the risks are identified. Risk assessment means assessing the likelihood of something unusual happening and their magnitude if they are harmful to the business. As reported by most of the SME owners and managers, they are aware of the risks and also the magnitude of their possible impacts. As respondent S3 rightly pointed out, “everything has risks and if we are not able to manage then we won’t become successful”. Similarly, respondent S2 also mentioned that knowing what is coming helps to survive though it.

Another example of risk assessment could be not blindly starting a business as respondent C3 mentioned,

"For the first product, what we did was we did a market survey in the market, we showed the people what kind of product we have. Then we took the feedbacks and we have found out that we have to cope up with new technology and changes".

Similarly, respondent S1 tested few products with friends and herself before producing in large quantity:

"I made a few sanitary pads. To make sure that the sanitary pad that I designed is usable, I tried it myself and also asked some of my friends to try it, and then the feedback I received from them was positive"

The respondent C5 also seem to have assessed the risk of availing loan and getting a land on lease.

d) Risk response

Once the risks are being identified, the next process is to respond to the identified risks because a small risk could become catastrophic if not treaded on time. Responding to risk is important for the SMEs because as Hiebl et al. (2019) mentioned, SMEs do not have the resources to respond at the actual occurrence of such events if not prepared in advance. One of the greatest risks in a small economy like Bhutan is the market risk and all the SME owners/managers seem to be aware of it.

For instance, respondent M4 responded to the competition by diversifying and venturing into a different business as he said, "Then I decided to start with manufacturing of doors and windows since we have so many furniture factories everywhere". Similarly, he also emphasized on product differentiation and value addition. Another important aspect of responding to risk is maintaining the quality and keeping ahead of the competitors. "If there are no competitors, we will just focus on

the same product without much improvement. There will be no development or changes", Respondent C1.

The COVID-19 pandemic is a type of risk that can happen at any time without any warning so the businesses cannot really mitigate such risks. They can only respond to it and some SMEs even consider it as a blessing in disguise. For example, respondent S1 thought that it is an opportunity for her business to penetrate the market as the already established brands which are imported are being impacted by the COVID-19 pandemic. Similarly, respondent S3 also mentioned, "Although the COVID-19 pandemic hampered all the businesses, we also got some advantages".

Theme 3: SME Performance

The measure of SME performance can be based on both financial and nonfinancial performances. However, for the qualitative data, no financial aspect of the data were collected. Thus, only the nonfinancial performances are determined based on the responses from the SME owners/managers. Nonfinancial aspects such as research and development (Burvill et al., 2018; Cucculelli & Bettinelli, 2015)**,** customer satisfaction (Burvill et al., 2018; Gupta et al., 2015; Kemayel, 2015; Rehman & Anwar, 2019; Sidik, 2012; Yang et al., 2018; Yiannaki, 2012), employee satisfaction (Burvill et al., 2018; Rehman & Anwar, 2019; Sax & Torp, 2015; Yang et al., 2018), and employee growth (Burvill et al., 2018; Johnsen, 2005; Maliranta & Nurmi, 2019; Sidik, 2012) are coded from the interview transcripts. As shown in Figure 27, seven attributes are lined to SME performance. However, in a nutshell, they can be summarized as: a) customers, b) employees, c) quality, and d) future scope.

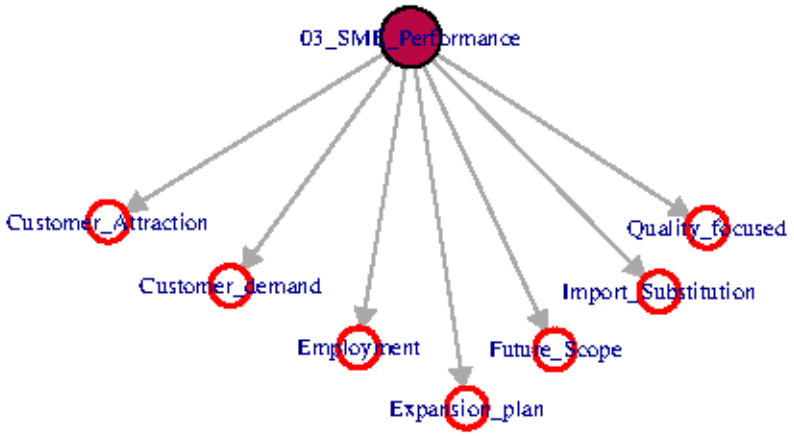


Figure 27: The attributes linked to SME performance

a) Customers

Customers are vital to every business and the businesses strive to attract customers and meet the customers' demands. As shown in Figure 27, one of the most recurring ideas is the topic of customer attraction. And customer attraction can be in the form of packaging, marketing, product differentiation and value addition. The respondents C2 and C3 mentioned the importance of packaging to attract customers while the respondent S2 mentioned about the power of social media in customer attraction. However, the respondents S1 and S4 mentioned about the more conventional way of customer attraction – "we have reached out to all the central schools, police training center and other organizations …". The respondent S1 also talked about using the "word of mouth" to attract customers. However, all the SMEs are not sailing in the same boat as respondent C5 notes, "when it comes to challenges, now it is mainly marketing". It indicated that they are struggling to attract customers unlike the other SMEs.

Another metric to determine the SME performance could be gauged through the demand for the product from the customers. The respondent M2 affirmed, “as far as now, whatever we have, we are able to market it… there is no dearth of market”. Maintaining good quality has also proven to be demanded by the customers as respondent M4 mentioned that as long as they maintain the quality and provide after services, there is demand for their products. Thus, as long as the SME is able to attract customers and create demand, it would indicate that the SME is performing and surviving.

b) Employees

The employees are another vital element in the business ecosystem. One of the objectives as well as benefits of having so many SMEs in a country’s economy is their creation of employment. As long as the SMEs are able to create employment opportunities and maintain adequate number of employees, it can be used as an indicator for the performance. Almost all the SMEs interviewed have employed according to their categories. The medium sized SMEs have the highest number of employees while the cottage (micro) industries have the least number of employees. It has also been observed that some SMEs are helping the disabled and poorer section of the economy by giving them priority in their businesses. Some focus more on the youth employment since youths are among the highest unemployed population in the country.

c) Quality of the products

Almost all the SMEs interviewed mentioned the importance of quality, be it tangible products like furniture, cosmetics and edibles or intangible products like

animation, music and movies. For example, respondent C1 took competition not as a challenge but an opportunity:

> "I do not mind the competitors. The more competitors, the better it is because the more competitors the more alert we need to be. That will help in comparing qualities and making best of the best qualities. If there are no competitors, we will just focus on the same product without much improvement."

Likewise, all the other SMEs have mentioned about quality in one aspect or another. The respondent M3 also stated quality as one of their strengths while the respondent S4, mentioned, "… make quality socks with most affordable price". The SME owners/managers talked about maintaining quality to be in the market for longer.

d) Future scope

The expansion plan and import substitution are clubbed under future scope since they also determine the future scope of the business. One of the objectives of Bhutan government's initiative to allow the establishment of many SMEs are to substitute imports, especially in the production and manufacturing area. Similar objectives are being echoed by the SME owners/managers: "by 2023, they want to have around 10 products or 5 products to be substituted by entrepreneurs" (Respondent C2). The respondent C3 wanted to substitute imports in the souvenirs and arts category since Bhutan is currently importing similar products from Nepal and Thailand. He opined that if such influx of cultural souvenirs continues, "Bhutan might lose our own culture using other's culture-based products". Similarly, those manufacturing sanitary pads, socks and furniture shared the same concerns.

Another indicator of SME performance can be the expansion plans that the SMEs are having since it would indicate their current performance. The analogy is that if the

SMEs are doing well then, they would have plans to expand. For example, respondent C3, “we are going to upscale and expand into jewelry business” while respondent C5, “… intend to expand and focus on the furniture making”. Even medium enterprises like M1 “… intend to upscale and diversity the company in the future…”. Also, production houses like respondent M3 wanted to complete at the global level in terms of film making and production. However, there are also some SMEs who are not sure about the future, partly due to the current pandemic. According to respondent C2, “now it’s like I am completely stopped and even to expand, because of COVID-19, cannot think also”.

Finally, the future scopes entail their view and vision of their company’s future. The respondents were asked about their future plans and scopes. For instance, respondent C5 was experimenting about fusion art wherein they want to incorporate art into furniture making and see if the market likes their products. The respondent M1 also had the plans to establish green-technology in the country while respondent M2 wishes to have he same product even 40 years down the line by maintaining and managing its supply chain. The respondent M5 planned to come up with ha multimedia institute in the country, whereas respondent S1 was focused on solving the female personal hygiene. The respondent S4 also mentioned, “I am applying for additional capital to expand and procure bigger machines”.

Theme 4: Government Support

The support from the government is another determinant of the performance of SMEs because receiving government support in terms of tax holidays, duty free raw materials and electricity subsidies would drive up the profit and make the business environment more favorable to the SMEs. However, the analysis here is a result of the

question being asked to the SMEs regarding government support rendered and required. Government support are rendered in terms of training and human resource development (HRD) especially in building technical capabilities and capacities. For example, the respondent C2 went for packaging training sponsored by the Department of Cottage and Small Industries (DCSI).

Although most of the SME owners/managers talked about receiving certain level of trainings many wanted government intervention in terms of building technical capabilities. Many of the SMEs using complex machineries complained about not getting experts especially when their machines break down. Respondent C1 stated, “we have technical deficiencies since the machine is imported and there is no technical expertise”. Similarly, respondent S1 shared, “there are no technical experts in Bhutan that can repair the machines” and so did respondent S4, “I do not have anyone who knows how to fix the machines…. Although I have undergone trainings on operating the machines, I do not know how to repair if in case the machine breaks down”.

Theme 5: Hazard Risks

According to Hopkin (2017), hazard risks cause unplanned disruption for the organization since such risks are unexpected and uncontrollable. Although the SMEs did not mention about the hazard risks that they have face, one of the prominent one that occurred was the current pandemic, COVID-19. All the businesses are being affected by it while some also got opportunities out of it. However, almost all the businesses complained about COVID-19 since almost all the manufacturers either imported raw materials or human resource or machineries. The respondent C2 recounted, “I had three permanent staffs but then because of COVID-19, my raw material got stuck and then no work here”. Similarly, respondents C5 and M5 also

stated that their businesses got hampered due to the pandemic. On the other hand, respondent S4's business is completely closed due to the COVID-19 pandemic.

Apart from the current pandemic, the other hazard risks are unpredictable risks such as "risk of the machines breaking down" (Respondents C1 and S4), workers quitting without notice (Respondents S2 and S5).

Theme 6: Strategic Risks

One of the most important risks that the SMEs need to be aware of is the strategic risk because it can hamper the overall strategy of the organization. Strategic risks can occur due to external factors such as competitor (Bruton et al., 2018; De Clercq et al., 2014), legal and regulatory changes (Das & Das, 2014), customer demands, industry and the overall economy. Competitor risk is one of the main strategic risks because a business needs to set relevant aims and objectives to compete and survive since competition is inevitable.

As respondent C3 pointed out, competition could even threaten the culture and traditions of a nation due to the influx of cultural items from other countries. The respondent C5 also noted about "high competition in the market" where people "brag about importing things from Bangkok, Singapore and so on". The respondent S1 responded to competition by "making the price competitive to the existing global brands". Nevertheless, the strategic risks are being countered during the objective setting phase discussed in the previous sections.

Theme 7: Operational Risks

The operational risks are those risks that disrupt the normal everyday activities (Hopkin, 2017). Examples of operational risks are human resource, IT systems, supply chain, regulatory changes and so on. During the course of the interview, several

operational risks are mentioned such as, cashflow risks, human resource risks, government support (regulatory changes), supply chain, technical capabilities and uncontrollable risks. Cashflow risk is a challenge because without funding support or enough funds, it could hamper the daily operations of a business. As mentioned by respondent S2, “Overall, the biggest risk is it is a very ash-heavy business. Cash transactions are really high. In the Bhutanese market, there is a lack of human skills”.

The other factor that could hamper the daily operations are the human resources. Lack of technical specialists, dedicated employees and skilled workers are the risks that the SMEs faced. The respondent C1 reported, “…A lot of risk with human resource…we have technical deficiencies since the machine is imported and there is no technical expertise”. Furthermore, respondent M2 also mentioned about not having specialized lab technicians. The claims are further substantiated by respondent S2 saying, “the biggest problem is human resource, especially professional skills because they are not trained well, they lack the confidence”. The respondent S5 added, “even our technical graduates who graduated from technical institutes have no experience or knowledge”.

Theme 8: Identified Risks

As opposed to the aforementioned themes and sub-themes, this particular theme is to capture the different types of risks the SMEs are able to articulate or understand that such risks exist. One of the most prominent risks that emerged are human resource risks. Many of the SMEs complained of not having skilled work force as well as not having strong labors as the employees can quit at any time after availing trainings. The SMEs wanted government intervention as respondent S5 put it, “they cannot silently

hop jobs". Such high attrition or job-hopping are happening "due to shortage of manpower".

The next risk is the operational risk as all the SMEs interviewed were production and manufacturing SMEs. The operational risks were mainly due to the shortage of skilled workforce such as technical experts to repair machineries. However, the current operational risk was also caused by supply chain risks due to the current pandemic of COVID-19. The international restriction as well as local lockdowns seemed to have hampered many SMEs in getting their raw materials, spare parts or skilled human resource. This is substantiated by respondent S3, "… we cannot import the packaging material and due to internal lockdown, we are unable to get our raw material from the east".

Furthermore, the SMEs are also aware of other types of risks such as financial or cashflow risks, competitor risks, hazard risks as well as strategic risks. Although they do not have formal ERM documents and processes put in place, they somehow seemed to understand the concept and its importance.

5.4 Summary of enterprise risk management

The Table 33 represents a summary of the risks and risk management terminologies or concepts mentioned by the respondents and the indicators of SME performance. One of the common questions asked during the interviews pertains to having a formal ERM. However, all the SMEs interviewed responded of not having such formal ERM established. Nonetheless, the bigger SMEs, especially the medium and some small enterprises mentioned of having informal check and balances between the management and the employees. On the other hand, almost all the SMEs mentioned about being exposed to tough competition both from within and abroad.

