Transcendence of Behavioral Finance in Corporate Financial Decisions and Its Impact on Corporate Performance: Evidence from Emerging Economies

(A doctoral dissertation PhD-Finance)

(Revised)

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Submitted in partial fulfillment of the requirements for the
PhD degree with the specialization in Finance
at the Faculty of Management Sciences,
International Islamic University,
Islamabad.

Supervisors:
Dr. Zaheer Abbas, Dr. Muhammad Faisal Rizwan 01 January, 2019

In the name of Allah, the most Beneficent and Merciful

DEDICATION

I dedicate this dissertation to Holy Prophet Muhammad (Peace Be Upon Him), my great parents, my all respected teachers, and my loving wife & daughter, whose support have enabled me to complete this research successfully, without which I would not have been at this juncture today.

(Acceptance by the Viva Voice Committee)

Title of Thesis: 'Transcendence of Behavioral Finance in Corporate Financial Decisions and Its Impact on Corporate Performance: Evidence from Emerging Economies.'

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ABSTRACT

Prior major studies in the field of corporate finance have centered on financial decisions and corporate performance. While studying the corporate performance and financial decision patterns, classical finance assumes that managers are rational and self-interested in their decision-making. However, behavioral finance contradicts this idea and provides evidence of irrationality in corporate decisions. For this purpose, our study investigated the effect of behavioral biases of corporate finance managers (i.e., self-serving, overconfidence, optimism, anchoring & representativeness, loss aversion and mental accounting) on three facets of corporate financial decisions (i.e. capital structure, dividend policy and working capital management), and how the corporate performance is affected by these financial decisions. This study also focused on the conditional impact of risk perception, financial literacy, and managerial skills on financial decisions of corporate finance managers. For the contextual contribution, the emerging economies like Pakistan, Malaysia, and Turkey have been chosen for the cross-country comparison. This study used primary data to address research questions. Questionnaire items were adapted from different authors, pilot tested and rephrased for numerous validity and reliability measures. The unit of analysis in this cross-sectional study was the financial decision makers of the corporate sector.

The results of this study concluded that overconfidence, optimism, anchor/representative and mental accounting bias have a positive impact on risk perception. However, loss aversion bias has a negative impact on risk perception. These relations are significant for all countries except loss aversion bias which is not significant for Malaysia. Self-serving bias has no impact on risk perception and overconfidence. This finding is consistent for all three counties. Risk perception negatively impacts on dividend policy decisions, positively impacts on the capital structure and working capital management decisions. Dividend policy and working capital management positively while capital structure negatively impacts the corporate performance. These results are also consistent with all three counties. Overall results concluded that the behaviorally biased managers impact corporate financial decisions.

The results of the moderation of financial literacy and managerial skills indicated that the moderating effect of financial literacy on the relationship of self-serving and anchoring bias with risk perception is not significant for all countries. Financial literacy is moderating the relationship of risk perception with overconfidence and mental accounting for all countries. The moderating effect of financial literacy with optimism on risk perception is supported for Pakistan and Malaysia, however, not supported for Turkey. The moderating impact of financial literacy with loss aversion bias on risk perception is supported only in Pakistan. The moderation of managerial skills on the relationship of risk perception and the corporate financial decision is not found significant for Pakistan, Malaysia, and Turkey. However, it is only significant in the relationship of risk perception and capital structure decisions of Turkey.

The risk perception fully mediates the relationship of overconfidence and capital structure while partial mediates with dividend policy and working capital management. The mediation of risk perception between self-serving and financial decisions is not significant for all counties. Moreover, it partially mediates the relationship of optimism and financial decisions while it fully mediates for anchoring for all three countries. Risk perception is not mediating the relationship of loss aversion and financial decisions in Malaysia while partially mediates for Pakistan and Turkey. Overall the mixed results show that in general, risk perception mediates the relationship of behavioral biases and corporate financial decisions. The comparison of family vis-à-vis non-family owned companies reveals that in family-owned companies, the effect of behavioral biases is escalating and vice versa.

Owing to the scarce evidence in the literature, this study not only contributes to the existing literature on behavioral aspects but opens some new horizon to understand the behavior of corporate managers of developing countries. This study tries to provide the opportunity for a better understanding of the heteroskedastic policies and decisions of individuals and groups. Based on results and discussion of the study, the policymakers are strongly recommended to look beyond the classical facets by focusing psychological aspects while hiring finance managers with desired experience, personality, management style, and problem-solving skills.

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DECLARATION

I, hereby declare that this thesis, neither as a whole nor as a part thereof, has been copied out from any source. It is further declared that I have prepared this thesis entirely on the basis of my personal effort made under the sincere guidance of my supervisor and colleagues. No portion of work, presented in this thesis has been submitted in support of any application for any degree or qualification of this or any other university or institute of learning.

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ACKNOWLEDGMENT

First and foremost, thanks to Almighty ALLAH, the most Gracious and Beneficent to all of us, who made me capable of learning, blessed me with the knowledge, facilitated me with the finest of the mentors and provided me with determination to complete the research work. The heartiest praise and honor for the Great Holy Prophet MUHAMMAD (Peace Be Upon Him) who enlightened the spirit of mankind with the essence of Islam and inspire us to attain the purposeful knowledge. I offer my sincerest gratitude to my respected supervisors, Dr. Zaheer Abbass and Dr. Faisal Rizwan who supported me throughout my thesis with their patience and knowledge whilst valuable suggestions and guidance. I attribute the level of my degree to their encouragement & efforts and without them, this thesis would not have been completed or written. I tender my sincere thanks to my great teachers, Dr. Syed Zulifqar Ali Shah who taught me behavioral finance, Dr, Arshad Hasan, and Dr. Bashir khan for their inspiring guidance and unstained help during my study period. I am indebted to Dr. M. Abrar and Dr. Sajjad Ahmed Baig, from National Textile University Faisalabad for their help and support during the compilation of my thesis. I pay my gratitude to my mother Mrs. Zeenat Naz, respectable father Mr. Khadim Hussain Khadim, who always pray for my success and want to see me prospering peak to my career. I could not have done this without the support of my wife Sara Zia, who was with me at every step. The completion of this thesis would be a mere dream without their sacrifices, encouragement, and moral support. It is not appropriate if I don't mention the people very close to me; my brothers, Dr. Muhammad Abdur Rehman Khadim, Muhammad Shuja ur Rehman Khadim, my caring sisters Dr. Sahar Naz, Dr. Sadaf Naz, Dr. Taiba Naz, Friends, whose prayers are always with me and great contribution during whole my studies. I also thank the office of Higher Studies and Research and Dr. Ch. Mazhar Hussain for their help. Lastly, I offer my regards and blessings to all of those, who supported me in any respect during the completion of the research.

Muhammad Zia-ur-Rehman

FORWARDING SHEET

The thesis entitled 'Transcendence of Behavioral Finance in Corporate Financial Decisions and Its Impact on Corporate Performance: Evidence from Emerging Economies' submitted by Muhammad Zia-ur-Rehman as partial fulfillment of Ph.D. degree in Management Sciences with specialization in Finance, has completed under my guidance and supervision. The changes advised by the external and the internal examiners have also been incorporated. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules & regulations.

Date:_____ Signature:_____

Name : _____

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CHAPTER 1:

INTRODUCTION

1.1 Background

In the last two decades, the application of behavioral finance theory to financial economics and corporate finance has received greater attention from academicians and practitioners. In different research streams, proponents of the growing field of behavioral finance argue that human psychology affects decision-making process, and it is important for our understanding of economic decision-making process (Kahneman & Tversky, 1979). According to Thaler, (1999), sometimes to find the solution of an empirical puzzle, it is necessary to entertain the possibility that some of the agents in the economy behave less than fully rational. Therefore, theories have been put forward under the umbrella of behavioral finance with a better description of real-world behavior of financial decision makers. This concept is not confined to the idea of homo economicus, whilst advocate psychological and information-processing constraints known as behavioral biases.

Starting with the classical finance theories, e.g., researchers consider how tax, financial distress, costing, various market factors, and firms characteristics affect

corporate decisions, where managers are assumed to be rational, having homogenous expectations, and working for self-interest (Fama, 1970). In contrast, evidence from the psychology literature suggests that people are far from fully rational (e.g., Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995; Ramiah, Zhao, Moosa, & Graham, 2016; Weinstein, 1980). The major difference between a classical and behavioral school of thoughts is the approach towards the understanding of financial decisions. Behavioral finance always seeks to explain the irrationality in the financial decisions which are influenced by the behavioral biases of individuals. These two approaches work head-to-head in the field of finance (Shefrin, 2001).

Corporate finance aims to describe funding sources, capital structure, analysis tools for the allocation of financial resources, and the policies to increase the value of the firm to shareholders (Modigliani & Miller, 1958). The previous literature on financial studies provides solid evidence on the relationship of the corporate performance and financial decisions patterns (Amidu, 2007; Shah, 2010; Zariyawati, Annuar, Taufiq, & Rahim, 2009; Zeitun & Tian, 2007). While considering these important corporate financial decisions, classical finance argues that executives and managers are rational and self-interested in their decision-making. However, as proposed by behavioral finance theory, if irrationality exists in the corporate decisions, the classical finance has no answer to it.

The revolutionary studies have provided evidence of the psychological biases, explaining irrationality in the financial decisions amongst the different hierarchical levels of the managers in corporations (e.g. Thaler, 1993; Malmendier & Tate, 2002; Bhutta & Ali Shah, 2015; Cain & McKeon, 2016; Lewellen, Park, & Ro, 1996; Ramiah, Zhao, Moosa, & Graham, 2016). Shefrin, (2001) argued that the irrational decisions

result in a cost. A firm has to bear several costs in case of top-level managers' irrational decisions.

The previous literature posits several types of psychological biases[1], which affect financial decision-making. Shefrin, (2000) stated that individuals are 'overconfident' in their decisions and they neglect the existing facts. They rate their knowledge and skills higher than average individuals do. Goel & Thakor, (2008) argued that overconfident managers take excessive risks. Whereas 'optimism' bias is a sentiment of a person regarding the probability of a future event to be positive, is usually very high (Puri & Robinson, 2007; Smith, 2013; Weinstein, 1980). Top managers are more prone to 'self-serving' bias (Lewellen et al., 1996; Li, 2010; Shefrin, 2008). They usually attribute success as a result of their skills and capabilities, whereas failures to the external factors (Gervais & Odean, 2001; Shefrin, 2007). Shefrin & Statman (2000) showed a significant relationship between 'loss aversion' bias and risk perception of the managers in their decision-making. People are more sensitive to decrease in values than to increase. Tversky & Kahneman (1981) suggested that the use of mental accounts or psychological accounts to appraise certain actions with several outcomes show that 'mental accounting' bias is a way of framing a decision.

The association of above discussed behavioral biases with corporate financial decisions has given new insights to the corporate finance and known as behavioral corporate finance. The corporate decisions can be discussed in two folds, long-term and short-term financial decisions, i.e., capital structure, dividend policy, and working capital management respectively.

[1] The definitions of the behavioral biases from literature are summarized in Appendix D

The previous literature depicted that working capital policies are behaviorally influenced (Ramiah et al., 2016). The working capital managers are behaviorally biased, and their decisions exhibit the irrationality and eventually, deviate from optimal selection (Ramiah et al., 2016; Zhao, 2011). Moreover, behaviorally biased managers may also tend to make irrational decisions and risking the policies of capital structure (Barros & Silveira, 2007). Biased managers make riskier decisions by increasing the financial distress and bankruptcy cost maintaining an irrelevant capital structure (Hackbarth, 2008; Lewellen et al., 1996). As far as dividend payment decision is concerned, optimistic and overconfident managers may skip to pay dividends and prefer to invest the amount of retained earnings for the financing of new projects (Ali & Anis, 2012).

In a nutshell, this thesis contributes to the understanding of the association of managerial biases, i.e., self-serving, overconfidence, optimism, anchoring/ representativeness, mental accounting, and loss aversion with corporate financial decisions and how these financial decisions taken by biased individuals, impact corporate performance. The thesis also focuses on the importance of catalyst role of managerial skills, financial literacy and risk perception for above-stated relationships as it was discussed by the previous literature (e.g., Botterill & Mazur, 2004; Coleman, 2007; Heaton, 2002; Stanovich & West, 2008).

1.2 Family vis-à-vis Non-Family Owned Companies in Emerging Economies

As a contextual contribution, this thesis is comparing family vis-à-vis non-family owned companies in three emerging countries. According to the corporate governance research of last decade, it was documented that most of the publicly-traded

firms are family owned (Faccio & Lang, 2002). This finding has triggered a considerable body of research that seeks to understand the governance of family-owned firms and their impact on firms' performance. This paradigm of the family-owned corporate sector has instigated practitioners to analyze the financial decision-making process. Rosenblatt, (1985) defined a family-owned firm as, *'Any business in which majority ownership or control lies within a single family and in which two or more family members are or at some time were directly involved in the business.'*

The most important aspect of family-owned companies is the irrationality in decisions. The decisions in family-owned companies are taken by the members of the family (who own the business) themselves. The family-owned firms lack formalized financial planning. Thus such type of decision making among firms may result in biased decisions which contribute to the performance of the firm (Renfrew, 1984).

As discussed above, several studies have highlighted the rapid growth of family-owned firms and its development as public limited companies (Anderson & Reeb, 2003; Villalonga & Amit, 2006) however, meager evidence has been witnessed regarding the study of behavioral aspects of financial decision making, governance, and controlling of family-owned firms.

As a conclusion, it can be stated that the most important aspect of the family-owned firms is the irrationality in decisions due to monarchism and this effect is triggered in emerging economies, e.g., low and middle-income economies like NEXT-11 countries identified by Goldman Saches (Lawson, Heacock, & Stupnytska, 2007). As a contextual contribution, the study is conducted in Pakistan, Malaysia, and Turkey having similar economic conditions and corporate structure.

1.3 Significance of the Study

The prior studies in corporate finance have centered on corporate financial decisions and corporate performance only. For example, the major emphasis of literature has been on capital structure, dividend policy as long-term decisions and working capital management as short-term financial decisions, the specific domains of the corporate finance (e.g., Zia-ur-Rehman, Rizwan, & Abbas, 2018; Amidu, 2007; Shah, 2010; Zariyawati et al., 2009; Zeitun & Tian, 2007). In the literature, rare evidence was found which explored the behavioral perspectives of all long-term and short-term financial decisions of corporate finance. Most of the studies have been supported by the secondary data of financial ratios and governance (e.g., Malmendier & Tate, 2002; Cain & McKeon, 2016; Zhao, 2011). To the best of our knowledge, in the context of Pakistan, no comprehensive empirical study based on primary data exists in the literature on behavioral corporate finance. This study tries to bridge this gap, presents in the previous literature.

1.4 Research Gap

The study is novel in many ways from prior studies. First, it focuses on the behavioral aspects of corporate financial decisions (i.e., capital structure, dividend policy decisions as long-term financial decisions and working capital as short-term financial decisions). Secondly, it considers the impact of financial literacy in financial decisions in the corporate sector. More interestingly, the study also focuses on analyzing the impact of managerial skills in controlling risk perception. Thirdly, the study focuses on identifying the irrationality among management regarding the risk perception while exhibiting potential behavioral biases.

Fourthly, the emerging economies like Turkey, Malaysia, and Pakistan have been chosen for two reasons. First, these countries can easily be compared as they face almost similar economic conditions and second, these economies are included in Next-11 developing countries (Lawson et al., 2007). The comparison of these countries

reveals the behavior of the corporate sector in the context of behavioral aspects like Pakistan vis-à-vis Turkey and Malaysia. According to the available literature, no study has been conducted in Pakistan, which compares the developing countries in the context of these behavioral biases. Therefore, the study is not only robust the existing literature on behavioral aspects but tries to fill this gap. It also opens some new dimensions to understand the behaviors of the corporate manager in the developing countries.

Lastly, the study explores the relationships between financial decisions and corporate performance. The study covers the major spectrum of decision-making in family versus non-family owned companies. The outcomes of the study may help the financial analysts, managers, decision makers, and all stakeholders to understand the impacts of the behavioral biases on financial decisions as well as the impact of the corporate financial decisions on the corporate performance.

1.5 Problem Statement

The behavioral corporate finance grabbed the attention of several authors and provided them with a gap to be filled with new contributions and theories (e.g., Barros & Silveira, 2007; Fischhoff et al., 1977). The behavioral corporate finance proposed that the financial decision makers are human beings, and they are subject to psychological biases in their decision-making process. Therefore, it tries to explain the irrationality in the corporate decisions and the impact of the behavioral biases on the decision-making process of managers (Hidayati, et al. 2014). Whereas, classical finance insisted that executives and managers are rational and self-interested in their decision-making. This contrary argument calls for a detailed investigation of this problem.

The dimensions of corporate finance are (a) long-term and (b) short-term financial decisions. The long-term financial decisions include the decision-making

strategies for the capital structure and the dividend policy decisions while working capital management is considered as the short term financial decisions (Berk & DeMarzo, 2014). Tomak, (2013) investigated the relationship between overconfidence and the capital structure of the firms in Turkey. He mainly focused on the manufacturing firms of Turkey for this study. Oran & Perek, (2013) investigated the relationship between optimism and capital budgeting decision. Nor, Ibrahim, Haron, Ibrahim, & Alias, (2012) investigated the relationship of capital structure practices in Malaysian firms. However, rare literature is found in three countries of our research interest (Pakistan, Malaysia, and Turkey) which has addressed the relationship of six behavioral biases (self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting) with financial decision making (capital structure, dividend policy, and working capital management) and ultimately impact on firm performance.

Overall, the problem of the study can be concluded that the classical finance has failed to explain the full phenomenon of corporate financial decisions and explanations from behavioral finance is inevitable, e.g., the impact of behavioral biases on corporate financial decisions and firm performance.