The requirement of government support is also mentioned under risk since most of the SMEs wanted the government's support in some form. For instance, respondents C1, S1 and S4 wanted government support in the form of technical expertise or training of such experts. The respondent C2 wanted government support in terms of procuring machines while respondent S5 wanted government intervention in supporting private employees to bring down the attrition rate.

Finally, the Table 33 also contains the performance indicators such as having an expansion plan, demand for their products and future scope of their companies. Apart from those businesses who are trying to substitute the import of various products, the remaining SMEs claimed that they do not have market problems. Nevertheless, all the SMEs interviewed were optimistic of their future existence.

Table 33: Summary of risks and performance

Factors (Themes)	**Have mentioned about risk or risk management**				
	C1	**C2**	**C3**	**C4**	**C5**
Formal ERM	No	No	No	No	No
Cashflow risks	No	Yes	Yes	Yes	Yes
Competitor risks	Yes	Yes	Yes	Yes	Yes
HR risks	Yes	No	No	No	No
Operational risks	Yes	Yes	Yes	Yes	Yes
Supply chain risks	Yes	Yes	Yes	Yes	Yes
Require government support	Yes	Yes	No	No	Yes
Performance					
have expansion plan	Yes	Yes	Yes	Yes	Yes
have customer demand	No	Yes	Yes	Yes	Yes
Future scope	Yes	Yes	Yes	Yes	Yes
Factors (Themes)	**Have mentioned about risk or risk management**				
	S1	**S2**	**S3**	**S4**	**S5**
Formal ERM	No	No	No	No	No

Cashflow risks	Yes	Yes	Yes	Yes	Yes
Competitor risks	Yes	Yes	Yes	Yes	Yes
HR risks	Yes	Yes	No	Yes	Yes
Operational risks	Yes	Yes	Yes	Yes	Yes
Supply chain risks	Yes	Yes	Yes	Yes	Yes
Require government support	Yes	Yes	Yes	Yes	Yes
Performance					
have expansion plan	Yes	Yes	Yes	Yes	No
have customer demand	Yes	Yes	No	No	Yes
Future scope	Yes	Yes	Yes	Yes	Yes
Factors (Themes)	**Have mentioned about risk or risk management**				
	M1	**M2**	**M3**	**M4**	**M5**
Formal ERM	No	No	No	No	No
Cashflow risks	Yes	Yes	Yes	Yes	Yes
Competitor risks	Yes	Yes	Yes	Yes	Yes
HR risks	Yes	Yes	Yes	Yes	No
Operational risks	Yes	Yes	Yes	Yes	Yes
Supply chain risks	Yes	Yes	Yes	Yes	Yes
Require government support	No	No	No	No	Yes
Performance					
have expansion plan	Yes	Yes	Yes	Yes	Yes
have customer demand	Yes	Yes	Yes	Yes	Yes
Future scope	Yes	Yes	Yes	Yes	Yes

Chapter 6 Discussion and Conclusion

This chapter presents the discussion section discussing the meanings and implications of the results of the current study. The research questions/objectives are being posed as topics for discussion. Since the study followed a convergent mixed methods design, both the qualitative and quantitative data are collected and analyzed independently, and the two sets of the independent results are then compared in this chapter, which is termed as "parallel-databases variant" by Creswell and Plano Clark (2018). According to the authors, one of the advantages of this method is that the "design facilitates the direct comparison of participants' perspectives gathered from an interview with the perspectives drawn from the researcher's standpoint (e.g. survey instrument) in close-ended questioning.

Thus, the discussion chapter presents the triangulation of the results from both the quantitative and qualitative strands wherein the discussion would consider the ways in which the two types of data converge, diverge or relate to each other (Creswell & Plano Clark, 2018). In case of divergence from each other, attempts will be made to explore and justify the reason with reference to theories and existing empirical studies. The discussion would be used to make conclusions about the study and also make further recommendations for the future possible research areas. The topics covered in Chapter 6 are as follows:

6.1 Discussion of research findings

6.1.1 Prominent risks in the SMEs of Bhutan

6.1.2 Attitude towards ERM

6.1.3 Owner/Manager characteristics and ERM

6.1.4 SME characteristics and ERM s

6.1.5 ERM and performance

6.2 Theoretical, methodological and practical implications of the study

6.3 Limitations of the study

6.4 Directions for future research

6.5 Chapter summary

6.1 Discussion of Research Findings

The discussion is based on the integration (triangulation) of results from the quantitative and qualitative data so that comparisons can be made and a more complete understanding emerged as opposed to information provided by the quantitative or qualitative results alone. In most cases, the quantitative data results are substantiated and validated by the qualitative results since the qualitative data was based on open interview, which represented the actual sentiments of the SMEs compared to the forced rating of the survey data. The research questions are objectives are reframed in the form of relevant headings and discussed in detail. The summary of the integration of the quantitative findings and qualitative findings are as shown in **Appendix VI**.

6.1.1 Prominent risks in the SMEs of Bhutan. Risks are innate but as Renault et al. (2018) mentioned, being able to identify and respond to risks has a positive impact on the perceived success of the SMEs. Thus, one of the objectives of this research was to explore the knowledge of SME owners/managers with regard to the enterprise risk and enterprise management (ERM) in the production and manufacturing (P&M) SMEs in Bhutan following a convergent mixed methods research design. The various types of risks were not included in the questionnaire but posed as interview questions to check their knowledge and vocabulary pertaining to risks.

Although almost all the SMEs indicated that they do not have established formal ERM processes, those interviewed mentioned of having informal settings which are in line with the ERM. The higher ratings (over 60% agreeing) to the ERM process are being corroborated by the SME owners' knowledge and awareness of the risks. This was supported by the fact that all the SMEs interviewed were aware of various aspects of risks. From the qualitative data analysis, it was found that the most prominent risks

being faced by the SMEs in Bhutan are human resource risks, operational risks, supply chain risks, competitor risks and financial risks. These risks are also similar to the six dimensions and 27 sub-dimensions of risks that could occur during the implementation of the Industry 4.0 found by Birkel et al. (2019) as well as the three key risks found by Hudáková and Dvorský (2018).

The human resource risk, specifically the attrition and getting skilled workers are the most common risks being experienced as well as felt by the SMEs with the small and medium SMEs mostly expressing their concerns. The SMEs expressed that owing to the shortage in the labor market, the employees have more options to choose and as a result, retention was a problem for them. The other problem was not getting technically capable employees which resulted in use of additional resources for training and development.

The other risks faced by the SMEs are operational risks mainly posed by the current pandemic of COVID-19. The pandemic currently hampered the manufacturing businesses the most as they have to either import raw materials, spare parts or human resource. The travel restrictions, lockdowns and other inconveniences caused by the pandemic hampered their operations. However, some businesses recognized the opportunity to capitalize on the impacts of the pandemic.

6.1.2 Attitude towards ERM. The ERM process was measured based on the eight domains constituting of the eight processes involved in a formal risk management setting wherein the respondents were asked about their level of agreement or disagreement on the eight domain items similar to the study of Agrawal (2016) and Hiebl et al. (2019). Overall, the majority (over 61%) of the respondents agreed to all the statements while minimal number of SME owners/managers disagreed. However,

it can be noted that a significant number (between 26% to 35%) of respondents chose to remain neutral. The reason for this high number could be the drawback of posing more technical question and the respondents not admitting that they did not know the answer although the "Don't know" option was included in the survey questionnaire.

Table 34: The average number of respondents who agreed or disagreed to the eight domains of ERM

ERM Processes	Agree	Neutral	Disagree
Internal Environment	64.68%	28.28%	7.04%
Objective Setting	68.28%	27.60%	4.12%
Risk Identification	68.66%	26.84%	4.49%
Risk Assessment	63.75%	30.61%	5.64%
Risk Response	63.25%	32.50%	4.25%
Control Activities	61.25%	34.30%	4.45%
Information and Communication	63.54%	32.43%	4.03%
Monitoring	62.11%	33.38%	4.51%

Even during the course of the interview, the SME owners/managers interviewed lacked the technical vocabularies pertaining to risk management. For example, the interviewees mentioned "job hopping" instead of "attrition" and "machine breaking down" instead of "operational risks". Furthermore, many of the interviewees have not heard of the word ERM or enterprise risk management although they are found to be following most process of ERM. The reason could be similar to what Hiebl et al. (2019) found in Germany where they found that the family firms show a lower adoption of ERM compared to others. The SMEs interviewed were no different to family firms in their study since almost all the respondents own the SME.

6.1.3 Owner/Manager characteristics and ERM. One of the objectives of this study was to determine if the personnel characteristics influence the ERM. This is

because the physical traits (such as gender, age, educational qualification and experience) of SME owners or managers have been shown to have some impacts on the ERM (Behling & Lenzi, 2019; Bird, 1995; Cabrer-Borrás & Rico Belda, 2018; Maliranta & Nurmi, 2019).

Gender and ERM

The relationship between gender of the SME owner or manager and ERM strategies is not statistically significant at 95% confidence level. Although, similar to the findings of Cabrer-Borrás and Rico Belda (2018), there are more male SME owners compared to females, they do not necessarily translate to better risk management. Even though it was not the intent of the study, similar trends are observed in the SMEs in Bhutan wherein there are fewer females owning larger firms. Overall, the result contradicts the result of Behling and Lenzi (2019) where they found that "men are more likely to undergo the experience of risk taking than women" as well as that of Lazányi et al. (2017), where they found that men took more risk than women. Other than the mentioned study, most of the published studies are on relationship between gender and firm performance as opposed to the current study.

Nevertheless, some probable causes of the insignificant results are explained as hereunder. Firstly, during the time of the survey and interview, all the businesses were affected by the COVID-19 pandemic and most business owners seemed agitated and uncertain about their business prospects. Although some took it positively as the external competitions reduced, most business, such as the businesses depending on tourists or exports are intensely impacted. This could be one of the reasons for having unbiased opinion between genders since the pandemic is indifferent to gender or business owner. Secondly, the SMEs were not mandated to implement or follow formal

ERM unlike the bigger institutions like the financial institutions and corporations, thus the SME owners/managers had less knowledge about ERM. This would have led to them giving similar opinions and having less deviation about the concept of ERM. Thirdly, the researcher has observed that the respondents tend to just tick or select something without understanding the question or giving a second thought and reflecting on the questions. This is caused by lengthy questions and survey fatigue as many different individuals, institution and agencies seemed to be conducting such surveys without much benefit to the SMEs as opined by several prominent SMEs.

Overall, there were no noticeable difference in the response to the open interview as well since both genders expressed similar concerns and experiences with regard to risk and risk management strategies. All the SME owners/managers were found to have similar traits or characteristics wherein they were found to be proactive, opportunity seeking and have a positive attitude towards risk taking irrespective of their gender. According to the findings of Anwar and Shah (2020), proactiveness and risk taking are the drivers of performance. Both genders had similar strategies and ambitions in prospering their businesses starting from networking to expansion plans and improving their supply chain management.

Age and ERM

This study also did not find any statistically significant relationship between age of the SME owner/manager and the ERM strategies. This finding contradicted the findings of Lazányi et al. (2017) wherein the authors found that the business owners below the age of 35 years were akin to taking more risks in their businesses than their older counterparts. The difference in findings could be the result of difference in age group since the current study had six age groups while the former used only two age

groups – 35 years of age and below and above 35 years of age. However, there are no other published sources to do justice to the conflicting results of the two mentioned studies. As mentioned earlier, researchers had used the demographic variables as either control variables or as factor impacting performance (Cabrer-Borrás & Rico Belda, 2018; Imran et al., 2019; Kemayel, 2015).

Nevertheless, during the course of the interview, the observations made were similar to that of Lazányi et al. (2017) as the younger owners appeared to be ready for any kind of obstacles while the older respondents were clinging more towards government support when it came to securing the market or maintaining the business ecosystem. Although there are prior studies being done on age and attitude towards risk, there are no specific studies linking age to ERM. In the Bhutanese context, such a study would be vital because the youth unemployment rate is quite high compared to other age groups and funding agencies and governmental organizations can make use of such studies to help the youths. During the interview, one of the young SME owners mentioned about the lack of such support especially in terms of grooming and skilling the youths so that they can stand on their own feet.

As opposed to the more matured SMEs and their elder owners, the younger SMEs and their younger owners/managers tend to speak more openly about the challenges and their ideas. This implies that with adequate grooming, the agility of the young entrepreneurs and their enterprising characteristics would help the nation in realizing its dream of self-reliance and import substitution as most of the youths are into production and manufacturing businesses. This would also impart the youth a sense of responsibility in the national building process.

Educational qualification and ERM

The relationship between educational qualification and ERM are not statistically significant for this study unlike the result of the study of Lazányi et al. (2017). In their study, the authors found that the university educated entrepreneurs take more risks compared to their less educated counterparts with a difference of about 5%. The stark difference in findings could be mainly attributed to the difference in representation of respondents' educational qualification as they used only two measures, which are university education and others. On the other hand, the current study used five measures of education from 'No formal education' to 'Master degree and above'.

Nonetheless, as mentioned earlier, there are scanty studies being published on the relationship between owner/manager characteristics and ERM or risk management in general. Most of the study pertains to owner/manager characteristics and firm performances such as the studies of Maliranta and Nurmi (2019). Despite the scarcity in empirical studies, the result of the current study indicates that further studies with more representative numbers are required to ascertain the relationship between educational qualification and ERM. This is because the current study captured more from the less qualified individuals, which could be attributed to the drawbacks of using convenience sampling methods.

Personal Entrepreneurial Competencies (PEC) and ERM

The study found that the SME owners/managers are "strong" in the first four domains and "moderate" in the remaining six domains indicating that their personal entrepreneurial competencies (PEC) are commendable as entrepreneurs. The findings of the survey and the interview corroborate each other and are in accordance with the PEC theory, Administrative Theory and the Theory of the Growth of Firms. This is

because in having high PEC scores, the interview also revealed the SME owners/managers to be opportunity seekers, risk takers, goal setters, committed and quality focused, and highly confident with interest and ideas in expanding their network. This finding substantiates the importance of using convergent mixed methods research in ensuring the validity of the findings.