1.6 Purpose of the Study

As evident from the previous literature, the classical finance is unable to address the anomalous or irrational behavior of managers in financial decisions. On the other hand, behavioral finance tries to address the same issue from a psychological perspective. For example, the theory of bounded rationality is one of the few behavioral assumptions which explains the irrationality i.e. (1) processing capacity Simon, (2013), (2) cognitive economizing (Fiske & Taylor, 1991; Simon, (1990), and (3) cognitive biases (Kahneman & Tversky, 1974). These three aspects progressively build on each

other to bound human rationality. Therefore, the purpose of our study is to explore the impact of behavioral biases on corporate financial decisions (short-term and long-term), and how these decisions contribute to corporate performance. For this purpose, this research focuses on the role of behavioral biases (i.e. self-serving, overconfidence, optimism, anchoring & representativeness, loss aversion and mental accounting) in the three facets of corporate financial decisions (i.e. capital structure, dividend policy and working capital management), and how the corporate performance is affected by these financial decisions. Furthermore, it also focuses to investigate the moderating impact of financial literacy and managerial skills for the above-stated relationships. The study also focuses that how the behavioral biases impact the managers in perceiving risk associated with all financial decisions and its entailing effects on corporate performance.

Cultural theory of risk perception states that due to their cultural differences, managers can change their perception of risk. People behave differently towards risk sensitivity due to this phenomenon. According to this phenomenon, it is revealed that the cross-comparison of financial managers of three countries, i.e. Pakistan, Malaysia, and Turkey may be novel and will explore new horizon. similarly, family vis-à-vis non-family owned companies are compared to capture the differences in the above stated relationships.

Overall, this study explores the new insights in behavioral corporate finance by establishing the relationships of behavioral biases and financial decisions with corporate performance.

1.7 Research Questions

Based on above-stated discussion, this study investigated the following research questions:

- ✓ How behavioral biases influence the risk perception of managers while making financial decisions in the corporate sector?
- ✓ Does financial literacy moderate the relationship between risk perception and behavioral biases of managers in the corporate sector?
- ✓ How risk perception mediates the relationship between corporate financial decisions and behavioral biases?
- ✓ Do managerial skills moderate the relationship between risk perception and corporate financial decisions?
- ✓ How corporate financial decisions impact the corporate performance?
- ✓ Does any difference exit in family vis-à-vis non-family owned companies in developing countries, i.e., Pakistan, Malaysia, and Turkey?

1.8 Objectives of the Study

The major objectives of the study are as follows:

i. To investigate the impact of behavioral biases on risk perception in the corporate sector

ii. To explore the moderating role of financial literacy between behavioral biases and risk perception while taking the corporate financial decisions

iii. To find out the mediating role of risk perception between behavioral biases and corporate financial decision

iv. To examine the moderating role of managerial skills between risk perception and corporate financial decisions

v. To study the impact of corporate financial decisions on the performance of the firm

vi. To determine the differences in family-owned vis-à-vis non-family owned companies in developing countries, i.e., Pakistan, Malaysia, and Turkey

1.9 Summary of the Chapter

This chapter presents the introduction and background of the research thesis. Later in this chapter, the research gap, research problem, the purpose of the research, research questions and objectives of the study are explained in detail, and this chapter debates, why this research is being conducted. At the end of this chapter, organization of the rest of the thesis is discussed. Next chapter 2 deals with the theoretical framework and related literature review of the study.

1.10 Organization of Thesis

Next chapters of the thesis are organized as depicted in figure 1 below. **Chapter 2** discusses the literature review and theoretical framework of the study. It presents an epigrammatic review of studies focusing on behavioral biases, financial literacy, managerial skills, risk perception, financial decisions, and corporate performance. The discussion on hypotheses development in light of previous literature & theories, and supporting research questions have also been explained in this chapter.

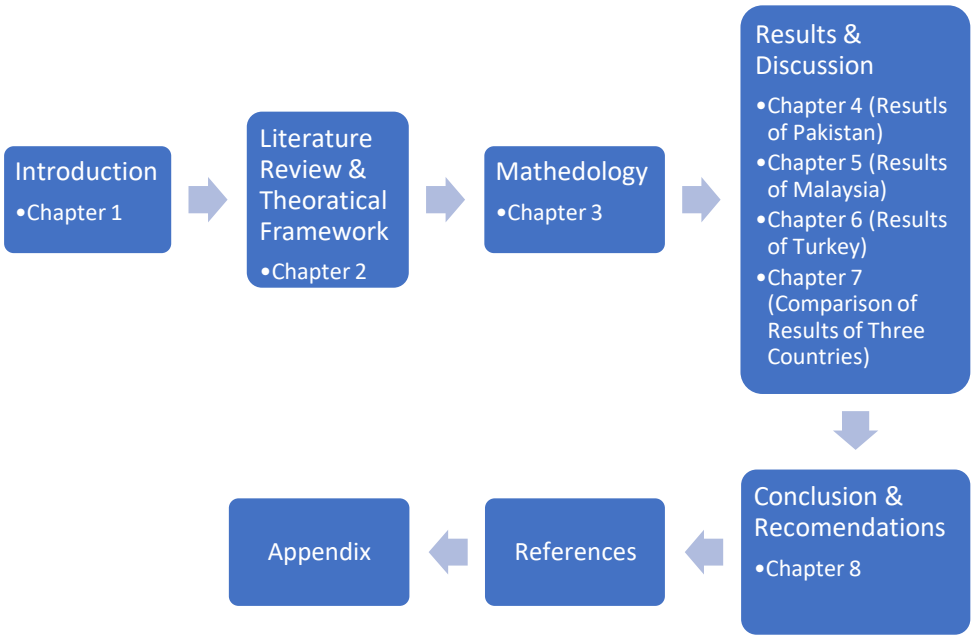

Figure 1: Thesis Organization Diagram

Chapter 3 discusses the methodology of the study, which includes a selection of the research instrument and its development in the light of previous literature. It also explains the sampling technique, data collection method and reasons for using primary data for this study. Next, this chapter discusses Partial Least Square Structural Equation Modeling (PLS-SEM) approach, its uses for evaluation of our model and importance. At the end of the chapter, statistics have been presented about questionnaire validity, missing data, outliers, and un-engaged responses.

The next chapters of our thesis are about analysis, results, and comparison of three countries. Each chapter (**Chapter 4, 5 and 6)** represents the results of each country separately. These chapters include descriptive and disruptive analysis with the related discussion. The descriptive analysis describes the statistics about the demographic variables while the disruptive analysis compares the biases statistics with other variables of the theoretical model. Afterwards, measurement and structure model results are explained which include statistics about the direct path, mediations, and

moderations. Each hypothesis is discussed with the results of their respective country dataset. In **Chapter 7** a comparison of the results of all three counties is made, and the findings are discussed with respect to the research question in the light of existing literature and theories.

After explaining all results in detail, **Chapter 8** presents the conclusion of the research study for each country and its implications. In the first section of this chapter, the results for the research questions are concluded with a disruptive analysis of all three countries. Then implication and contribution of the study are explained which include the academic, practical and contextual contribution of the study. In the last section of the chapter, limitations and future direction of research are discussed.

CHAPTER 2:

THEORETICAL FRAMEWORK & LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review and theoretical framework of the study. It presents an epigrammatic review of studies focusing on behavioral biases, financial literacy, managerial skills, risk perception, financial decisions, and corporate performance. The first section of this chapter illustrates the theoretical framework and development of the model. The second section of this chapter discusses the previous literature, empirical findings along with a discussion on supporting theories and hypothesis development according to research objectives.

2.2 Theoretical Framework

Behavioral Finance, a new paradigm in the discipline of finance, explains financial problems from a psychology perspective. In psychology, human behavior has some deviation in the judgment in a particular situation, especially when the conditions are uncertain. These patterns of deviation are known as behavioral biases. The theory of bounded rationality is one of the few behavioral assumptions, shared by most behavioral finance scholars across a broad range of corporate finance research (March, 1994; Mumby & Putnam, 1992). It has three interrelated dimensions (Foss, 2003; Simon, 2009) : (1) processing capacity (e.g., Simon, (2013), (2) cognitive economizing (e.g., Fiske & Taylor, 1991; Simon, 1990), and (3) cognitive biases (e.g., Kahneman &

Tversky, 1974). These three aspects progressively build on each other to bound human rationality.

Over the last six decades, bounded rationality research had evolved from the introduction of satisficing (i.e., Simon, 2013) to the examination of heuristics (e.g., Newell & Simon, 1972) to the investigation of biases and errors arising from cognitive shortcuts (e.g., Kahneman & Tversky, 1974; Pohl, 2004). This evolution was driven by advances in evolutionary psychology, social psychology, neuropsychology (e.g., Cowan, 2000; Shiffrin & Schneider, 1977) and by behavioral and experimental economics (e.g., Kahneman & Tversky, 1979; Amos Tversky & Fox, 1995).

As the underpinning theory, bounded rationality may explain the theoretical framework of the financial decision in the corporate sector. As the thesis' first research objective is: to investigate the impact of behavioral biases on risk perception in the corporate sector, we selected the most appropriate biases such as self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting which are highly impacting on risk perception and corporate finance decisions (Barber & Odean, 2001; Heaton, 2002; Moore & Healy, 2008; Shefrin & Thaler, 2004; Tversky & Kahneman, 1991; Wright & Anderson, 1989).