Furthermore, the regression between PEC and ERM established a positive linear relationship, which is statistically significant with the p-value < 0.05 at 95% confidence level. The nearest study to support this finding is the study of Andika and Puspita (2018) where they found that the entrepreneurial competence significantly influenced organizational capability and competitive scope. However, the neither the entrepreneurial competence was composed of the ten domains of the PEC nor the ERM measurements were used. Other than the theoretical link between the PEC and ERM, there are no empirical studies linking the relationship. For example, the study by Tehseen et al. (2019) directly looked at the relationship between some aspects of PEC and SMEs' growth and were unable to establish a direct effect of strategic and ethical competencies on SME's growth. Thus, similar studies are required to further validate the relationship between PEC and ERM as found in this study.

Nonetheless, this study established the fact that PEC and ERM are related, although a causal relationship was not determined as the study is cross-sectional. In addition, it is worth noting that the study samples included only the existing and operational SMEs while it is deemed logical to include the failed SMEs as well for a more comprehensive finding. Thus, the findings are limited to the mentioned reasons.

6.1.4 SME characteristics and ERM. In Bhutan, similar to the rest of the world, the SMEs are categorized into three – cottage (micro), small and medium enterprises.

Several prior studies have looked at the relationship between the SME size and their adoption and implementation of the ERM such as the study of Cantonnet et al. (2019) and Mardessi and Ben Arab (2018). However, with regard to firm age, as mentioned in the previous sections, almost all the studies are geared towards the relationship between SME characteristics and performance.

Size of SME and ERM

This study found a statistically significant relationship between the size of the SME and the ERM indicating that the ERM is dependent on the size of the business. This finding is consistent with the findings of Cantonnet et al. (2019) and Mardessi and Ben Arab (2018) where the former authors found that the smaller SMEs identify risks to lesser extent than larger firms while the latter study found that the "larger firms are more likely to have developed ERM". Similarly, Brustbauer (2016) also found that the firm size influenced the implementation of ERM in German SMEs. The implementation of the ERM is dependent on size of the SME since the larger SMEs profit from greater resources and economies of scale when operating ERM.

Furthermore, the larger firms or SMEs have a greater number of employees, machineries and processes to follow. The larger SMEs also would have invested more than the smaller counterparts so they need to ensure the safety as well as return on their investments Agrawal (2016). The relationship was evident from the qualitative data since almost all the "small" and "medium" enterprises had some form of standard operating procedures (SOP) as well as other required documents such as employee handbooks and they were also aware of labor laws. Although they had not implemented the formal ERM, they were following it in parts and bits as corroborated by the interviews.

The “small” and “medium” enterprises also mentioned about their responses to various risks they encountered as well. For instance, the bigger firms mentioned about venturing into different business or diversifying their businesses to curb the negative effects of risks while the smaller businesses neither have the luxury of options nor the capital. However, in case of an unforeseeable risks, such as the current pandemic of COVID-19, the smaller would have less worries as compared to the bigger ones since they do not have to worry much about their employees or huge investments.

Age of the SME and ERM

The study found no significant relationship between the age of the SME and ERM implementation and there are no prior studies to validate the findings. Nevertheless, from the qualitative data analysis, it can be concluded that those older SMEs have more experiences to share and also knew more about the risks and the process of risk management. They had also experienced certain risks, such as human resource risks, operational risks and market risks and as a result, some diversified while some worked on securing and sustaining their supply chain. On the contrary, some cottage SMEs that just started were still experimenting and not very unsure about what their future would hold. Some of them even shared about giving up or switching to another venture as their investment is not huge. It is also worth mentioning that few of the medium and small enterprises were initially established as a cottage (micro) enterprise but were able to develop and expand.

6.2.5 ERM and Performance. The result of this research did not show statistically significant relationship between ERM practices and SME performance although the structural model was explained by the underlying data. The result is similar to the study of Mabula and Ping (2018) where the authors found a positive relationship between

firm risk management practices and performance, however, the structural path coefficient was not significant. Similarly, Hiebl et al. (2019) did not find any significant associations between ERM adoption and firm performance. This could be caused by some other factors might mediate or moderate the relationship between ERM and firm performance.

On the other hand, the result of this study contradicted the findings of the study by Pratono (2018) in which the author found positive impact of risk taking behavior on firm performance in the Indonesian SMEs. Nevertheless, the qualitative strand of this research corroborated with the findings of the author since all those SMEs taking certain amount or risk or being aware of the existence of risks and carrying forward their ventures seem to be doing quite well. Although no quantifiable measures were used, the performance indicators such as their expansion plan, employee requirement, customer demand and future scope of their businesses indicated that those SMEs interviewed were doing quite well. However, a more comprehensive finding would require the inclusion of the SMEs that failed as well as true report of their performance measures which the SMEs were reluctant to share.

The SME owners/managers were optimistic that as long as they maintain the quality and keep their customers satisfied, there is no dearth of market. Some even took market competition as an opportunity to increase their market share. Even though without formal ERM processes and documents like the developed markets, the Bhutanese SMEs are aware of the risks and their impacts including the risks posed by technology and globalization.

6.2 Theoretical, Methodological and Practical Implications of the Study

The contributions of this study are stated in three parts – theoretical contribution, methodological contribution and practical contribution.

6.2.1. Theoretical Contribution. This study offers a number of significant contributions from a theoretical perspective. One of the core objectives of this study is to develop a conceptual research model that allows a better understanding and representation of the factors that affect the firm performance in the SMEs in Bhutan, mainly with regard to owner/manager characteristics and ERM. There are scanty studies being carried on the impact of owner/manager characteristics on risk management in general and ERM in particular and no such studies are being published about Bhutan. Thus, the results of this study contribute as follows:

1. Firstly, as mentioned above, all the studies conducted have considered either only the owner/manager characteristics and risk management or owner/manager characteristics and firm performance but never the three variables together. However, similar to the holistic approach of ERM, the consideration of all these three variables together is important since according to the Administrative Theory as well as the Personal Entrepreneurial Competency, the culture of an organization is shaped by the individual leading the organization and that determines the success or failure of the entity. This study looked at the relationship between owner/manager characteristics indicated by the PEC, a well-established and researched variable, and the ERM and their impact on SME performance.

The relationship proved to be statistically significant between the PEC and ERM indicating that the risk management or implementation of risk management is determined by the personnel characteristics.

2. Secondly, the study established a structural relationship between PEC, ER and SME performance. The prior studies only looked at the impact of PEC or ER on performance but this study looked at their structural relationships and found that the PEC can impact the performance through the moderating effect of ER. It means that the owner/managers need to take risks in consideration to enhance their business performances. Using the convergent mixed methods design, the study has triangulated and validated the findings with qualitative opinions of the SME owners/managers.
3. Third, this study also utilized the factors that were either kept silent or used as control variables such as owner/manager gender, age and qualification as well as firm age and size to determine their impact on risk management (ERM). In almost all the prior studies, these factors were linked to firm performance. However, as per the Administrative Theory, Penrose's Theory of the Growth of the Firm and PEC, such variables play vital role in the overall functioning of the SME.
4. Finally, this study also contributes in terms of development and validation of a survey instrument. Although this study adopted construct items from many different contexts and applied to the current context of ERM and SME performance, they were modified and validated accordingly. The contextualization and validation of the established instruments like the PEC

instrument and the ERM processes can be considered as an important theoretical contribution.

6.2.2 Methodological Contributions. On the methodological front, this research illustrates the power of mixed methods design in general and convergent or concurrent mixed methods design in particular to answer various research questions and achieve the objectives. This study reviewed extant literature on mixed methods designs and built on the methods propounded by Creswell and Plano Clark (2018). The convergent mixed methods design is described in detail from its evolution to practical application.

In addition to the mixed methods design, the study also employed the integrated platform for both quantitative and qualitative data analysis provided by R studio. The structural equation modeling (SEM) was constructed using the R package called *LAVAAN* (*la*tent *va*riable *an*alysis) while the qualitative analysis was done using the package *RQDA* (*R* package for *Q*ualitative *D*ata *A*nalysis). Thus, this study demonstrated the use of single platform to perform a mixed methods data analysis. Furthermore, the study explicitly detailed out the two steps or methods of SEM, which is quite vague in the existing literature. Both the CFA and SEM were discussed succinctly for the future researchers to follow.

6.2.3 Practical Contributions. One of the objectives of conducting this study was to study look at the sustainability of the SMEs in Bhutan, specifically the production and manufacturing SMEs, since the government and relevant agencies are promoting and funding them without much research. There were no formal studies being published pertaining to their growth or development even though the role of the government is undeniable and vital. Thus, the practical contributions are made in the form of recommendations.

6.2.4 Recommendations. From the findings of the study as well as the observations and experiences during the course of the study, following are the recommendations.

Recommendation for SMEs

The extant literature reviews proved that the implementation of enterprise risk management (ERM) positively impacts the firm performance in other parts of the world, be it SMEs or bigger companies. Despite the impact on performance as well as enabling all the various functions of businesses to work together, the Bhutanese SMEs are found to be not adopting such international best practices. Although not necessary, basic risk management practices such as objective setting, risk identification, risk response and financial management are vital for success. However, instead of implementing such risk management practices, even the basic bookkeeping or financial management were not observed in the Bhutanese SMEs. These are evident from the lack of knowledge about accounting terminologies such as revenue, income, investment and assets used in the questionnaire as well as observed during the course of the interview, especially with the cottage and small SMEs. In order to assess performance and set future goals, keeping proper records is vital.

The other observation made was with regard to kind of a “spoon feeding” requirement expected by the SMEs. Most of the dissatisfaction were being expressed against the government and the regulators for not helping the SMEs enough in terms of providing trainings, developments as well as even marketing their products. As indicated by the PEC as well as the other theories, entrepreneurs are supposed to be problem solvers and since SME owners are supposed to be entrepreneurs, they need to focus on solving the problems they face instead of waiting for the government or

someone else for it. Nevertheless, this not to discredit the noble initiatives that they have taken.

Finally, some of the SMEs are suffering owing to the current pandemic of COVID-19 as their supply chain is linear. Some were struggling to get raw materials while others were struggling to market their products. Had there been a proper risk management brainstorming and planning, such problems could have been avoided. Also, if the SMEs are able to form associations or groups and bundle their products together, it might be easier to find better markets as the Bhutanese SMEs are unable to produce in larger scale.

Recommendations for Funding Agencies

Several SMEs expressed that the problems with funding and funding agencies be it the government or CSOs or private entities. Some funding come with limited amount while some agencies fund without understanding the basic mechanics of the businesses. Some SMEs wanted to procure bigger and better machineries but the fund available is not sufficient. Although the triangulation of the information from the side of the funding agencies is beyond the scope of this study, the funding agencies could study the scope and future prospects of the SMEs and release the funds accordingly.

The other common mode of SME funding is via business idea competitions. However, sometimes the award won from the such competitions are not sufficient to either start or upgrade as intended. On the contrary, the existing SMEs also felt that such competitions are a waste of fund since the funds are awarded without even analyzing the feasibility of the business and many such ideas remained as ideas. If such ideas could be scrutinized and proper mechanisms are put in place, the performance of the SMEs would improve while the NPLs decrease.

Finally, the role of the commercial banks is undeniable in SME funding since the MFIs may not have such huge capitals. Unfortunately, they fall short in providing funds to the SMEs since the banks require collaterals. Thus, if the banks could explore alternatives to collateral based lending, maybe relationship banking or something of that type where huge collaterals are not required, the SMEs would be able to flourish better. Currently, SMEs dominate the Bhutanese private sector and the banks could capitalize on that.

Recommendations for Policy Makers

First of all, across the globe, SMEs are considered as the primary drivers of economy and thus, they are provided with many benefits in terms of procurement of raw materials, establishment of supply chain as well as trainings and developments. The SMEs also receive tremendous support from the government, especially in the production and manufacturing sector. However, during the course of this study, it was found that the SMEs were reluctant to share their financial information and many even reported of not maintaining such vital information. This could also be a reason for difficulty in securing financial supports since they do not have neither their credit information nor their financial status.

Since most of the SMEs are funded by the government, MFIs, CSOs and banks, they should be obligated to maintain their financial status or certain databases that are accessible to regulators, policy makers and researchers. However, it was found that even the database of SMEs maintained by MoEA is highly unreliable since many of the SMEs were either untraceable or never established any businesses. Thus, the policy makers need to devise polices wherein only the accurate and true information are being recorded and kept for public use. This would also ensure fair taxation as well as help in

determining SMEs true contribution to the economy of Bhutan. Such information disclosure would benefit both the SMEs and the relevant stakeholders.

Therefore, similar to the mandatory requirement of publicly traded companies, an obligatory financial reporting by the SMEs should be initiated by the policy makers. This would also benefit the SMEs in terms of basic financial management skills and also help them realize their true financial potentials.

Recommendations for Regulators

Although Bhutan has started with several regulatory bodies such as Bhutan Standard Bureau, Bhutan Agriculture and Food Regulatory Authority, and others, it was learned during the field visit that most of the manufactured products are not standardized or certified. Only very few products of the medium enterprises are ISO certified or certified by the Bhutan Standard Bureau. In order to compete in the larger international market, such certifications as well as monitoring and maintaining the standards are vital to brand Bhutan.

Since Bhutan is a small economy country, survival and sustainability of the companies can be ensured only if the SMEs are able to market their products in the international market. However, without proper certification and assurances by trustable agencies, Bhutanese products find it difficult to find market outside the country. Therefore, the regulators could assist the SMEs by exploring markets and help in getting the products certified so that their products are recognized by the international market.

Recommendations for Government

Although the recommendations for the relevant stakeholders are already mentioned, the government, especially the politically elected government warrants

special attention. During the course of the interview with the SME owners, it was learnt that there had been excessive support in some areas and scanty support in others. Firstly, for instance, many business owners felt that there had been aggressive and excessive entrepreneurship trainings initiated by the Ministry of Labor and Human Resources as well as the Ministry of Economic Affairs in addition to those offered by the SEOs and NGOs. The SMEs felt that too much of such trainings were repetitive and ineffective.

Secondly, some of the SMEs, especially in the manufacturing felt that too much attention is being given to the production sector, even though they equally contribute to the development of the country. They felt that the government providing tax exemptions on import of raw materials and machineries alone are not sufficient in terms of supports rendered to them. The other issues they faced are shortages of skilled manpower and competition from imported goods. So, their plea to any political party and the government is that if the government could chip in or incentivize the private employees, and make it at par with the civil service, they hope to attract and retain skilled workers. With regard to competition, they expect the government to frame polices so that at least government projects could use locally manufactured raw materials and goods.

Thirdly, the SMEs complained of the training institutions and vocational institutions producing incompetent graduates who are not abreast of the technological evolution. Such issues were also being highlighted by the mainstream media where the institutions are seen to be using outdated machineries and technologies, and thus, their graduates not being able to use new technologies at the workplace. The SMEs had to use additional resources to train and equip them with the latest technologies at the work place, which is a burden to everyone.

Therefore, in light of the aforementioned observations, the relevant government agencies need to ensure that all the training and vocational institutes are using the latest technologies and moving at the same pace, if not faster with the global changes. The government should also look into skilling people with specific skills instead of making them learn general skills which are less valuable in the job market. With regard to excessive entrepreneurship and related trainings, the government need to limit the frequency of such activities and instead focus on following up and ensuring that they are indeed applying the skills learned in their businesses.

6.3 Limitations of the Study

Although the study was carried out with the rigor and meticulous care adhering to the standard best practices of an academic research, the study is also subjected to the following limitations:

Firstly, the sampling frame was based on convenience sampling technique and hence, most samples were the SMEs located in the two districts of Thimphu and Paro. In addition to the innate limitations of convenience sampling, the results of the study may not be generalized. Although, these two districts do have the largest number of SMEs in the country, they may not be representative of other factors such as environmental factors and other factors related to the business environment. In addition, the respondents to the survey are voluntary so this could also have some bias in reporting. The earlier plan of random sampling and all the SMEs in Bhutan has been hampered due to the COVID-19 pandemic as the Southern and Eastern Districts remained inaccessible due to various international and national travel restrictions.

Secondly, the study is a cross-sectional mixed methods study and the measure of performance is based on the perceived performance on sales and asset by the SME

owners/managers. However, a longitudinal data would have been a better predictor of performance. This is also because the study did not consider the failed SMEs as they were difficult to trace. So, the success factor is subjective and some main drivers of SME performance would not have been complete.

Thirdly, an attempt was made to collect the financial data of the SMEs so that their performances can be determined. However, more than 50% of the SMEs were not willing to share such information and hence these financial measures had to be dropped and a perceived measure was used, which is subjected to personal bias. Despite using the perceived measure of performance like some prior studies, the relationship was not statistically significant between ERM and SME performance. Thus, the inability to acquire critical data reduced number of dependent variables and may have caused the relationship to be insignificant.

Finally, the length of the questionnaire was also a hinderance to getting quality data as the respondents lost interest or refused to respond after certain point into the questionnaire due to the length of the questions. Respondent fatigue could also have impacted the findings of the research.

6.4 Directions for Future Research

First of all, the limitations of this study can pave the way for future research opportunities. For instance, a systematic random sampling of the SMEs could be used to infer the findings to the whole population. Further, instead of a single point cross-sectional study, a longitudinal study can be conducted so that the real progress and performance can be determined including the causal relationships. In spite of using a structural equation modeling, a causal relationship cannot be established with cross-sectional data.

A mechanism needs to be devised to obtain true and relevant information from the SMEs since they are reluctant to share vital information. Maybe collaboration with relevant organizations or agencies could help solve such issues or the regulatory authorities can intervene so that the actual status of the country's economy can be determined. Obtaining a longitudinal or time series financial data would better predict the performance and sustainability of the SMEs which is also important for the policy makers as well as the government.

Another recommendation would be to use a more triangulated method in which all the relevant stakeholders are included in the study. The current study considered only the perspectives of the SMEs so the future researchers can consider a more holistic approach in when the perspectives of the other relevant stakeholders are also considered.

The qualitative strand of this research interviewed only 15 SMEs, however, during the course of the interviewed, many interesting and research worthy opinions were shared by the interviewees. A complete qualitative research constituting of more participants or focused group discussions can conducted to study the informal risk management practices in the SMEs in Bhutan and how the owners/managers are solving their everyday problems. Relevant recommendations can also be made to the government and other relevant stakeholders to improve the performances of the SMEs.

6.5 Chapter Summary

The chapter presented the discussion of the study entitled "Effectiveness of Risk Management Strategies on the Production and Manufacturing Small-Medium Enterprises in Bhutan", where the researcher revisited the primary research question and objectives and linked them with the research findings. The main aim of this thesis

is to determine the effectiveness of ERM strategies on the P&M SMEs in Bhutan by identifying the key factors causing the implementation of the ERM in the SMEs. The study also aimed to link the personal characteristics or traits of the SME owners/managers to the ERM processes and their influence on the performance.

The results of the study established that there is statistically significant relationship between the individual characteristics measured by PEC and risk management measured by ERM processes. Although the structural relationship between PEC, ERM and SME performance is defined using the SEM, the relationship between ERM and SME performance is not statistically significant. Nevertheless, it has been established that PEC effects the performance better through ERM as the indirect effect model fits the data better than the direct effect as explained earlier. Furthermore, the implementation of the ERM depended on the size of the SMEs.

Additionally, theoretical, practical and methodological implications are explained for the readers to enact accordingly. The SMEs need to make their information more transparent and available in the public domain so that their real impact on the economy can be determined. Furthermore, the policy makers also need to make such vital information available. The government and the regulators need to ensure that the incentives provided are made into good use and help in the wealth maximization of the nation. Without proper financial accountability, the role of the SMEs in the economy may not be so evident.

Finally, in a nutshell, it can be concluded that the personal entrepreneurial competency of the owner/manager has significant effect on the management of risks in the SMEs while other demographic variables do not have such significant effect. In addition, the size of the enterprise also significantly effects the risk management

strategies of the SMEs. However, no significant relationship was not found between ERM and SME performance as indicated by prior studies.

REFERENCES

Agrawal, R. (2016). 'Enterprise risk management' essential for survival and sustainable development of micro, small and medium enterprises. *International Review*(1-2), 117. https://doi.org/10.5937/intrev1602117A

Andersen, T. J., & Schrøder, P. W. (2010). *Strategic Risk Management Practice: How to Deal Effectively with Major Corporate Exposures*. Cambridge University Press. https://books.google.co.th/books?id=xFly_CoerqwC

Andika, S. P., & Puspita, S. W. (2018). The Model of Firm Performance Improvement through Entrepreneurial Competence. *Holistica*, *9*(3), 55-70. https://doi.org/10.2478/hjbpa-2018-0023

Ang, S. H. (2014). *Research design for business & management*. Sage Publications.

Anwar, M., & Shah, S. Z. A. (2020). Entrepreneurial orientation and generic competitive strategies for emerging SMEs: Financial and nonfinancial performance perspective. *Journal of Public Affairs*, *21*(1), n/a. https://doi.org/10.1002/pa.2125

Aven, T. (2016). Risk assessment and risk management: Review of recent advances on their foundation. *European Journal of Operational Research*, *253*(1), 1-13. https://doi.org/10.1016/j.ejor.2015.12.023

Behling, G., & Lenzi, F. C. (2019). Entrepreneurial Competencies and Strategic Behavior: a Study of Micro Entrepreneurs in an Emerging Country. *Brazilian Business Review (Portuguese Edition)*, *16*(3), 255-272. https://doi.org/10.15728/bbr.2019.16.3.4

Berisha, G., & Pula, J. S. (2015). Defining Small and Medium Enterprises: a critical review. *1*(1), 12.

Bernoulli, D. (1954). Exposition of a New Theory on the Measurement of Risk. *Econometrica*, *22*(1), 23-36. https://doi.org/10.2307/1909829

Bird, B. (1995). Toward a theory of entrepreneurial competency. *Advances in entrepreneurship, firm emergence and …*. https://www.academia.edu/1282975/Toward_a_theory_of_entrepreneurial_competency

Birkel, H. S., Veile, J. W., Müller, J. M., Hartmann, E., & Voigt, K. I. (2019). Development of a risk framework for Industry 4.0 in the context of sustainability for established manufacturers. *Sustainability (Switzerland)*, *11*(2). https://doi.org/10.3390/su11020384

Blunch, N. J. (2015). *Introduction to Structural Equation Modeling Using Ibm Spss Statistics and Eqs* (1 edition ed.). SAGE Publications Ltd. https://www.amazon.com/Introduction-Structural-Equation-Modeling-Statistics/dp/1473916224

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brustbauer, J. (2016). Enterprise risk management in SMEs: Towards a structural model. *International Small Business Journal*, *34*(1), 70-85. https://doi.org/10.1177/0266242614542853

Bruton, G. D., Su, Z., & Filatotchev, I. (2018). New Venture Performance in Transition Economies from Different Institutional Perspectives. *Journal of Small Business Management*, *56*(3), 374-391. https://doi.org/10.1111/jsbm.12266

Bryman, A. (2012). *Social Research Methods* (Fourth ed.). Oxford University Press.

Burvill, S. M., Jones-Evans, D., & Rowlands, H. (2018). Reconceptualising the principles of Penrose's (1959) theory and the resource based view of the firm: The generation of a new conceptual framework. *Journal of Small Business and Enterprise Development*, *25*(6), 930-959. https://doi.org/10.1108/JSBED-11-2017-0361

Butler-Kisber, L. (2018). *Qualitative inquiry : thematic, narrative and arts-based perspectives* (Second edition. ed.). SAGE.

Cabrer-Borrás, B., & Rico Belda, P. (2018). Survival of entrepreneurship in Spain. *Small Business Economics*, *51*(1), 265-278. https://doi.org/10.1007/s11187-017-9923-1

Cambridge English Dictionary. (n.d.). [Organizational Website]. *Cambridge Dictionary*. https://dictionary.cambridge.org/dictionary/english/entrepreneurial

Cantonnet, M. L., Aldasoro, J. C., & Iradi, J. (2019). New and emerging risks management in small and medium-sized Spanish enterprises. *Safety Science*, *113*, 257-263. https://doi.org/10.1016/j.ssci.2018.11.032

Chapman, C. B., & Cooper, D. F. (1983). Risk analysis: Testing some prejudices. *European Journal of Operational Research*, *14*(3), 238-247. https://doi.org/10.1016/0377-2217(83)90260-6 (Methodology, Risk and Personnel)

Clark, V. L. P., & Ivankova, N. V. (2015). *Mixed Methods Research: A Guide to the Field* (1 edition ed.). SAGE Publications, Inc. https://www.amazon.com/Mixed-Methods-Research-Guide-Field-dp-1483306755/dp/1483306755/ref=mt_paperback?_encoding=UTF8&me=&qid=

Cooper, B., Eva, N., Zarea Fazlelahi, F., Newman, A., Lee, A., & Obschonka, M. (2020). Addressing common method variance and endogeneity in vocational behavior research: A review of the literature and suggestions for future research. *Journal of vocational behavior*, *121*, 103472. https://doi.org/10.1016/j.jvb.2020.103472

Cooper, D. R. (2003). *Business research methods* (P. S. Schindler, Ed. 8th ed. ed.). McGraw-Hill.

COSO. (2019, 2019). *Guidance on Enterprise Risk Management*. https://www.coso.org/Pages/erm.aspx

Creswell, J. W. (2009). *Research design : qualitative, quantitative and mixed methods approaches* (3rd ed. ed.). Sage Publications.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd ed. ed.). SAGE Publications.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (Third Edition. ed.). SAGE.

Cucculelli, M., & Bettinelli, C. (2015). Business models, intangibles and firm performance: evidence on corporate entrepreneurship from Italian manufacturing SMEs. *Small Business Economics*, *45*(2), 329-350. https://doi.org/10.1007/s11187-015-9631-7

Dahmen, P., & Rodríguez, E. (2014). Financial Literacy and the Success of Small Businesses: An Observation from a Small Business Development Center. *Numeracy, Vol 7, Iss 1, p 3 (2014)*(1), 3. https://doi.org/10.5038/1936-4660.7.1.3

Das, S. S., & Das, A. (2014). India shining? A two-wave study of business constraints upon micro and small manufacturing firms in India. *International Small Business Journal*, *32*(2), 180-203. https://doi.org/10.1177/0266242613488790

DCSI-annual-report. (2019). *Annual Report*. http://www.moea.gov.bt/?page_id=943

De Clercq, D., Thongpapanl, N., & Dimov, D. (2014). Contextual ambidexterity in SMEs: the roles of internal and external rivalry. *Small Business Economics*, *42*(1), 191-205. https://doi.org/10.1007/s11187-013-9471-2

Dem, P. (2019, 2019/09/14/). Gap between proposal and implementation behind high NPL. *KuenselOnline*. http://www.kuenselonline.com/gap-between-proposal-and-implementation-behind-high-npl/

Denhardt, R. B. (2010). *Theories of Public Organization*. Cengage Learning. https://books.google.co.th/books?id=0mt5MF9EBJgC

Di, Z. D., & Bruning, E. (2011). Personal characteristics and strategic orientation: entrepreneurs in Canadian manufacturing companies. *International Journal of Entrepreneurial Behavior & Research*, *17*(1), 82-103. https://doi.org/10.1108/13552551111107525

Dobrovic, J., Lambovska, M., Gallo, P., & Timkova, V. (2018). Non-Financial Indicators and Their Importance in Small and Medium-Sized Enterprises. *Journal of Competitiveness*, *10*(1), 41-55. https://doi.org/10.7441/joc.2018.02.03

Dorji, T. (2019, 2019/03/15/). CSIs and CSOs, agents for sustainable graduation. *KuenselOnline*. http://www.kuenselonline.com/csis-and-csos-agents-for-sustainable-graduation/

Duckert, G. H. (2010). *Practical Enterprise Risk Management: A Business Process Approach*. John Wiley & Sons. https://books.google.co.th/books?id=PEsPlzNZuM8C

Duong, L. (2009). EFFECTIVE RISK MANAGEMENT STRATEGIES FOR SMALL-MEDIUM ENTERPRISES AND MICRO COMPANIES. 67.

Falkner, E. M., & Hiebl, M. (2015). *Risk management in SMEs: a systematic review of available evidence* (Vol. 16).