Kahneman & Tversky, (1979) presented the prospect theory of loss aversion bias. According to this theory, a person must take a decision under risk with two different outcomes either gain or loss. People have different perceptions for the gain/loss because of the behavioral perspectives, in this concept loss appears more as compare to gain. People that are loss averse, they become very sensitive when they choose between two alternatives and they only consider the 'loss' part rather than 'gain' part (Bondt & Thaler, 1995).

'*Brunswikian*' theory of confidence explained overconfident behavior regarding financial decisions. This theory showed that people with a greater perspective of confidence are more willing to take the higher risk as compared to others (Coleman, 2007b). In the literature, the managerial biases were identified by systematic discrepancies between the regularities of intuitive judgments and the principles of probability theory. In this theory, Tversky & Kahneman (1974) explained that other than distortion in decision making, it has also been found that behavioral biases, such as overconfidence, cannot only result in poor decision making but also increase in cost.

Some other psychological theories that also explain the behavioral side of the managers are important to understand (Sternberg & Ruzgis, 1994). For example, the overarching theories span the people's experience and sometimes the part of the lifelong experience. The self-authorship theory of overarching explains the person's ability to collect, interpret and analyze information and reflects on one's own beliefs to form a judgment. This theory explains that the person's own belief also effects on his ability to collect information, interpret and analyze it. It means that other than the macroeconomic factors, the person's personal beliefs and experiences also impact on their decisions.

On the other hand, the cross dimensions theory explains that cultural factors also have great precision on a person's decision making. As in many cultures, the uncertainty index is different. The lower degree in this index shows more acceptance of differing thoughts or ideas.

The transition theory of psychology explains any event, which results to change in routine, assumptions or role. The managers may suffer from new challenges every day, and they need to cope with change. When it comes to the financial sector, the little change or bad time decisions can lead to disaster. So according to this theory, change

must opt on time with good cognition. In the light of discussed theories above, it is concluded that human behavior may deviate from rationality in judging or perceiving the uncertain situation. Therefore, managers in the corporate sector may take riskier decisions or vice versa which may drastically impact on the performance of the firms.

The second research objective of the thesis is; to explore the moderating role of financial literacy between behavioral biases and risk perception while taking the corporate financial decisions. Financial literacy may play a much more central role in the theory of bounded rationality, by putting an additional argument of TCE's bounded rationality assumption in addition to the components of this theory, i.e., processing capacity limitations as financial literacy, cognitive economizing in the form of cognitive biases.

The third objective of the thesis is: to find out the mediating role of risk perception between behavioral biases and corporate financial decisions. The personality theory of risk perception supports this relationship. According to this theory, personality shows discrimination in managers' risk-taking and risk-aversion propensities. Some people are adoration to take risk, and some are risk averse. They try their best to avoid risk. More risk-taking is involved when a person gets personal and professional success. A person's interpersonal traits develop the risk perception. People with aggressive personality take more risk; they show sensation-seeking behavior when making risky decisions (Wildavsky & Dake, 1990). Weber & Milliman, (1997) studied the risk perception and risky decision-making process; they link the risk perception with the personality traits. The extreme behaviors perceived by financial decision makers are risk-seeking as high-risk perception and risk aversion as low-risk perception. Conclusively, the role of risk perception as mediator is proposed for supporting our third objective of this thesis.

The fourth objective of the thesis is: to examine the moderating role of managerial skills between risk perception and corporate financial decisions. The one element of bounded rationality theory 'processing capacity limitation' explains this relation. According to this theory, people perceive that they have perfect knowledge regarding any function or decision. However, this false assumption may lead to incorrect estimation of an optimum solution, and it becomes more difficult in the case of uncertainty (Simon, 1972). However, the managerial skills may moderate this limitation by introducing a more accurate solution to the problem by a specialized set of skills.

The fifth objective of the thesis is: to study the impact of corporate financial decisions on corporate performance of the firm. The main purpose of corporate management is to maximize corporate value. This objective is associated with three major financial decisions of companies, i.e., working capital management, capital structure, and dividend decisions. It is in accordance with the three principles in corporate finance proposed by Damodaran, (2010). He also stated that when making financial decisions, the corporate finance looks at the three decisions as something separated in achieving the goal of maximum corporate performance. Various theories discussed corporate financial decisions which affect the performance of the firm. Miller & Modigliani, (1961), who gave a theory of irrelevance also known as MM theory, argued that dividend doesn't matter for shareholders because in perfect markets dividends don't have any effect on the value of the firm. It doesn't matter for shareholders whether they receive cash in the form of dividends or incorporated in share prices, and they get it in the form of capital gains. Gordon, (1963) gave a theory known as 'The Bird in the Hand Theory,' which suggests that to minimize future risk, investors prefer cash in hand, rather than the promise of future capital gains.

Capital structure decisions are some of the core decisions of today's businesses. The inclusion of debt in the capital structure may affect the overall performance and market value of the company. Modigliani & Miller, (1958) propounded a theory of capital structure, known as MM theory, which states that there is no optimal capital structure because each structure is based on different assumptions like the perfect market, no taxes, etc. After their research, a lot of researchers in the world tried to find out different determinants of capital structure. Toy, et. al, (1974) found growth, profitability and international risk as the determinants of capital structure. Altman, (1984); Baxter, (1967) presented Static Trade-Off Theory which states that if firms' assets and investment decisions are kept constant, the optimal capital structure can be attained at the level where tax benefits obtained by debt financing balances out debt related costs like financial distress and bankruptcy. Myers & Majluf, (1984) presented packing order theory which states that firms follow a sequence in financing. To finance, firms prefer to use internally generated funds like retained earnings; if more funds are required, they will move towards debt financing, and as the last option they opt for equity financing. This order may be due to the fact that internally generated funds don't have floatation cost and don't have disclosure requirements. Schiantarelli & Sembenelli, (1999) investigated the effects of firms' debt maturity structure on profitability for Italy and United Kingdom. They found a positive relationship between debt maturity and performance. A study by Barclay, Smith, & Watts, (1995) provides evidence that large firms and firms with low growth rates prefer to issue long-term debt. In summary, a firm's performance can be affected by the capital structure choice and by the structure of debt maturity. Debt maturity affects a firm's investment options. So, investigating the impact of capital structure variables on a firm's performance will provide evidence of the effect of capital structure on firm performance.

Third important financial decision is working capital management. For the theoretical base, the ground-breaking article 'Toward a Theory of Working Capital Management' by Sagan, (1955) can be considered as a base. He advocates that the management of accounts receivable, accounts payable, inventories and cash is vital for the operational functions of a firm. In line with the research objective, the survey conducted by Gentry et al. (1979) showed that the most crucial objective of a business is to provide cash, receivables, inventory, and short-term credit necessary to support anticipated sales in the defined planning period. The pioneering work of Weinraub & Visscher, (1998) contributes to the development of aggressive and conservative working capital policies, with the goal of determining if industry differences exist in working capital policies. Following their work, further studies on aggressive and conservative working capital policies are conducted by Nazir & Afza, (2009). In the light of above discussion, it is important to investigate how the bipolar decisions of working capital management affect the performance of the firm.

The last objective of this thesis is: to determine the differences in family-owned vis-à-vis non-family owned companies of developing countries, i.e. Pakistan, Turkey, and Malaysia, is supported by the cultural theory of risk perception (Douglas & Wildavsky, 1982). This theory has discussed four type of people: egalitarian, individualistic, hierarchic and fatalistic. Individualistic and hierarchic people are positively relevant to the risk-taking, on the other hand, egalitarian people are associated with risk aversion. This theory also states that due to their cultural differences, the managers can change their perception of risk. Conventional attitude theory suggests that a person's attitude is the function of his believes and values. People behave differently towards risk sensitivity due to this phenomena (Weber & Milliman, 1997). While comparing different countries, Bontempo, Bottom, & Weber, (1997)

studied the risk perception and the culture differences which impact on person's risk-taking or avoiding behavior. They showed that Chinese people are more risk seekers as compare to the Americans and other countries. From above discussion, it is revealed that the cross-comparison of financial managers of three countries i.e. Pakistan, Malaysia, and Turkey may be novel and will explore new horizons.

On the basis of the above discussion of the theoretical framework, the model of the thesis is presented in figure 2.