Finch, W. H., & French, B. F. (2015). *Latent variable modeling with R*. Routledge, Taylor & Francis Group.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of marketing research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Frame, J. D. (2003). *Managing Risk in Organizations: A Guide for Managers: 1st (First) Edition*. Wiley, John & Sons, Incorporated. https://www.amazon.com/Managing-Risk-Organizations-Guide-Managers/dp/B0086HR3M2/ref=sr_1_4?keywords=managing+risk+in+organizations+a+guide+for+managers&qid=1569155582&s=books&sr=1-4

Frankfort-Nachmias, C. (2006). *Research Methods in Social Sciences + General Social Survey 1996 Data Bank Cd-rom*. Macmillan Higher Education. https://books.google.bt/books?id=hO_WPQAACAAJ

Gao, S. S., Sung, M. C., & Zhang, J. (2013). Risk management capability building in SMEs: A social capital perspective. *International Small Business Journal*, *31*(6), 677-700. https://doi.org/10.1177/0266242611431094

Getnet, W. (2020). The Effectsof Entrepreneurial competencies on Start-up Success of Graduate Business Owners: The Case of Entrepreneurship Development Centre Trainees. *Srusti Management Review, XIII*(II), 49-58.

Ghauri, P. N., & Grønhaug, K. (2010). *Research Methods in Business Studies*. Financial Times Prentice Hall. https://books.google.co.th/books?id=nDRGPgAACAAJ

Golden Pryor, M., & Taneja, S. (2010). Henri Fayol, practitioner and theoretician – revered and reviled. *Journal of Management History*, *16*(4), 489-503. https://doi.org/10.1108/17511341011073960

Green, S. B., & Yang, Y. (2009). Reliability of Summed Item Scores Using Structural Equation Modeling: An Alternative to Coefficient Alpha. *Psychometrika*, *74*(1), 155-167. https://doi.org/10.1007/s11336-008-9099-3

Greener, D. S. (2008). *Business Research Methods*. Bookboon. https://books.google.co.th/books?id=mR2sPdK0BIUC

Gupta, J., Gregoriou, A., & Healy, J. (2015). Forecasting bankruptcy for SMEs using hazard function: To what extent does size matter? *Review of Quantitative Finance and Accounting*, *45*(4), 845-869. https://doi.org/10.1007/s11156-014-0458-0

Gupta, V. K., & Batra, S. (2016). Entrepreneurial orientation and firm performance in Indian SMEs: Universal and contingency perspectives. *International Small Business Journal*, *34*(5), 660-682. https://doi.org/10.1177/0266242615577708

Hart, S. (1995). A NATURAL-RESOURCE-BASED VIEW OF THE FIRM. *Academy of Management Review*, *20*(4), 29.

Henseler, J., Ringle, C., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, *43*, 115-135. https://doi.org/10.1007/s11747-014-0403-8

Hiebl, M. R. W., Duller, C., & Neubauer, H. (2019). Enterprise risk management in family firms: evidence from Austria and Germany. *Journal of Risk Finance*, *20*(1), 39-58. https://doi.org/10.1108/JRF-01-2018-0003

Hopkin, P. (2010). *Fundamentals of risk management: understanding, evaluating, and implementing effective risk management*. Kogan Page.

Hopkin, P. (2017). *Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management*. Kogan Page Publishers. https://books.google.co.th/books?id=zfvTDQAAQBAJ

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Huang, R. (2018, 2018). *RQDA: R-based Qualitative Data Analysis*. http://rqda.r-forge.r-project.org/

Hudáková, M., & Dvorský, J. (2018). Assessing the risks and their sources in dependence on the rate of implementing the risk management process in the SMEs. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *13*(3), 543-567. https://doi.org/10.24136/eq.2018.027

Imran, T., Ahmed, R. R., Streimikiene, D., Soomro, R. H., Parmar, V., & Vveinhardt, J. (2019). Assessment of Entrepreneurial Traits and Small-Firm Performance with Entrepreneurial Orientation as a Mediating Factor. *Sustainability (2071-1050)*, *11*(19), 5301-5301. https://doi.org/10.3390/su11195301

Jakobsen, M., & Jensen, R. (2015). Common Method Bias in Public Management Studies. *International Public Management Journal*, *18*(1), 3-30. https://doi.org/10.1080/10967494.2014.997906

Johnsen, G. J. (2005). Owner-manager Gender, Financial Performance and Business Growth amongst SMEs from Australia's Business Longitudinal Survey. *International Small Business Journal*, *23*(2), 115-142. https://doi.org/10.1177/0266242605050509

Jordan, P. J., & Troth, A. C. (2020). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management*, *45*(1), 3-14. https://doi.org/10.1177/0312896219871976

Karunaratne, K. (2017). The Impact of Enterprise Risk Management on Firm Performance: Evidence from Sri Lankan Banking and Finance Industry. *International Journal of Business and Management*, *13*, 225. https://doi.org/10.5539/ijbm.v13n1p225

Kemayel, L. (2015). Success Factors of Lebanese SMEs: An Empirical Study. *Procedia - Social and Behavioral Sciences*, *195*, 1123-1128. https://doi.org/10.1016/j.sbspro.2015.06.158

Kendirli, S., Kaya, M. S., & Bilgin, M. (2020). Evaluation of Financial Performances of SME's Listed in the Bist Sme Industrial Index by Using TOPSIS Multicriteria Decision Making Method [Article]. *Journal of Economic Development, Environment & People*, *9*(3), 63-74. https://doi.org/10.26458/jedep.v9i3.671

Kline, P. (1994). *An Easy Guide to Factor Analysis* Routledge.

Kor, Y. Y., & Mahoney, J. T. (2004). Edith Penrose's (1959) Contributions to the Resource-based View of Strategic Management. *Journal of Management Studies*, *41*(1), 183-191. https://doi.org/10.1111/j.1467-6486.2004.00427.x

Kor, Y. Y., Mahoney, J. T., Siemsen, E., & Tan, D. (2016). Penrose's The Theory of the Growth of the Firm: An Exemplar of Engaged Scholarship. *Production and Operations Management*, *25*(10), 1727-1744. https://doi.org/10.1111/poms.12572

Kornélia, L. (2018). An Analysis of Factors Related to "Taking Risks", according to Selected Socio-Demographic Factors. *Acta Polytechnica Hungarica*, *14*(7). https://doi.org/10.12700/APH.14.7.2017.7.3

Kothari, C. R. (2007). *Research methodology : methods and techniques*. New age international (p) limited publishers.

Kyguoliene, A., & Svipas, L. (2019). Personal Entrepreneurial Competencies of Participants in Experiential Entrepreneurship Education. *Management of Organizations: Systematic Research*, *82*, 37-51. https://doi.org/10.1515/mosr-2019-0012

Lazányi, K., Virglerová, Z., Dvorský, J., & Dapkus, R. (2017). An analysis of factors related to "taking risks", according to selected socio-demographic factors. *Acta Polytechnica Hungarica*, *14*(7), 35-50.

Lopa, N. Z., & Bose, T. K. (2014). Relationship between Entrepreneurial Competencies of SME Owners/Managers and Firm Performance: A Study on Manufacturing

SMEs in Khulna City. *Journal of Entrepreneurship and Management; New Delhi*, *3*(3), n/a. http://search.proquest.com/docview/1733224541/abstract/870CDA8DF2A04F10PQ/1

Mabula, J. B., & Ping, H. D. (2018, 2018). Use of Technology and Financial Literacy on SMEs Practices and Performance in Developing Economies.

Malhotra, N. K., & Dash, S. (2011). *Marketing Research an Applied Orientation*. Pearson Publishing.

Maliranta, M., & Nurmi, S. (2019). Business owners, employees, and firm performance. *Small Business Economics*, *52*(1), 111-129. https://doi.org/10.1007/s11187-018-0029-1

Mardessi, S. M., & Ben Arab, S. D. (2018). Determinants of ERM implementation: the case of Tunisian companies. *Journal of Financial Reporting and Accounting*, *16*(3), 443-463. https://doi.org/10.1108/JFRA-05-2017-0044

Marris, R. L. (1961). Review of The Theory of the Growth of the Firm. *The Economic Journal*, *71*(281), 144-148. https://doi.org/10.2307/2228229

Ministry of Economic Affairs. (2019). Cottage and Small Industry [Government]. *Ministry of Economic Affairs*. http://www.moea.gov.bt/?page_id=592

http://www.moea.gov.bt/?page_id=592&fbclid=IwAR2UBWde3m_85lstaYbvXlsBSDWigZjcCTqtiZ7QGYfqZLtZzWV-1sdFnx8

Moeller, R. (2007). *COSO Enterprise Risk Management*. Wiley, Hardcover. https://www.amazon.com/Enterprise-Management-Moeller-Robert-Hardcover/dp/B008CMJGIA/ref=sr_1_6?keywords=coso+enterprise+risk+management&qid=1569155714&s=books&sr=1-6

Morse, J. M., & Niehaus, L. (2016). *Mixed Method Design: Principles and Procedures* (1 edition ed.). Routledge. https://www.amazon.com/Mixed-Method-Design-Principles-Qualitative-ebook/dp/B01I5DZGES

Nair, A., & Trendowski, J. (2008). The Theory of the Growth of the Firm, by Edith T. Penrose. Oxford: Blackwell, 1959 (Book Review). *Academy of Management Review*, 4.

Naude, M. J., & Chiweshe, N. (2017). A proposed operational risk management framework for small and medium enterprises. *SOUTH AFRICAN JOURNAL OF ECONOMIC AND MANAGEMENT SCIENCES*, *20*(1). https://doi.org/10.4102/sajems.v20i1.1621

Ng, H. S., & Kee, D. M. H. (2018). The core competence of successful owner-managed SMEs. *Management Decision; London*, *56*(1), 252-272. https://doi.org/http://dx.doi.org.libproxy.murdoch.edu.au/10.1108/MD-12-2016-0877

Palic, D. M. (2017). EDITORIAL BOARD Professor Claudio Vignali. *International Journal of Management Cases*, *19*(2), 64. http://www.ijmc.org/IJMC/Vol_19.2_files/19.2.pdf

Peaucelle, J.-L., & Guthrie, C. (2012). The private life of Henri Fayol and his motivation to build a management science. *Journal of Management History*. https://doi.org/10.1108/17511341211258774

Penrose, E. (2009). *The Theory of the Growth of the Firm*. OUP Oxford. https://books.google.co.th/books?id=85FLx2NQlaoC

Plano Clark, V. L., & Ivankova, N. V. (2016). *Mixed methods research : a guide to the field*. SAGE.

Podsakoff, P., & Organ, D. (1986). Self-Report in Organizational Research. *Journal of Management - J MANAGE*, *12*, 531-544. https://doi.org/10.1177/014920638601200408

Pratono, A. H. (2018). Does firm performance increase with risk-taking behavior under information technological turbulence?: Empirical evidence from Indonesian SMEs. *The Journal of Risk Finance*, *19*(4), 361-378. https://doi.org/10.1108/JRF-10-2017-0170

Pryor, M. G., & Taneja, S. (2010). Henri Fayol, practitioner and theoretician – revered and reviled. *Journal of Management History*, *16*(4), 489-503. https://doi.org/10.1108/17511341011073960

Putsom, W., Suwannarat, P., & Songsrirote, N. (2019). Scale Development for Measuring Entrepreneurial Leadership Competencies. *HUMAN BEHAVIOR, DEVELOPMENT and SOCIETY*, *20*(3), 29-40. https://www.tci-thaijo.org/index.php/hbds/article/view/175023

Raykov, T., & Marcoulides, G. A. (2006). *A First Course in Structural Equation Modeling*. Taylor & Francis Group. http://ebookcentral.proquest.com/lib/canberra/detail.action?docID=331689

http://ebookcentral.proquest.com/lib/canberra/reader.action?docID=331689

Rehman, A. U., & Anwar, M. (2019). Mediating role of enterprise risk management practices between business strategy and SME performance. *Small Enterprise Research*, *26*(2), 207-227. https://doi.org/10.1080/13215906.2019.1624385

Renault, B., Agumba, J., & Ansary, N. (2018). An exploratory factor analysis of risk management practices: A study among small and medium contractors in Gauteng. *Acta Structilia*, *25*(1), 1-39. https://doi.org/10.18820/24150487/as25i1.1

Royal Monetary Authority. (2019). Press Releases [Organizational Website]. *Royal Monetary Authority*. https://www.rma.org.bt/pressrelease.jsp?id=10

Rugman, A. M., & Verbeke, A. (2002). Edith Penrose's contribution to the resource-based view of strategic management. *Strategic Management Journal*, *23*(8), 769-780. https://doi.org/10.1002/smj.240

Sadeghi, A. (2018). Success factors of high-tech SMEs in Iran: A fuzzy MCDM approach. *Journal of High Technology Management Research*. https://doi.org/10.1016/j.hitech.2018.04.007

Sánchez, J. (2012). The influence of entrepreneurial competencies on small firm performance. *Influencia de las competencias emprendedoras en el rendimiento de la pequeña empresa.*, *44*(2), 165-177. http://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=80215492&site=eds-live&authtype=ip,uid

Saunders, M. (2016). *Research methods for business students* (P. Lewis & A. Thornhill, Eds. 7th ed. ed.). Pearson.

Sax, J., & Torp, S. S. (2015). Speak up! Enhancing risk performance with enterprise risk management, leadership style and employee voice. *Management Decision*, *53*(7), 1452-1468. https://doi.org/10.1108/MD-10-2014-0625

Schermerhorn, J. R. (2011). *Introduction to Management*. John Wiley & Sons. https://books.google.co.th/books?id=wbAmkdoG4O8C

Schumacker, R. E. (2015). *Using R With Multivariate Statistics* (1 edition ed.). SAGE Publications, Inc. https://www.amazon.com/Using-Multivariate-Statistics-Randall-Schumacker/dp/1483377962

Sidik, I. G. (2012). Conceptual Framework of Factors Affecting SME Development: Mediating Factors on the Relationship of Entrepreneur Traits and SME Performance. *Procedia Economics and Finance*, *4*, 373-383. https://doi.org/10.1016/S2212-5671(12)00351-6

Sweeting, P. (2012). *Financial enterprise risk management*. Cambridge : Cambridge University Press, 2012, c2011. http://search.ebscohost.com/login.aspx?direct=true&db=cat07210a&AN=nur.355973&site=eds-live&authtype=ip,uid&scope=cite

Tashakkori, A., & Teddlie, C. (2003a). *Handbook of Mixed Methods in Social & Behavioral Research*. SAGE. https://books.google.bt/books?id=F8BFOM8DCKoC

Tashakkori, A., & Teddlie, C. (Eds.). (2003b). *Handbook of Mixed Methods in Social & Behavioral Research*. SAGE. https://books.google.bt/books?id=F8BFOM8DCKoC.

Tashakkori, A., & Teddlie, C. B. (2008). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences* (1 edition ed.). SAGE Publications, Inc. https://www.amazon.com/Foundations-Mixed-Methods-Research-Quantitative/dp/0761930124

Tehseen, S., Ahmed, F. U., Qureshi, Z. H., Uddin, M. J., & T, R. (2019). Entrepreneurial competencies and SMEs' growth: the mediating role of network competence. *Asia-Pacific Journal of Business Administration*, *11*(1), 2-29. https://doi.org/10.1108/APJBA-05-2018-0084

Turner, R., & Ledwith, A. (2018). Project Management in Small to Medium-Sized Enterprises: Fitting the Practices to the Needs of the Firm to Deliver Benefit. *Journal of Small Business Management*, *56*(3), 475-493. https://doi.org/10.1111/jsbm.12265

UNCTAD. (2019, 2019). *Empretec Inspiring Entrepreneurs*. United Nations. https://empretec.unctad.org/

United Nations Statistics Division. (2008). *International Standard industrial classification of all economic activities (ISIC)* (N. United, Ed. Rev. 4 ed.). United Nations.

Vaughan, E. J. (1996). *Risk Management* (1 edition ed.). Wiley. https://www.amazon.com/Risk-Management-Emmett-J-Vaughan/dp/047110759X

Vaughan, E. J., & Vaughan, T. M. (2007). *Fundamentals of Risk and Insurance, 10th Edition*. Wiley Global Education. https://books.google.co.th/books?id=5RMcAAAAQBAJ

Verbano, C., & Venturini, K. (2013). Managing Risks in SMEs: A Literature Review and Research Agenda. *Journal of technology management & innovation*, *8*(3), 33-34. https://doi.org/10.4067/S0718-27242013000400017

Wang, C. (2010). *Managerial Decision Making Leadership: The Essential Pocket Strategy Book* (1 edition ed.). Jossey-Bass.

https://www.amazon.com/Managerial-Decision-Making-Leadership-Essential/dp/0470825251

Wang, J., & Wang, X. (2012). *Structural Equation Modeling: Applications Using Mplus* (1 edition ed.). Wiley. https://www.amazon.com/Structural-Equation-Modeling-Applications-Using/dp/1119978297/ref=sr_1_1?crid=127MK7VJF4PE8&keywords=structural+equation+modeling+applications+using+mplus&qid=1570097129&sprefix=structural+equation+modeling+application%2Cstripbooks-intl-ship%2C395&sr=8-1

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*(2), 171-180. https://doi.org/10.1002/smj.4250050207

Weston, R., & Gore, P. A. (2006). A Brief Guide to Structural Equation Modeling. *The Counseling psychologist*, *34*(5), 719-751. https://doi.org/10.1177/0011000006286345

Wren, D. A. (2001). Henri Fayol as strategist: a nineteenth century corporate turnaround. *Management Decision*. https://doi.org/10.1108/EUM0000000005565

Yang, S., Ishtiaq, M., & Anwar, M. (2018). Enterprise Risk Management Practices and Firm Performance, the Mediating Role of Competitive Advantage and the Moderating Role of Financial Literacy. *Journal of Risk and Financial Management*, *11*(3). https://doi.org/10.3390/jrfm11030035

Yiannaki, S. M. (2012). A systemic risk management model for SMEs under financial crisis. *International Journal of Organizational Analysis*, *20*(4), 406-422. https://doi.org/10.1108/19348831211268607

Zangmo, R. (2018, 2018/10/27/). Focusing on developing CSIs. *KuenselOnline*. http://www.kuenselonline.com/focusing-on-developing-csis/

Appendix I Selected Literatures on ERM and Performance

Sl. No.	*Article*	*Methodology*	*Variables*	*Key finding / arguments*
1	Bruton, G. D., Su, Z., & Filatotchev, I. (2018). New Venture Performance in Transition Economies from Different Institutional Perspectives. *Journal of Small Business Management*, *56*(3), 374–391. https://doi.org/10.1111/jsbm.12266	Quantitative Method (Survey - Primary data)	Dysfunctional competition, Government ties, Entrepreneurial Orientation (EO), New venture performance, technological turbulence, market turbulence, competitive intensity	1. EO positively moderates the relationship between dysfunctional competition and new venture performance, but negatively moderates the relationship between government ties and new venture performance. 2. Government has a significant impact on new venture performance.
2	Maliranta, M., & Nurmi, S. (2019). Business owners, employees, and firm performance. *Small Business Economics*, *52*(1), 111–129. https://doi.org/10.1007/s11187-018-0029-1	Quantitative Design (Secondary data)	Education level Experience in the firm Age Gender Experience in another firm Performance measured by labor productivity, probability of survival, and employment growth	1. The characteristics and the competency of the owner is vital for the success of a SME. 2. Employee experience is also related to firm productivity. 3. High-quality owners create firms capable of achieving and maintaining sustained high performance in terms of productivity, survival, and employment growth
3	Johnsen, G. J. (2005). Owner-manager Gender, Financial Performance and Business Growth amongst SMEs from Australia's Business Longitudinal Survey. *International Small Business Journal*, *23*(2), 115–142. https://doi.org/10.	Quantitative Design (Survey)	Owner-manager gender, enterprise size, age, industry, financial leverage, time dedicated to business, and legal organization. 1. Financial Performance (Return on Owner's Equity	1. No statistically significant relationship between owner-manager gender and above-median ROE. 2. Owner-manager gender does not influence the likelihood of an SME having above-median sales growth. 3. Owner-manager gender does not influence the likelihood

	1177/0266242605050509		and Return on Total Assets) 2. Business Growth (Growth in Employee Numbers, Growth in Sales, and Growth in Assets)	of an SME having above-median asset growth.
4	Pratono, A. H. (2018). Does firm performance increase with risk-taking behavior under information technological turbulence?: Empirical evidence from Indonesian SMEs. *The Journal of Risk Finance*, *19*(4), 361–378. https://doi.org/10.1108/JRF-10-2017-0170	Quantitative Design (Survey)	Risk taking behavior; Firm performance: ROA, ROI, ROS; Information technological turbulence; Pricing capability	1. significant effect of risk-taking behavior on firm performance 2. risk-taking behavior has significant effect on pricing capability 3. both information technological turbulence and interaction term have a significant impact on firm performance
5	Rehman, A. U., & Anwar, M. (2019). Mediating role of enterprise risk management practices between business strategy and SME performance. *Small Enterprise Research*, *26*(2), 207–227. https://doi.org/10.1080/13215906.2019.1624385	Quantitative Design (Survey)	Business strategy; ERM as a mediator between business strategy and firm performance; and SME performance; Control variables - firm age, industry and size.	1. business strategy has a significant influence on SMEs performance 2. business strategy has significant influence on ERM 3. ERM has significant influence on a firm's performance 4. ERM partially mediates the relationship between business strategy and SME performance
6	Sax, J., & Torp, S. S. (2015). Speak up! Enhancing risk performance with enterprise risk management, leadership style and employee voice. *Management Decision*, *53*(7), 1452–1468. https://doi.org/10.	Quantitative Design (Survey)	Formal ERM; Participative leadership style; Psychological safety; Risk performance	1. formal ERM, a participative leadership style and psychological safety all directly affected the risk performance. 2. the direct effect of psychological safety on risk management

	1108/MD-10-2014-0625			performance was insignificant
7	Burvill, S. M., Jones-Evans, D., & Rowlands, H. (2018). Reconceptualising the principles of Penrose's (1959) theory and the resource based view of the firm: The generation of a new conceptual framework. *Journal of Small Business and Enterprise Development*, *25*(6), 930–959. https://doi.org/10.1108/JSBED-11-2017-0361	Qualitative Design (Grounded theory)	Three main variables found: Resources, Mediators and Outputs 1. ***Resources***: Aspirations, Finance, Human Capital, Management, Expertise, Contacts, Open innovation, Customers, Software. 2. ***Mediating factors***: Organizational structure, strategy, planning, systems, marketing, human capital, management 3. ***Output factors***: New and existing product/service development, service/product development	1. The authors conclude that a multi-theoretical approach is required to explain the modern firm growth phenomenon. 2. The authors are also of the view that their research provides an excellent starting point for further confirmatory research to confirm their concepts. 3. The authors assert that the interaction of resources, mediating factors and output factors enable a firm growth.
8	Yang, S., Ishtiaq, M., & Anwar, M. (2018). Enterprise Risk Management Practices and Firm Performance, the Mediating Role of Competitive Advantage and the Moderating Role of Financial Literacy. Journal of Risk and Financial Management, 11(3).	Quantitative Design (Survey)	ERM practices; Competitive advantage; Financial literacy; SME performance: **Financial measures** - ROE and ROA compared to performance in the last three years. **Non-financial**	1. ERM practices have a significant influence on SME performance. 2. Performance of SMEs is significantly positively related to ERM practices 3. ERM practices have a significant influence on CA. 4. CA has a significant influence on firm performance 5. Financial literacy significantly moderates

	https://doi.org/10.3390/jrfm11030035		**measure** - customer satisfaction, employees' satisfaction and employees' loyalty; **Control variable**: Firm age, size and nature of industry.	the relationship between ERM and CA
9	Kemayel, L. (2015). Success Factors of Lebanese SMEs: An Empirical Study. *Procedia - Social and Behavioral Sciences*, *195*, 1123–1128. https://doi.org/10.1016/j.sbspro.2015.06.158	Quantitative Design (Survey)	Business environment (customers, suppliers, competitors and banks); macroeconomic factors; internal factors (manager's risk aversion and his/her age)	1. the business environment such as the customers, suppliers, competitors and banks are the most important success factors for the SMEs in Lebanon 2. internal factors such as managers' risk aversion and age have positive effect on SME performance 3. macroeconomic factors and government policies regarding the employees' rights have negative effect on SMEs performances
10	Gupta, V. K., & Batra, S. (2016). Entrepreneurial orientation and firm performance in Indian SMEs: Universal and contingency perspectives. *International Small Business Journal*, *34*(5), 660–682. https://doi.org/10.1177/0266242615577708	Quantitative Design (Survey)	Dependent variable (Firm performance - past three years in terms of profitability, market share, productivity, customer satisfaction); Entrepreneurial orientation; Environmental variables; Demand growth	1. The EO has an overall positive effect on firm performance in the emerging economy of India. 2. Their results showed that Indian SMEs performance benefits accrue to EO

11	Hiebl, M. R. W., Duller, C., & Neubauer, H. (2019). Enterprise risk management in family firms: evidence from Austria and Germany. *Journal of Risk Finance*, *20*(1), 39–58. https://doi.org/10.1108/JRF-01-2018-0003	Quantitative Design (Survey)	Control variables: firm size; ERM Existence; CRO existence;	1. family firms are less likely than non-family firms to have adopted ERM 2. The implementation of RM practices not necessarily improve performances
12	Mardessi, S. M., & Ben Arab, S. D. (2018). Determinants of ERM implementation: the case of Tunisian companies. *Journal of Financial Reporting and Accounting*, *16*(3), 443–463. https://doi.org/10.1108/JFRA-05-2017-0044	Quantitative Design (Survey)	Dependent variable (level of ERM implementation); Independent variables (CRO, Internal auditor (IA), Banking industry, Firm size)	1. the presence of a CRO is positively associated with the extent of ERM implementation 2. Appointment of an internal auditor is positively related to ERM implementation 3. larger companies are more likely to have developed ERM comparing to SME
13	Renault, B., Agumba, J., & Ansary, N. (2018). An exploratory factor analysis of risk management practices: A study among small and medium contractors in Gauteng. Acta Structilia, 25(1), 1–39. https://doi.org/10.18820/24150487/as25i1.1	Quantitative Design (Survey)	Risk management practices (RMP)	Using PCA, found: 1. Four measures defined organizational environment 2. Four measures defined project objectives 3. The researchers emphasize the importance of RM practices

14	Cabrer-Borrás, B., & Rico Belda, P. (2018). Survival of entrepreneurship in Spain. *Small Business Economics*, *51*(1), 265–278. https://doi.org/10.1007/s11187-017-9923-1	Quantitative Design (Secondary data from CWLS database)	Personal characteristics (age, gender, nationality, educational level, number of children under 12 years old and Autonomous community of residence); Work characteristics; Economic characteristic of the entrepreneur (Social Security contribution bases); GDP per capita of the autonomous community of residence	1. Men present non-survival risk of 1.10 times higher than women 2. Opportunity entrepreneurs have a level of risk 9.2% less than those who start a business motivated by other reasons 3. Found significant relationship between educational level of the proponents (business owners) and business success wherein higher educational level influences business success
15	Cucculelli, M., & Bettinelli, C. (2015). Business models, intangibles and firm performance: evidence on corporate entrepreneurship from Italian manufacturing SMEs. *Small Business Economics*, *45*(2), 329–350. https://doi.org/10.1007/s11187-015-9631-7	Quantitative Design (Survey and Secondary data)	Dependent variable: firm performance (measured as sales growth, ROS and Total Factor Productivity (TFP)); Independent variables: BM change, intangible assets (R&D + Adv/Sales), Firm level controls (market share, leverage, firm age).	1. Both BM and intangibles presented a positive and significant impact on sales growth and productivity, respectively 2. The positive effect of BM changes on firm performance is higher for firms that also invest in intangibles, and vice versa

16	Cantonnet, M. L., Aldasoro, J. C., & Iradi, J. (2019). New and emerging risks management in small and medium-sized Spanish enterprises. *Safety Science*, *113*, 257–263. https://doi.org/10.1016/j.ssci.2018.11.032	Quantitative Design (Secondary data: ESNER-2 dataset)	New and emerging risks (NERS); Company size; Number of enterprises: Implementation of NERs	1. This study has found that larger enterprises follow a more systematic way of risk management, especially NERs 2. Large enterprises have most of the risk management procedures in place unlike their smaller counterparts
17	Sadeghi, A. (2018). Success factors of high-tech SMEs in Iran: A fuzzy MCDM approach. *Journal of High Technology Management Research*. https://doi.org/10.1016/j.hitech.2018.04.007	Quantitative Design (Survey)	Human Resources (Expertise and competence, Experience, Education, Teamwork skills); Strategic (Strategic planning, Flexibility, Reengineering, Strategic alliance); Entrepreneur's characteristics (Experience, Risk acceptance, Creativity and innovation, Leadership skills, Start-up skills, Family support) ; Organizational (Organizational structure, Organizational culture, Firm's life cycle, Organizational learning orientation, Size, Up-to-datedness); Financial (Initial investment,	Although there are several significant CSFs affecting the success of the SMEs, the study concluded that "policies and regulations" are the most important external factor and "start-up skills" as the most important inter-organization (internal) factor in the success of their firms.