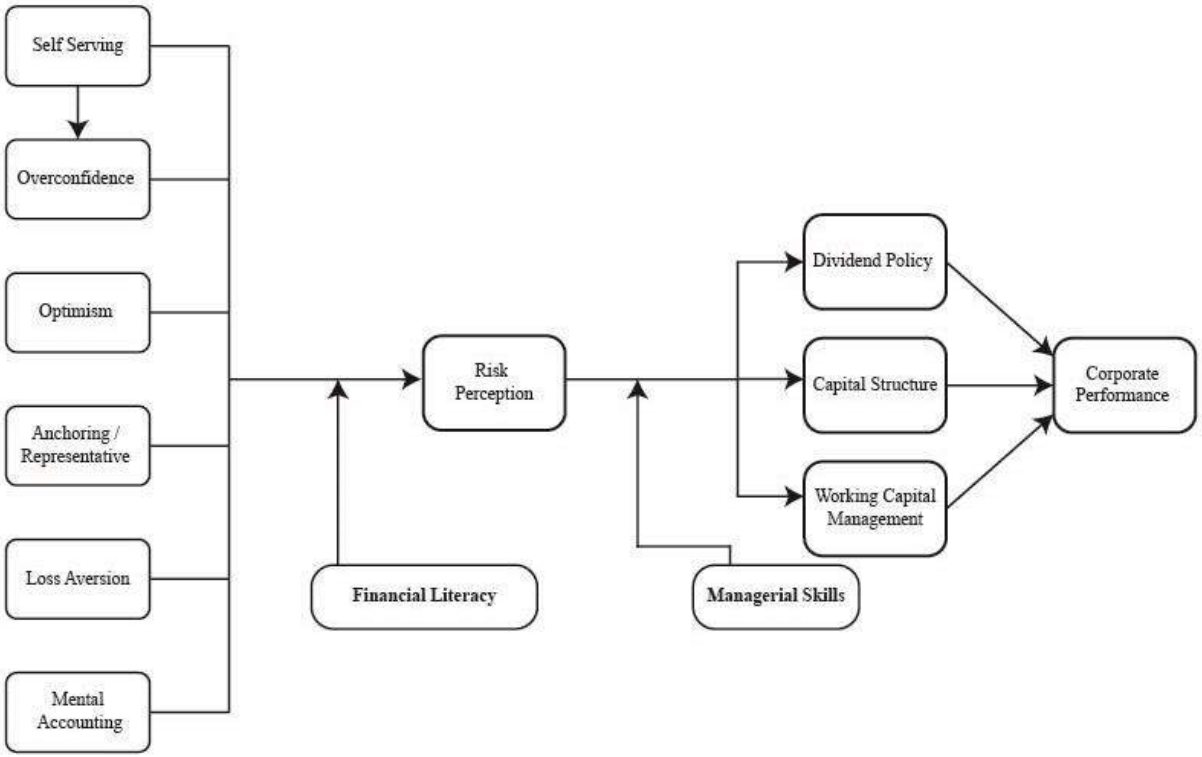

Figure 2: Theoretical Model of the Research

The purpose of the study is to explore the impact of behavioral biases on corporate financial decisions (short-term and long-term), and how these decisions contribute to corporate performance. In totality, the research focuses on behavioral perspectives of financial decisions made in the corporate sector e.g. the role of behavioral biases (i.e. self-serving, overconfidence, optimism, anchoring & representativeness, loss aversion and mental accounting) in the three facets of corporate financial decisions (i.e. capital structure, dividend policy and working capital management), and how the corporate performance is affected by these decisions. The moderating role of financial literacy and managerial skills is also observed between behavioral biases, corporate financial decisions and corporate performance of the firm.

2.3 Literature Review

2.3.1 Classical and Behavioral Finance

As an established fact, all the financial decisions and policies are made by human beings albeit, an important debate has been going on for the last three decades between two school of thoughts 'rationalists' who assume that economic agents behave rationally, against 'behaviorists', who assume that they behave in systematically irrational ways. However, in this debate, the subscribers undoubtedly hold excessive views, with many of those advocating a more psychologically realistic view of economics. Currently, we are in a transition phase between the two above stated paradigms (Stiglitz, 2010). The researchers in traditional or classical finance tend to explain financial decisions as maximization of objective goals and only subject to individual budgetary constraints. Moreover, it is stated that investors being rational, only evaluate risk and expected returns while making financial decisions. Certainly, classical school of thought in financial economics make few assumptions about decision maker psychology in all financial and economic models, e.g. 'The conceptualization of 'Homo Economicus,' i.e. the always rational economic man, is refused in behavioral finance. It has been considered difficult to achieve by irrational decision makers as proposed by the behavioral school of thought.

2.3.2 Historical Background of Behavioral Finance

The history of behavioral finance in general psychology of decision-making process can be traced back to 150 years ago. Scholars, theorists, and practitioners of behavioral finance have backgrounds from a wide range of disciplines and foundations, which are based on an interdisciplinary approach including social and business sciences.

Like the other branches of finance, behavioral finance also has certain people who have provided major theoretical and empirical contributions i.e. Daniel Kahneman, who was awarded the 2002 Nobel Memorial Prize in Economic Sciences and Amos Tversky, who was the collaborator with Daniel Kahneman and the figure in the discovery of systematic human cognitive bias and handling of risk. Robert J. Shiller is a 'Nobel Laureate[2]', a behavioral economist, academic and best-selling author. Shiller received the 2013 Nobel Memorial Prize in Economic Sciences as well. Richard Thaler, the writer of Quasi-Rational Economics and The Winner's Curse, is perhaps the best known as theorist in behavioral finance. He is one of the most important economists of our era. His work on behavioral economics reshaped economics and had far-reaching implications for public policy, which earned him the Nobel Prize in Economics recently.

2.3.3 Behavioral Biases

The recent literature on finance has provided several pieces of evidence that behavioral biases are associated with corporate financial decisions. The merging of psychological factors with financial decisions has gained the attention of noticeable authors (e.g., Griffin & Tversky, 1992; Kunda, 1987; Thaler, 1993, etc). Literary work on behavioral finance has bought revolutionary changes in the theories of finance. Experimental studies have made the subject more interesting and motivating researchers to explore the area. The literature of the biases relevant to the financial variables exists in abundance. The detailed literature review of the behavioral biases in line with our objectives is as follows:

[2] See list of all noble laureates at http://www.nobelprize.org/nobel_prizes/lists/all/

2.3.3.1 Self-serving

Self-serving behavior is a common bias, which has been widely studied by social and behavioral practitioners. A psychological phenomenon first studied in social and behavioral sciences is now being examined widely in management sciences and especially in finance. In view of numerous studies concentrating on the efficiency of financial decision making, several aspects of self-serving behavior has been explained by number of authors which they had observed in their studies (e.g. Choi & Lou, 2010; Iqbal & Butt, 2015; Kim, 2013; Li, 2010; Libby & Rennekamp, 2012; Miller & Ross, 1975; Ramiah, Zhao, Moosa, & Graham, 2016; Tsang, 2002).

Shefrin (2007) defines self-attribution as 'the tendency of a person to rate their success with self-capabilities & skills and to blame the failure as a result of other factors'. In another definition, it has been defined as 'readily acceptance of the people forming causative theories for their covetable outcomes, and immediate rejection of causative theories of their inadmissible outcomes' (Kunda, 1987). 'The behavioral tendency of biasness towards self-perception of good than the self-perception of bad while facing a tradeoff is known as self-serving bias' (Prentice, 2000). People usually attribute successes to their skills & capabilities and failures to external factors. Psychologists have found that many individuals are prone towards self-serving bias. Individuals tend to attribute achievement with their abilities (Shepperd, Malone, & Sweeny, 2008). Individuals are keen to do what they think is right to do according to them; as a result, they are facile claiming for the good results (Prentice, 2000).

The evidence of self-serving bias in economics and finance was found by several types of research who intended to establish a relationship between the financial decision making and behavioral aspects (e.g., Gervais & Odean, 2001; Kim, 2013; Ramiah et al., 2016). The authors have found that managers are more prone to self-

serving bias than investors (Bettman & Weitz, 1983). In respect to the theory of self-serving bias presented by most of the authors in behavioral corporate finance, it has been stated that the bias does not directly affect the decision making the process of managers. However, it drives the managers to be overconfident (Libby & Rennekamp, 2012; Kafayat, 2014). More specifically, self-serving bias is the behavior in which every human credits good performance with inherent and innate factors. Whereas human nature always repudiates the cause of poor performance and either bond it with outermost factors (Libby & Rennekamp, 2012a).

Kunda (1987) designed a study to determine the subsistence of self-serving bias in human nature. In the study, the core emphasis of evaluating the self-serving behavior was tested in certain causal theories. The human behavior may not be consistent with the favorability and non-favorability of the situation. Theories comprehending the self-serving behavior emphasize on the individual's behavior perception regarding the role of their innate skills in future performances. One of the key factors to be mentioned here is the motivation that is likely to arise from a successful event or good performance. Whenever a person achieves success or out-performs in a task, motivation arises which makes them overconfident and they overestimate their skills. However, self-serving bias is a behavior not only emanated from the cognitive process of the human's mind, though motivational forces are also one of the reasons behind these behaviors. Prentice (2000) carrying his work on self-serving bias and behavior of auditors have come-up with certain interesting results. In his study, he observed that auditors are also exposed to self-serving behavior as an ordinary human being does. Regarding the matter concerned with auditor's behavior, the author noticed that subjects were overwhelmed by well-built financial clients and at the same time, they were shielding themselves against poor financial clients.