			Liquidity, Access to financial resources)	
18	Birkel, H. S., Veile, J. W., Müller, J. M., Hartmann, E., & Voigt, K.-I. (2019). Development of a risk framework for Industry 4.0 in the context of sustainability for established manufacturers. *Sustainability (Switzerland)*, *11*(2). https://doi.org/10.3390/su11020384	Qualitative Design (in-depth interview)	Economic risks: - Financial, Time and manner of investments, changing business models, competition, dependencies; Technical and IT risks: - Technical integration, Dependency, Standards, Cyberattacks, Data possession, data security, data handling, cloud computing; Legal/political risks: - Infrastructure, Legal aspects	1. The results of the category reveal six risk dimensions with 27 sub-dimensions that occur during the implementation of the Industry 4.0. Six risk dimensions: Economic Risk, Ecological risk, social risks, technical risks, IT risks, legal/political risks
19	Alfoqahaa, S. (2018). Critical success factors of small and medium-sized enterprises in Palestine. *Journal of Research in Marketing and Entrepreneurship*, *20*(2), 170–188. https://doi.org/10.1108/JRME-05-2016-0014	Quantitative Design (survey method)	Reputation of brand, excellence of customer services, reliable delivery and product innovation on the success of the SMEs	The results show that brand reputation, excellence of customer services and reliable delivery strongly influence SME success, while innovation is weakly associated with SME success.
20	Putsom, W., Suwannarat, P., & Songsrirote, N. (2019). Scale Development for Measuring Entrepreneurial Leadership Competencies. *HUMAN BEHAVIOR, DEVELOPMENT and*	Quantitative Design (Survey - EFA)	Personal competency; Managerial competency; Proactive competency; Technological competency	The results indicated that the four EL dimensions (PC, MC, PRC, and TC) measure EL competencies consistent with the current situation in Thailand.

	SOCIETY, *20*(3), 29–40.			

Appendix II Questionnaire

Information to Participants

Dear Sir/Madam,

You are being invited to participate in my research study titled “Effectiveness of Risk Management Strategies on the Production and Manufacturing Small-Medium Enterprises in Bhutan”. This study is being carried out by Tsagay, a Ph.D scholar, from the Faculty of Business, Economics and Communications (BEC) at the Naresuan University, Phitsanulok, Thailand. The main aim of the study is to evaluate the effectiveness of the risk management strategies on the performance of the SMEs. Further, the research intends to develop a model using Structural Equation Modeling (SEM) method based on the most effective risk management strategy/ies. Hence, this survey questionnaire targets SME owners/CEOs with the intention of collecting information about the risk management processes and strategies and their impact on performances of the SMEs. Further details, including the ethical conduct, data secrecy and the contract of your participation are available in the “Naresuan University IRB Informed Consent Form” following this section. The information you provide will be confidential, anonymous to the third party, and accessible only to the researcher.

Please be informed that your participation is purely voluntary and can withdraw at any point in the survey, however, your valuable input could help better the future of the SMEs. Should you agree to participate in this study, please read the "Informed Consent Form" and do kindly consent to to participate in the following section. It should take approximately 30 minutes to complete.

If you have any questions or concerns, please contact me or my advisors at the following detail:

1.Researcher:

Mr. Tsagay (PhD Scholar)

tsagay.gcbs@gmail.com

17685475

2. Advisers:

2.1 Dr. Vichayanan Rattanawiboonsom

Associate Professor (PhD)

vichayananr@nu.ac.th

2.2 Dr. Kritcha Yawised

Lecturer (PhD)

kritchay@nu.ac.th

Kindly note that there is no skip pattern for the questions and would like to request you to respond to all the questions with due diligence.

Thank you for your assistance in this important endeavor.

Sincerely Yours,

Tsagay

The Questionnaire: Effectiveness of Risk Management Strategies on the Production and Manufacturing Small-Medium Enterprises in Bhutan

Part A
Business Background

1	Code of the business:	_____
2	Category of business:	□ Medium □ Small □ Cottage
3	Type of the business	
	a. Manufacturing	
	b. Production	
4	Year of operation:	___/___/____ (mm/dd/yyyy)
5	Initial investment:	_____(estimation)
6	Last year's income:	_____(monthly/annual)

Personal Biography
Part B Owner/Manager

6	Gender:	□ Female	□ Male	□ Others			
7	Age:						
8	Position in the company:	_____					
9	Highest academic formal qualification:	□ No formal education	□ Some high school	□ Bachel or degree	□ Master degree & above	□ Others: _____	
10	Number of years on the same job:	_____ (years)					

Part C Risk Management Process

Instruction	Indicate how strongly you agree or disagree with the following statements by choosing the option that best	Strongly Agree (5)	Somewhat Agree (4)	Neutral (3)	Somewhat Disagree (2)	Strongly Disagree (1)	Don't know (9)

	represents your opinion.						
C1	**Internal environment**						
11	There is common understanding of risk management across the organization.						
12	Your organization has an effective risk management policy.						
13	In your organization, risk appetite is considered in strategy setting.						
14	Responsibility for risk management is clearly set out and understood throughout your organization.						
15	Risk management is embedded in your organization's culture.						
C2	**Objective Setting**						
16	The management has, in place, a process and procedure to set business objectives (strategic, operational, reporting, compliance).						
17	The organization's objectives support entity's mission and are aligned with that.						
18	When formulating the Strategic plans, all the possible risks are identified and factored in.						
19	When formulating the Budget plans, all the possible risks are identified and factored in.						

20	When formulating the Operational plans, all the possible risks identified and factored in.						
21	When formulating the Project management plans, all the possible are risks identified factored in.						
22	When formulating the Capital investment plans, all the possible are risks identified and factored in.						
C3	**Risk identification**						
23	Your organization considers external factors driving events that could affect the achievement of objectives (e.g. PESTLE).						
24	Your organization considers internal factors driving events that could affect the achievement of objectives (e.g. Infrastructure, Personnel, Process, Technology).						
25	Your organization considers the positive events and opportunities that could affect the achievement of objectives.						
C4	**Risk assessment**						
26	The positive and negative impacts of potential events are examined across the entity.						
27	Your organization's risks are assessed						

	by using qualitative analysis methods (e.g. high, moderate, low).						
28	Your organization's risks are assessed by using quantitative analysis methods (e.g. percentages or probability charts, or using tools such as metrics and software).						
29	Your organization is effective at prioritizing risks and determining the residual risks.						

C5	**Risk response**						
30	Your organization selects a set of actions to align risks with the entity's risk tolerance and risk appetite.						
31	In determining risk response, your organization considers possible opportunities to achieve entity objectives going beyond dealing with the specific risk.						
32	In determining risk response, your organization considers possible residual risk and assesses and determines that the residual risk is within the entity's risk tolerance and appetite.						
33	Your organization's response to analyzed risks includes						

	prioritizing risk treatments where there are resource constraints on risk treatment implementation.						

C6	**Control activities**						
34	Your organization's risk management procedures include policies and processes which help to ensure that risk responses are appropriately carried out.						
35	In your organization control activities are executed to ensure responses are in a timely manner.						
36	The level of existing control activities by your organization are sufficient and appropriate for the risks that it faces.						
37	Many different types of control activities are performed by your organization at various organizational level and entities.						

C7	**Information and communication**						
38	In your organization relevant information is identified, captured and communicated in a form and time frame that enable people to carry out their responsibilities.						

39	The information infrastructure is consistent with an entity's need to identify, assess, and respond to risk and remained within its risk tolerance.						
40	Formal procedures are in place for reporting risks.						
41	Changes to risks are assessed and reported on an ongoing basis.						
42	In your organization, there is appropriate communication with people outside of the organization (e.g. customers, suppliers, shareholders).						
C8	**Monitoring**						
43	In your organization some combination of ongoing monitoring and separate evaluations will ensure that ERM maintains its effectiveness over time.						
44	Monitoring the effectiveness of risk management is an integral part of routine management reporting.						
45	Your organization has highly effective continuous review/feedback on risk management strategies and performance.						

46	Your organization regularly reviews internal controls.						

C9	Please rank the following in terms of their importance to you regarding the risk management procedure:	Rank 1 to 8 where 1 is the most important
47	Internal environment	
48	Objective setting	
49	Event identification	
50	Risk assessment	
51	Risk response	
52	Control activities	
53	Information/Communication	
54	Monitoring	

Part D Enterprise Risk Management							
	State your agreement or disagreement with the following statements	**Strongly Agree (5)**	**Somewhat Agree (4)**	**Neutral (3)**	**Somewhat Disagree (2)**	**Strongly Disagree (1)**	**Don't know (9)**
55	We have a policy for handling major risks that could affect the firm's ability to reach its strategic objectives.						
56	We have standard procedures in place for identifying major risks and opportunities.						
57	Risks and opportunities are analyzed as a basis for determining how they should be managed.						
58	We have standard procedures in place for launching risk-reducing measures.						
59	We regularly prepare risk reports for the top management and the board of directors.						
60	We have standard procedures in place for monitoring the developments in major risks and the risk-reducing measures launched.						

Part E Personality Test						
	Select one of the numbers to indicate how well the statement describes you:	**Always (5)**	**Usually (4)**	**Sometimes (3)**	**Rarely (2)**	**Never (1)**
61	I look for things that need to be done.					

62	When faced with a difficult problem I spend a lot of time trying to find a solution.					
63	I complete my work on time.					
64	It bothers me when things are not done very well.					
65	I prefer situations in which I can control the outcomes as much as possible.					
66	I like to think about the future.					
67	When starting a new task or project, I gather a great deal of information before going ahead.					
68	I plan a large project by breaking it down into smaller tasks.					
69	I get others to support my recommendations.					
70	I feel confident that I will succeed at whatever I try to do.					
71	No matter whom I'm talking to, I'm a good listener.					
72	I do things that need to be done before being asked to do so by others.					
73	I try several times to get people to do what I would like them to do.					
74	I keep the promise I make.					
75	My own work is better than that of other people I work with.					
76	I don't try something new without making sure I will succeed.					
77	It's a waste of time to worry about what to do with your life.					
78	I seek the advice of people who know a lot about the tasks I'm working on.					
79	I think about the advantages and disadvantages or different ways of accomplishing things.					
80	I do not spend much time thinking about how to influence others.					
81	I change my mind if others disagree strongly with me.					
82	I feel resentful when I don't get my way.					
83	I like challenges and new opportunities.					
84	When someone gets in the way of what I'm trying to do, I keep on trying to accomplish what I want.					
85	I am happy to do someone else's work if necessary to get the job done on time.					
86	It bothers me when my time is wasted.					
87	I weigh my chances of succeeding or failing before, I decide to do something.					
88	The more specific I can be about what I want out of life, the more chance I have to succeed.					

89	I take action without wasting time gathering information.					
90	I try to think of all the problems I may encounter and plan what to do if each problem occurs.					
91	I get important people to help me accomplish my goals.					
92	When trying something difficult or challenging, I feel confident that I will succeed.					
93	In the past I have had failures.					
94	I prefer activities that I know well and with which I am comfortable.					
95	When faced with major difficulties, I quickly go on to other things.					
96	When I'm doing a job for someone, I make a special effort to make sure that the person is happy with my work.					
97	I'm never entirely happy with the way in which things are done, I always think there must be a better way.					
98	I do things that are risky.					
99	I have a very clear plan for my life.					
100	When working for a project for someone, I ask many questions to be sure I understand what the person wants.					
101	I deal with problems as they arise rather than spend time to anticipate them.					
102	In order to reach my goals, I think of solutions that benefit everyone involved in the problem.					
103	I do very good work.					
104	There have been occasions when I have taken advantage of someone.					
105	I try things that are very new and different from what I have done before.					
106	I try several ways to overcome things that get in the way of reaching my goals.					
107	My family and personal life are more important to me than work deadlines I set for myself.					
108	I do not find ways to complete tasks faster at work and at home.					
109	I do things that others consider risky.					
110	I am as concerned about meeting my weekly goals as I am for my yearly goals.					
111	I go to several different sources to get information to help with tasks or projects.					
112	If one approach to a problem does not work, I think of another approach.					
113	I am able to get people who have strong opinions or ideas to change their minds.					

114	I stick with my decisions even if others disagree strongly with me.					
115	When I don't know something, I don't mind admitting it.					

Part F Performance

F1 Non-Financial Performance

Employee growth

116 You started with _____ employees

117 Current number of employees _____

118 Do you have enough employees (please tick) Yes □ No □

119 Do you intend to recruit more employees (please tick) Yes □ No □

	Sales growth Express your level of satisfaction	Very satisfied (5)	Somewhat Satisfied (4)	Neutral (3)	Somewhat Dissatisfied (2)	Very Dissatisfied (1)
120	Our sales growth performance during past three years.					
121	Our sales have been increasing significantly.					
122	Sales growth relative to direct competitors.					

Asset growth

123 Initial asset was worth _____

124 The total asset worth now _____

	Rate the following statement	Very satisfied (5)	Somewhat Satisfied (4)	Neutral (3)	Somewhat Dissatisfied (2)	Very Dissatisfied (1)
125	Our asset values have increased over the course of time.					
126	Our assets are having a constant growth rate.					
127	Overall, our business is growing at a steady rate.					