In the literature, self-serving bias is also measured through a well-designed experiment. Farmer & Pecorino (2002) produced an experiment consisted of plaintiff accusing defendant of a suit in a court. In this experiment, the author had designed a screening game where plaintiff and defendant could interact for the bargaining of settlement. Two factors are considered essential for this settlement. Firstly, the study considers the self-serving behavior of both the defendant and plaintiff. Secondly, information asymmetry is also considered a pivotal factor for the settlement between the two parties. They studied that defendant with self-serving bias might demand heavy amount for trial. Defendant having superior information regarding the trial would be unlikely accepting the demands of the plaintiff. In the second scenario, if the defendant is biased and makes an offer to the plaintiff who has superior information is likely to refuse the offer and would decide for alleging the defendant in the trial.

Libby & Rennekamp (2012) observed how behavioral factors influence managerial forecasting decisions. The results of the study indicated that behavioral biases have a pivotal role in managerial forecasts and decision-making. Following successful performances in recent times, managers do credence success with their innate skills. For this reason, managers become overconfident due to their self-serving behavior, and they make irrational decisions and forecasts. Similarly, Lewellen, Park, & Ro (1996) introduced the self-behavior in discretionary information disclosure. They argued that managers are biased when providing the company's stock return performance compared to those of average industry performance. The results of the relationship between the causal reasoning and the performance of the firm were similar to Bettman & Weitz (1983). It is concluded from the analysis of the data that managers value their innate skills for good performance and blame other factors for the poor performance of the firm. Moreover, the causal reasoning of a person can have a pivotal

effect their decision-making and ultimately the performance of the firm. If the causal reasoning is based on biased logic and theories, decisions will be irrational and risky which may be a major cause for the inefficiency of management in the corporate affairs and operations (Tsang, 2002).

Adding to above discussion, Choi & Lou, (2010) presented a different insight to self-serving bias. They studied consequences of self-serving on behavior. When a person, based on recent performances, evaluates the upcoming event, it may result in wrong decision. According to the theory proposed, when investors experience positive outcome from recent investment decision, it makes investors so overconfident that they put their investment without any valuation and analysis of the information available to them in the market. This causes risky decisions which ultimately may end in loss, because of poor analysis of the situation (e.g. Doukas & Petmezas, 2007; Li, 2010). Li, (2010) explained the relationship between self-serving bias and a manager's corporate policy making. Managers always acclaim for good performance and blame others for poor performance. In corporate meetings and discussions usually, managers use first person pronoun to make themselves visible to acclaim for the good performance (Kim, 2013). This behavior makes managers more confident as they believe the reason for good performance is their own skills. Whereas at times of poor performance, they use 2nd and 3rd person pronoun for crediting the other factors reasonable for failure. However, inexperienced managers exhibit self-serving bias more than skilled and experienced managers. While discussing more precisely the findings of the study, it had been revealed that the self-serving behavior of managers regarding the benchmark earnings for their organization is negatively correlated with their own companies' performance.

Most importantly, Ramiah, Zhao, Graham and Moosa (2012) posited the model of working capital management and self-serving bias. They argued that the managers exhibiting self-serving bias are more prone to adopt those techniques, which are related to internal factors and avoid adopting external factors techniques in managing working capital. Self-attributed biased managers perceive risk in different manners. Based on the evidence from the literature, it can be concluded that managers are prone to self-serving bias.

2.3.3.2 Overconfidence

Overconfidence is a behavior of an individual regarding the perception of the future performance of a certain decision or an event (Ali & Anis, 2012). According to Pompian, (2006), overconfidence is the most important and frequently studied topic in behavioral finance. Overconfident person overestimates their abilities, judgments and outcomes of their decisions. Shefrin (2000) has argued that individuals pretend to overestimate their knowledge, skills, capabilities, and decisions considering themselves better than others, however, actually they are not. Social psychologists through their experiments have concluded that people overestimate their knowledge & capabilities, and neglect the risk factor of their decisions. And they are hopeful for the success of their future outcome (Nofsinger, 2001). Studying the trading volume of male and female investors, overconfidence bias had either been defined as the slipping-up of one's knowledge and information (Barber & Odean, 2001). Griffin & Tversky, (1992) define confidence as a proportion of weightage and strength of the information. Thus, overconfidence takes place when a person strengthens the evidence greater than its weightage.

Apart from its distinction in social sciences, certain nascent studies have also found that overconfidence behavior of a person usually dominates the ability of

financial decision making of investors as well as managers (Ali & Anis, 2012). Regarding financial markets and corporate sectors, psychological factors in decision making have been experimented in three aspects namely; investor sentiments, investor biasness, and managerial biasness (e.g., Barber & Odean, 2001; Barros & da Silveira, 2007). In areas of finance, such as corporate and investment markets, various scholars have been perpetuating their theories through experiments, theorems, and qualitative research based on preliminary, primary and secondary data collection (e.g. Barber & Odean, 2001; Ben-David, Graham, & Harvey, 2007; Malmendier, Tate, & Yan, 2007; Oberlechner & Osler, 2008).

In the previous literature, several evidences studied and experimented overconfidence bias in managerial decisions making at corporate level (e.g. Ben Atitallah Rihab & Ben Jedidia Lotfi, 2016; Deshmukh, Goel, & Howe, 2009; Goel & Thakor, 2002, 2008; Huang, Tan, & Faff, 2016; Huang, Lambertides, & Steeley, 2012; Koellinger, Minniti, & Schade, 2007; Malmendier & Tate, 2005a; Russo & Schoemaker, 1992). Executive managers have to form corporate policies based on their future precision of events, thus future prediction-based policies are most probably dominated by overconfidence behavior. Corporate policies are subjected to the characteristics of top-level executives, particularly to their behavioral traits, as they play an important role in decision-making.

Top executives in corporations, being overconfident, increase the values of cash flows by lowering the discount rates. Furthermore, using long-term loans, purchasing more debts and lowering dividend payout are corporate policies of an overconfident executive (Ben-David et al., 2007). Overconfident CEOs overestimate the quality of their investment projects and view external finance as unduly costly (Malmendier & Tate, 2005b). Overconfident managers see debt as a source of funding, less focus on

firm undervaluation (Hackbarth, 2008). Such type of managers overlook the cost of finances from external sources, and hence they push their firms into financial distress (Rihab & Lotfi, 2016). Being subjected to the bias, managers highly weigh their firms' future cash flows, and blame market circumstances for the undervaluation of their firms, these type of managers believe the external source of financing as costly, and hence they prefer to utilize retained cash (Malmendier, Tate, & Yan, 2011). Similarly, Riepe, (2014) found that firms with overconfident CFOs have a low tendency to payout dividend and have higher propensity to involve in market timing and more focus on voluntary disclosures.

When managers have an option of funding the investment from retained earnings, they become overconfident and make investments lavishly, thus ignore the information before making decisions. As a result, the aftermath of this decision will be lack of confidence if there is an investment distortion, future investment funded from long-term debts would be affected to a great extent (Malmendier & Tate, 2002b). Ramiah et al., (2016) concluded that overconfident working capital managers rely heavily on their estimation models and forecasting. Other than distortion in decision making, it has also been found that behavioral biases, such as overconfidence, cannot only result in poor decision making but also increase in cost due to irrational decisions (Russo & Schoemaker, 1992). Overconfidence bias also varies in gender. Males are more effete of this bias in the comparison of females (Barber & Odean, 2001). However, Prince, (1993) concluded that it is more prominent in younger people.

Contrary to the above arguments, Goel & Thakor (2008) concluded that overconfidence is also one of the pivotal characters that may be considered essential for managers, more specifically for top-level managers. Managers who are overconfident, more likely to be promoted at executive positions, because they seek a

higher level of risk and it is likely to enhance the performance of a firm, however, the previous discussion concluded that excessive overconfidence among managers tends them to overlook the information and make decisions based on their instinct.

From the above discussion, it can be concluded that overconfidence bias affects the financial decision of corporate managers.

2.3.3.3 Optimism Bias

Optimism bias is defined, 'the belief of an individual regarding a probability of a certain outcome would be positive.' In other words, optimism bias is overemphasizing the possibility of good results and misjudges the possibility of negative results, consequently prominent to additional risk seeker behavior in financial decision-making (Heaton, 2002; Kahneman & Lovallo, 1993). Individuals are called optimistic when they believe that their decisions will not fail and future outcomes will not go beyond their expectations, whilst the probability of a positive outcome is greater than the negative outcome (Weinstein, 1980). Optimism is categorized as self-deception by Hirshleifer (2001), while Metcalfe, (1998) claimed that it was not solely attributable to self-deception, but slightly generated by the cognitive system and in mixture with heuristics.

The evidence of optimism bias exists in literature. A pioneer study of Roll, (1986) contented that managerial behaviors are optimistically biased in corporate financial decision-making and they deviate from the principles of rationality. People consider auspicious events to be more likely than they really are, is recognized by Alpert & Raiffa (1982), Buehler, Griffin, & MacDonald (1997), Kunda (1987) and Weinstein (1980). Malmendier & Tate (2005) have found that over-optimistic managers take value-destroying activities as they overrate the revenues to their

speculation schemes and view exterior funds as unduly costly. As they over-invest, when they have ample interior funds, but limit investment when they need external financing.

Managerial optimism had been examined in various aspects of corporate decision- making. These are mergers and achievements, speculation and funding decisions, and business decisions (Bouwman, 2014; De Meza & Southey, 1996; Kacperczyk & Kominek, 2002; Landier & Thesmar, 2008; Manglik, 2006; Mohamed & Shehata, 2017; Paleari & Vismara, 2007). On the relationship of optimism and financial decisions, previous work emphasized that firms with excessively optimistic managers select higher leverage ratios (see, e.g. Graham et al., 2012; Malmendier, Tate, & Yan, 2011). Landier & Thesmar, (2008) found that optimistic managers prefer short-term debt for their firms. Top managers' optimism positively affects problem gratitude and problem-solving activities, however, negatively affects the firm's performance (Papenhausen, 2006). Meinert(1991) argued that entrepreneurial managers are highly prone to optimism bias. The previous literature is mixed on the effects of optimism bias for managers. However, it can be concluded that optimism has a significant relationship with financial decisions.

Campbell, Gallmeyer, Johnson, Rutherford, & Stanley, (2011) showed theoretically that optimism can lead a risk-averse Chief Executive Officer (CEO) to choose the first-best investment level that maximizes shareholder value. Optimism below (above) the interior optimum leads the CEO to underinvest (overinvest). Using a large sample of turnovers, they find strong empirical support for this prediction.

Anderson & Galinsky, (2006) investigated the hypothesis that the sense of power increases optimism in perceiving risks and leads to more risky behavior. For this purpose, five studies carried out and concluded that the effects of power on risk-taking

were mediated by optimistic risk perceptions and not by self-efficacy believes. Furthermore, these effects were attenuated when the high-power individual felt a sense of responsibility.

From the above discussion of the literature, it can be concluded that optimistic managers affect the financial decisions of the firm.

2.3.3.4 Anchoring and Representative Bias

The notion of anchoring in decision making was first introduced by Slovic (1967), who studied descriptions of preference reversals (discussed by Chapman & Johnson, 1999). According to Tversky & Kahneman (1974), 'the anchoring effect is the disproportionate influence on decision-makers to make judgments that are biased towards an initially presented value'. Kahneman & Tversky, (1972, 1973) suggested that 'representativeness refers to making an uncertain judgment on the basis of the degree to which (1) it is similar in essential properties to its parent population; and (2) reflects the salient features of the process by which it is generated'. Anchoring and representative bias are a heuristics when an individual makes decision anchoring their mind to irrelevant and illogical information and makes irrational decisions (Pompian, 2006). Several authors have argued that anchoring and representativeness bias are similar and interdependent (DeBondt & Thaler, 1995; Ramiah; Zhao; Graham and Moosa., 2012; Zhao, 2011)

Several studies had illustrated the prevalence of anchoring effect in human decision-making processes. They have demonstrated that anchoring and representative affect in a variety of domains: such as legal punishing verdicts (Mussweiler & Englich, 2005), own damage decisions (Chapman & Bornstein, 1996), possibility of diseases (Brewer, Chapman, Schwartz, & Bergus, 2007), job performance assessment (Latham,

Budworth, Yanar, & Whyte, 2008), judges' positions in rivalries (Ginsburgh & Van Ours, 2003), and real estate achievements (Northcraft & Neale, 1987) and many others (e.g. Anchorage, 2014; Campbell & Sharpe, 2009; Caputo, 2014; Epley & Gilovich, 2006; Furnham & Boo, 2011; Ishfaq & Anjum, 2015; Marsden, Veeraraghavan, & Ye, 2008; McElroy & Dowd, 2007; Mussweiler & Strack, 2001). Vashisth et al., (2010) shown that stockholders invest in 'famous stocks' as previous information; however, despite of the stockholders overlooked the recent previous information while making an investment decision. Representativeness indicates persons to form prospect judgments that analytically interrupt Bayes's rule (see Grether, 1980; Kahneman & Tversky, 1974; Tversky & Kahneman, 1973). Representative bias can be witnessed as the long run effect of anchoring bias.

In their popular book on behavioral economics, Belsky & Gilovich (1999) advise decision makers that they may be prone to anchoring and representative bias if they make financial decisions without research. They are especially loyal to certain brands/investments for the wrong reasons; they find it hard to see investments for less than they paid for them and they rely on the seller's price rather than assessing the value themselves. They advise people to avoid the pitfall of anchoring by broadening their board of advisors; doing more thorough research before making economic decisions; looking at trends, being realistic, taking the longer view; and showing a little more humility when it comes to one's own judgment. Recently, the practical applications of anchoring have received great attention in the business world. For example, in the negotiation process, an initial offer may serve as an anchor to assimilate final judgment (Galinsky & Mussweiler, 2001).

Top-level managers in corporate firms are involved in anchoring bias. Ramiah; Zhao; Graham and Moosa (2012) argued that top-level managers are biased of

anchoring while deciding the working capital policies. His study concluded a significant relationship between anchoring and working capital management decisions. Arguing on working capital decisions, Ramiah et al., (2012) stated that anchored managers follow the material requirement planning for inventory management. The study also highlighted the importance of the relationship of anchoring bias and debt management. Top managers with anchoring bias do not hesitate in offering debts to firms who once paid their debt on time even though the firms having poor credit ratio. Emotions are usually used explicitly as information in judgment situations, or they can indirectly influence decision making by changing how people process information (Englich & Soder, 2009).

As contrary evidence, Bhutta & Ali Shah, (2015) extended the relationship of corporate entrepreneurship and agency cost to firm performance, in the presence of behavioral biases. They selected non-financial sector of Pakistan and New York stock exchange to measure the corporate entrepreneurship, behavioral biases, and risk perception. The data for the variables were collected from annual reports of the firms for three years. They concluded that anchoring bias does not impact the entrepreneurial orientation. The executives perform entrepreneurial activities differently and vary from individual to individual.

Kratz & Wenning, (2016) studied the effect of anchoring bias on financial analysts' forecasts. They also studied the forecasts made by Swedish stock analysts and checked whether anchoring bias is a factor that affects forecast errors in their EPS estimates. Results show no evidence of anchoring bias impact on analysts' forecasting errors.

From the previous literature, it can be concluded that anchoring and representative bias affect the financial decisions of managers.

2.3.3.5 Loss Aversion

Kahneman & Tversky (1979) proposed the prospect theory, which is known as the origin of loss aversion bias. This theory explains the reasons of irrationality under some circumstances, where an individual exhibits behavior in which the pain for loss is usually greater than the joy of gain of the same magnitude. Shleifer (2000) argued that losses are perceived greater than the gains of the same volume and this phenomenon is loss aversion. The concept of loss aversion is very important and has received great attention in economic analysis. Loss aversion is now frequently applied in behavioral finance. Loss aversion refers to *'people's tendency to prefer avoiding losses to acquiring equivalent gains: it's better not to lose $5 than to find $5. What distinguishes loss aversion is that the utility of a monetary payoff depends on what was previously experienced or was expected to happen'* (Tversky & Kahneman, 1992).

Many studies showed that the impact of losses is greater than the effect of gains (Novemsky & Kahneman, 2005; Zhang & Fishbach, 2005). Eric, Gächter, & Herrmann (2010) investigated the loss aversion in risky choices and found that loss aversion depends on age, gender, occupation, and effects on the ability of risk-taking, in financial decisions. Blavatskyy & Pogrebna (2007) showed that people become more aggressive when they lose the amount on the other hand if they gain the same amount, the pleasure is much less than their aggressiveness on the loss.

Moreover, loss-averse decision makers become very sensitive when they have made a choice between two alternatives and they only consider the probability of loss rather than gains (Bondt & Thaler, 1995). Andersson, Holm & Wengström, (2013) concluded that decision takers are less loss averse when they act as agent however when they have to take decision for themselves, they become irrational and more loss averse. Most of the time managers are likely to be loss averse to avoid risky decisions.

Ert & Erev, (2013) clarifies these results by highlighting six experimental manipulations that tend to increase the likelihood of the behavior predicted by loss aversion. These manipulations include: (1) framing of the safe alternative as the status quo; (2) ensuring that the choice pattern predicted by loss aversion maximizes the probability of positive (rather than zero or negative) outcomes; (3) the use of high nominal (numerical) payoffs; (4) the use of high stakes; (5) the inclusion of highly attractive risky prospects that create a contrast effect; and (6) the use of long experiments in which no feedback is provided, and the computation of the expected values is difficult. The results argued that the possibility of learning in the absence of feedback: The tendency to select simple strategies, like 'maximize the worst outcome' which implies 'loss aversion,' increases when this behavior is not costly.

Barberis & Huang, (2001) studied equilibrium firm-level stock returns and investigated that investors are loss averse over the fluctuations of their stock portfolio. They found that the typical individual stock return has a high mean and excess volatility, and there is a large value premium in the cross-section which can, to some extent, be captured by a commonly used multi-factor model.

Devers, Wiseman, & Holmes, (2007) investigated the effects of endowment and loss aversion in managerial stock option valuation and showed that stock option holders overvalue un-exercisable options relative to options being offered and to normative (e.g., Black-Scholes) valuations. The results suggest that during stock option valuation, managers draw on heuristics that financial options theory and models fail to capture.