F2	**Financial performance**			
	Return on assets	2019	2018	2017
128	Total asset			
129	Net Income			
	Return on sales	2019	2018	2017
130	Operating profit			
131	Net sales			
	Profit margin	2019	2018	2017
132	Net Income			
133	Revenue			

Appendix III Bootstrap result of different relationships

Model	Relationship	Endogenous	Effect	Exogenous	Estimate	S.E.	C.R.	P	standardized estimate	R^2	p-value (Bootstrap)
SEM_1	Indirect	Enterprise_Risk	<---	Personal_Competency	0.24	0.05	4.44	***	0.36	0.13	0.00
		Performance	<---	Enterprise_Risk	0.09	0.09	0.98	0.33	0.06	0.00	0.39
		Performance	<--	Personal_Competency							0.40
SEM_2	Direct	Performance	<---	Enterprise_Risk	0.05	0.10	0.50	0.62	0.03	0.01	0.66
		Performance	<---	Personal_Competency	0.07	0.07	0.96	0.34	0.07		0.46
SEM_3	Indirect and Direct	Enterprise_Risk	<---	Personal_Competency	0.24	0.06	4.43	***	0.36	0.13	0.00
		Performance	<---	Enterprise_Risk	0.05	0.10	0.50	0.62	0.03	0.01	0.66
		Performance	<---	Personal_Competency	0.07	0.07	0.96	0.34	0.07		0.34

The total (direct and indirect) effect of **Personal_Competency** on **Enterprise_Risk** is significantly different from zero at the 0.001 level (p=.001 two-tailed). This is a bootstrap approximation obtained by constructing two-sided bias- corrected confidence intervals.

Appendix IV The final summary of main theme and sub-theme findings

Codes	Sub-theme	Main theme
Keeping track of products	Proactiveness	01 Personnel Characteristics
Conduct market survey		
Changing according to needs		
Volunteering to learn		
Being self-taught		
Being focused on their venture		
Trying to improve		
Being proactive and showcasing		
Getting information from the internet		
Keep working		
Making personal visits and talking		
Have the passion		
Started and worked alone		

Boosting brand name Show prototype Convince the community Working closely with the source Showcase what we know Working as pro bono Do not leave staffs unpaid Employees with job securities Show people we can deliver Give a Bhutanese brand name Get feedback Get certified Benefits and repo with employees	Trustworthiness	
Connecting with DAO Working together with other entrepreneurs Buying packing from rural artisans Getting guidance from experts Teaching others Training farmers to grow raw materials Voluntary contribution work to network Word of mouth Seeking help from others Give promotional donations Request retailers to recommend Meeting potential clients Create market for farmers Reaching out Collaborate	Ability to network	
Make better labels for businesses Start culture-based products Market survey before developing a product Reduce e-waste and provide top quality Be ready to help the government during pandemic Provide pro bono service Show case talents Looking for opportunities Taking opportunity when government banned import Diversify into related businesses Take advantage of the current pandemic Focus on whatever is available	Opportunist	

Don't mind about competitors Ability to embrace risks Trying to survive Differentiate by price, quality and quantity Entrepreneurs are problem solvers Being aware of the uncertainty Impart skills to empower youths Financial burden Invest and experiment Open to challenges Close monitoring Adapt accordingly Risk taker Sustain employees during pandemic Everything has risks	Positive attitude to risk	
Have relevant experience Degree in marketing Major in business Volunteering as artist Hands-on practice Team with relevant background Prior trained employees Exposure Trainings on risk Advance management trainings Marketing research in college Have the experience	Prior experience	

Bling horse crossing the river Boost brand and country name Connect with relevant officials Focus on culture and local material Prepare ourselves Youth empowerment Focus on standard trademarks Broad objectives Sustainable utilization of e-waste Goals of the firm Same product 40 years down the line Very systematic operations Clear identification of roles and responsibilities Have strategic roadmap Forecasting and making plans Have target to achieve Aim of solving problem One of the objectives SWOT analysis on the overall vision	Objective setting	02 Risk Management Processes
Risk of machines breaking down Employee quitting after getting experienced Move towards raw material source Playing with it Did a research about import Be mindful of the rent Sustain with high competition ISO certified company Challenges Delegation of duties Get established in the market Upcoming competitors Damage control Mitigate by forecasting and making plans SWOT analysis Employee attrition	Ability to foresee risks	

Low survival rate Do market survey before developing product First risk is to avail loan Do damage control Made few prototypes to test Plan A, B, C, D What kind of problem might arise in certain business unit? Manage risk to become successful Safety procedures and protocols in place	Risk assessment	
Act according to the situation Make best of the best qualities ISO certification Product differentiation and value addition Damage control Taking advantage of pandemic Knowing what is coming and survive through it Get certified Knowing about our culture Recruiting different types of employees Have safety procedures and protocols in place Taking care of hazardous wastes	Risk response	
Creating employment opportunities Empowering youth and underprivileged Empowering women	Employment	03 Government Support
Need help in procuring machineries Money for expansion Monitoring and inspection Better labor laws Support from banks Financial help Mentoring and guidance Employer protection Government collaboration with SMEs	Need government support	
Require testing equipment Skilled technicians Better machineries Technical expertise Specific job trainings	Technical capabilities	

Training on business functional areas Packaging training Train human resources Training and grooming Office management training Provide required trainings to entrepreneurs Make private sectors attractive by incentivizing trainings	Training and HRD	
Machines breaking down Employees quitting after getting experience Not able to produce high volume Access to payment gateway Systematic operations Monitoring all activities No technical experts in Bhutan Internal lockdown due to pandemic Getting spare parts Ignorant of using safety gears	Operational risk	04 Hazard Risks
No technical expertise No testing equipment No machine for mass production Need to improve know-how and technologies Hands-on practice Have technical expertise No skilled manpower	Technical capabilities	
Cannot work because of COVID-19 Couldn't do anything Cannot bring anything due to lockdown Onset of pandemic hampered our work Unexpected pandemic Current pandemic Currently closed due to the pandemic Lockdown due to COVID-19	Uncontrollable risks	

Boost brand and country name Show prototype Convince the community Gain trust Showcase what we know Work as pro bono Show genuine care and concern to employees Don't think employees as just resources Give a sense of purpose to employees Test product before selling Maintain good repo	Build trust	05 Strategic Risks
Products available from other countries No export Small market Similar businesses in and outside the country High competition in the market Customer preference for imported goods New entrant Political change Existing global brands	Competitor risks	
Network with officials and organizations Planning ahead Making culture-based products Youth/Women empowerment Focus on standard trademarks Reduce e-waste Set goals - short-term and long-term Set target Identify roles and responsibilities Have strategic roadmap	Objective setting	
Act according to the situation Getting ISO certified Product differentiation and value addition Damage control Know what is coming and act Getting certified by authorities Focus on whatever is available Have safety procedures and protocols	Risk response	

Access to finance Bookkeeping training Pricing competition Getting enough funding Proper financial knowledge Cash heavy business Getting financial help Problem of loan Market affected due to the pandemic	Cashflow risks	
A lot of risk with human resource No technical expertise Management of human resource No specialized lab technician Cannot get expertise from outside Limited skilled people Employee commitment and retention Employees feeling as just resources Biggest problem is human resource	Human resource risks	06 Operational Risks
Need help in procuring machineries Money for expansion Monitoring and inspection Better labor laws Support from banks Financial help Mentoring and guidance Employer protection Government collaboration with SMEs	Need government support	
Machines breaking down Employees quitting after getting experience Not able to produce high volume Access to payment gateway Systematic operations Monitoring all activities No technical experts in Bhutan Internal lockdown due to pandemic Getting spare parts Ignorant of using safety gears	Operational risk	

Been to regulatory authority 3 times Environmental clearance Stringent policy Following standards Government policies, rules and regulations Government banned import of furniture Lift ban on import of furniture Labor Act Certification Employer protection Impose fines	Regulatory changes	
Risk of getting raw materials Choosing location according to availability of raw materials Raw material got stuck due to pandemic Buying raw material from abroad Sustainability of raw materials Clients impacted by COVID-19 Creating market for products Getting packaging material Unavailability of raw material	Supply chain risks	
No technical expertise No testing equipment No machine for mass production Need to improve know-how and technologies Hands-on practice Have technical expertise No skilled manpower	Technical capabilities	
Training on business functional areas Packaging training Train human resources Training and grooming Office management training Provide required trainings to entrepreneurs Make private sectors attractive by incentivizing trainings	Training and HRD	
Cannot work because of COVID-19 Couldn't do anything Cannot bring anything due to lockdown Onset of pandemic hampered our work Unexpected pandemic Current pandemic Currently closed due to the pandemic Lockdown due to COVID-19	Uncontrollable risks	

Access to finance Bookkeeping training Pricing competition Getting enough funding Proper financial knowledge Cash heavy business Getting financial help Problem of loan Market affected due to the pandemic	Cashflow risks	07 Identified Risks
Import from abroad Not being able to export No volume production Similar products in the market Similar cultural products Internal competition High competition in the market New entrants Pricing competition Being above competition Existing global brands	Competitor risks	
A lot of risk with human resource No technical expertise Management of human resource No specialized lab technician Cannot get expertise from outside Limited skilled people Employee commitment and retention Employees feeling as just resources Biggest problem is human resource	Human resource risks	
Machines breaking down Employees quitting after getting experience Not able to produce high volume Access to payment gateway Systematic operations Monitoring all activities No technical experts in Bhutan Internal lockdown due to pandemic Getting spare parts Ignorant of using safety gears	Operational risk	

Risk of getting raw materials Choosing location according to availability of raw materials Raw material got stuck due to pandemic Buying raw material from abroad Sustainability of raw materials Clients impacted by COVID-19 Creating market for products Getting packaging material Unavailability of raw material	Supply chain risks	

Appendix V An overview of the respondent profile

Respondent ID	Category	Gender	Brief background
C1	Cottage	Female	The respondent C1 is the owner of a cookie making SME. Her business is in making cookies from the native cereals and grains available in Bhutan.
C2	Cottage	Male	The respondent C2 is into the business of making packaging materials from the reuse of used carboards. However, his business is still in the incubation process under the MoEA.
C3	Cottage	Male	The respondent C3 is a craftsman who started a miniature jewelry making business. The design and concept of the jewelries are based on the Bhutanese culture and traditions.
C4	Cottage	Male	The respondent C4 is a baker who bakes bread, cakes and other pastries. He also supplies built to order and customized celebration cakes such as birthdays, weddings, etc.
C5	Cottage	Male	The respondent C5 started a drift wood art business. He explained that his business makes

			use of drift woods or reuse used woods to make home decorations and furniture.
S1	Small	Female	The respondent S1 is founder of a women sanitary pad business. She intends to work towards the substitution of import of sanitary pads for women and make sanitary pads more affordable and healthier for women.
S2	Small	Female	The respondent S2 owns a bakery and a café. She also makes customized cakes and other bakery products for events and occasions.
S3	Small	Male	The respondent S3 is an owner of an agriculture-based business, which is into not only producing their own agricultural products but also into procuring agricultural produces from other farmers and packaging them for sale in the market.
S4	Small	Male	The respondent S4 started a socks manufacturing business. However, during the time of the interview, his business was temporarily closed due to the COVID-19 pandemic.
S5	Small	Male	The respondent S5 owns a metal fabrication and manufacturing unit in one of he special economic zones (SEZ). The business makes mainly window and door frames as well as other metal products.
M1	Medium	Male	The respondent M1 is an award-winning entrepreneur who started the business of printer cartridge recycling.
M2	Medium	Male	The respondent M2 is the only manager interviewed for this study. The rest are all

			owners of the SMEs. The business of the respondent M2 is into making essential oils and other related products from lemon grass.
M3	Medium	Male	The respondent M3 is the owner/CEO of a multiple business firm. His businesses include a consultancy firm, a production house, and a training service mainly geared towards animation.
M4	Medium	Male	The respondent M4 started his own furniture and interior décors business after retiring from a state-owned woodcraft business. Currently he is into making wood-based window frames, doors and interior decoration of buildings.
M5	Medium	Male	The respondent M5 is a co-owner of a multimedia production house producing feature films and other entertainment products.

Appendix VI Quantitative and Qualitative Findings

	Quantitative Findings	Qualitative Findings
Personality of the SME owners/managers	• SME owner/managers are strong in Opportunity Seeking, Persistence, Commitment to Work Contract, and Demand for Quality & Efficiency • SME owner/managers are moderate in Risk Taking, Goal Setting, Information Seeking, Systematic Planning & Monitoring, Persuasion and Networking, and Independence and Self-Confidence	• SME owner/managers are proactive, into building trust, networking, opportunity seeking, and have positive attitude towards risk. *Complementary findings*: • Different types of leadership styles among the owners/managers.

Enterprise Risk Management (ERM) processes	• Although Goal Setting is moderate according to PEC, Objective Setting has the highest mean of 3.83 on a 5-point scale. • This is followed by Information and Communication at 3.79 and Risk Identification at 3.78 • The lowest mean is 3.71 for Control Activities	• Objective Setting or ideas and phrases related to objective settings are the most frequently mentioned. • Other related terms mentioned are ability to foresee risks, risk assessment and risk response. *Complementary findings*: • Although they do not have formal ERM set up, they follow similar processes
SME performance	• Performance measured based on perception of sales and asset growths. • Only about 50% of the respondents are either Highly Satisfied or Somewhat Satisfied with their sales and asset growths • Significant number (about 40%) stated being neutral, while about 10% are dissatisfied	• Performance measures: Customer attraction, customer demand, employment, expansion plan, future scope, import substitution and quality. *Complementary findings*: • Almost all the SMEs interviewed were performing fairly well. • There is no dearth of market but some having problem with supply chain and raw materials • Government intervention required in terms of securing and improving supply chain
Identification of risks	• Considered under the Risk Identification process of the ERM.	• One of the objectives of the study is to determine if the SMEs are aware of the various risks and risk related terminologies. • SMEs are aware of Hazard Risks, Financial Risks, Strategic Risks, Operational Risks, and Uncontrollable Risks such as the COVID-19 pandemic • Most prominent risks are lack of technical capabilities leading to operational risks, human resource risks, competitor risks, supply

		chain risks and cash flow risks.
Government Support	Not included directly	*Complementary findings*: • Government support needed in terms of employment attraction, retention and incentivization • Government support also needed in terms of developing technical capabilities, training and human resource development. • Government support rendered in the form of tax support, entrepreneurship training and human resource development