Willman, Fenton-O'Creevy, Nicholson, & Soane, (2002) examined the management of traders in financial markets from the perspectives of agency and prospect theory. They argued that managers focus on avoiding losses rather than

making gains and this focus emerges from the characteristics of managers and the nature of their role.

From the above discussion, it can be concluded that managers treat the gain and losses differently and it affects their financial decisions.

2.3.3.6 Mental Accounting

The concept of mental accounting was first introduced by Thaler (1999), stating, 'Mental accounting is the state of mind in which a person tracks financial activities and allocate money in different segments in the result of subjective reasons.' Studies suggested that individuals whose doing mental accounting are indulged in narrow framing and are sentimental to small gains and losses (Tversky & Kahneman, 1981).

The theory of mental accounting suggests that people keep a mental account to evaluate losses and profits for a business transaction. Gourville & Soman, (1998) also argued that the perception of gain and profit related to a transaction is evaluated after concluding overall losses and gains so that it can be positive or negative. Consistent with Paul, (2014) people use their past expertise to form future predictions. The perceived-expertise acts because of the main supply of data for the future course of action. The process of the data takes place within the human minds through a fancy operation. The operation may be a mental activity and termed as mental accounting.

Previous studies indicated that people allocate a specific mental account for expenses, income and activities to particular mental accounts (e.g. Anolam, Okoroafor, & Ajaero, 2015; Choi, Laibson, & Madrian, 2009a, 2009b; Peterson, Hoyer, & Wilson, 1986; Heath & Soll, 1996; Rob Ranyard & Abdel-Nabi, 1993; Shefrin & Thaler, 1988; Thaler, 2008). According to Heath & Soll, (1996) grouping and utilization of money employ two purposes. Firstly, it simplifies the calculations of mental accounts, and

secondly, it acts as a device for self-control through prevention of overspending on a particular product category. Individuals and organizations develop implied or specific accounting system to maintain the flow of daily financial transactions (Thaler, 1985).

Huffman & Barenstein, (2005) investigated that mental accounting limits the borrowing through the expense and limits their spending. Thaler (1985) developed a hypothesis on capitalist market behavior through mental accounting and found that stock selection for investors is according to the implication of mental accounting. Sefrin & Statman (1985) concluded that stock investors keep a different mental account for each investment. The evidence on the relationship between mental accounting and the risk-taking behavior of corporate managers in their financial decisions is rare. Few studies had focused on this relationship (e.g., Anolam et al., 2015; Coleman, 2007; Weber & Johnson, 2009). From the above discussion, it may be concluded that the process of financial decision-making is vulnerable to metal accounting of managers.

Lim, (1985) tested, whether investors' trading decisions are influenced by their preferences for framing gains and losses? This research concluded that investors are more likely to bundle sales of losers on the same day than sales of winners and its findings were also consistent with Bondt & Thaler's (1985) implication of mental accounting which defines that individuals attain higher utility by integrating losses and segregating gains.

It is concluded that managers do mental accounting are indulged in narrow framing, and it affects the risk perception and financial decisions.

2.3.4 Risk Perception

The risk is defined as 'the uncertainty or a probability that an outcome may occur or not'(Linnas, 2012). In the real world, the information is not fully available nor

does every person has the same and equal quantity of information. Thus, this type of availability of information may lead to the existence of risk (perception, propensity or behavior) in decisions (Ackert & Deaves, 2009). Risk perception is 'the subjective judgment that people make about the characteristics and severity of a risk' (Douglas, 1986).

Hillson & Webster (2004) claimed that risk perception is influenced by many factors such as cognitive and emotional. Similarly, Olsen & Cox, (2001) investigated the emotional dimension of risk perception. Gärling et al., (2009) indicated that the perception of risk is an important part of the financial decision-making process and it is affected by many variables such as demographics and personality. Weber & Milliman, (1997) studied the risk perception and risky decision-making process; they linked the risk perception with the personality traits. Risk seeking as high-risk perception and risk aversion as low-risk perception are the extreme behaviors, perceived by financial decision makers. Bontempo, Bottom, & Weber, (1997) study the risk perception and the cultural differences that impact a person's risk-taking or avoiding the behavior. They showed that Chinese people are more risk seekers as compare to the Americans and respondents of other countries.

Several studies have found a significant relationship of risk perception with financial decisions (Bhutta & Ali Shah, 2015; Coleman, 2007; Parhankangas & Hellström, 2007; Ramiah et al., 2016; Schoemaker, 1993; Simon, Houghton, & Aquino, 2000). Behavioral biases are the main determinants of risk perception (DeJoy, 1989; Ert & Erev, 2013; Helweg-Larsen & Shepperd, 2001; Ishfaq & Anjum, 2015; Simon et al., 2000). They argued that behavioral biases increase/decrease the level of risk perception of corporate managers.

2.3.5 Behavioral Biases and Risk Perception

Behavioral biases influence the individual's information, and the construal, they arrive at; biases can influence risk perception (Barnes, 1984; Schwenk, 1984). According to the objective of the study, a discussion on the relationship of the behavioral biases with risk perceptions is as follows:

2.3.5.1 Self-Serving and Risk Perception

Behavioral biases can be a reason for persons to neglect the negative outcome and the ambiguity related to their decisions (Barnes, 1984; Doukas & Petmezas, 2007; Gilovich & Griffin, 2002; Hogarth, 1981; Schwenk, 1984), thereby leading to the sarcasm of risk (Cooper, Woo, & Dunkelberg, 1988; Shaver & Scott, 2002).

The previous literature on investors' self-serving bias depicted that shareholders usually take on the inappropriate level of financial risk, trade too insistently, and amplify personal market instability (Choi & Lou, 2010a; Mishra & Metilda, 2015). Moreover, the beginner shareholders are constantly overconfident that they may do better than the market; most of them fail to do so (Hsu & Shiu, 2010). Individuals with self-attribution bias can, after a good investing period (it may be one quarter or one year) have believed that this success is because of their acumen as investors rather than to feature out of his management. Such behavior can lead to much risk, as an investor become too much self-assured in his behavior.

For corporate managers, Li, (2010) has shown in his study that managers have self-serving bias and this bias has implications for corporate policies. He concluded that managers are having self-serving bias take a high level of risk, and the high performance of the company make them overconfident, and they usually attribute success to themselves. He also reported that they tend to have higher leverage, are more

likely to repurchase stocks, and are less likely to issue dividends. In line with the above argument, Simon et al., (2000) concluded that self-serving bias directly influences risk perception of individuals when they start new ventures.

Ramiah, Zhao, & Moosa, (2014) have claimed that firms focus to control risk and cash conversion cycle. They reported that managers with the self-serving bias pay more devotion to aspects such as exchange rates, inflation rates, market liquidity, efficient financial systems, technological advances, market regulations, financial/banking environment, economic environment, and security costs. Finally, their results showed that self-serving bias affects the control of risk. From the above discussion the hypothesis H_I is proposed

H_I: Self-serving bias has a significant relationship with risk perception of corporate finance managers

The existing literature presents an evident discussion of the significant relation between self-serving and overconfidence bias (Kafayat, 2014). The self-serving, biased individuals are overconfident of their abilities and knowledge. They under-estimate threats and risks associated with their decisions. The study of Li, (2010) indicates that Individuals can have innate overconfidence. However, even if individuals start without overconfidence, the self-serving attribution bias can lead them to become overconfident, as demonstrated in Gervais & Odean, (2001). To the extent that self-serving bias leads to overconfidence and overconfident managers tend to make more value-destroying deals. Li, (2010) showed that the managers having this kind of biasness, tend to overinvest because they have higher investment-cash flow sensitivity and have more negative stock returns around merger announcements. Finally, these firms tend to have higher leverage and more likely to repurchase stock, and are less

likely to issue dividends (Li, 2010, Gervais & Odean, 2001). From the above discussion the hypothesis H_{Ia} is proposed

H_{Ia}: Self-serving bias has a significant relationship with the overconfidence of corporate finance managers

2.3.5.2 Overconfidence and Risk Perception

Overconfident managers rate their knowledge and skills higher than averagely confident managers (Kafayat, 2014). If managers are confident about their decisions, they underestimate chances of losses while taking risky decisions. This error occurs when they overestimate their knowledge about events (Ricciardi, 2004). Parhankangas & Hellström (2007) explained that how experienced managers take more risk, they concluded that experienced managers become overconfident about their decisions and they consider themselves expert. By ignoring the risk factors, they go towards the merger and acquisition, which somehow destroy value of a firm.

Odean, (1998) investigated that investors with greater degree of overconfidence mostly chose risky portfolio as compare to those with lower degree of overconfidence. Having high degree of overconfidence, investors are likely to invest in riskier portfolio (Branger, Schlag, & Wu, 2007). Overconfident managers pick negative net present value project while making capital budgeting decisions, this risk taking behavior in long run effects company performance (Chen, Kim, Nofsinger, & Rui, 2004). Coleman, (2007) explained that overconfident managers overestimate project's negative net present values and take excessive risk. Overconfident CFO's most of the time select the residual dividend policy to finance the new projects. By skipping the dividend distribution, it increases the risk vis-à-vis reduces the firm value (Deshmukh et al., 2013).

Coleman, (2007b) concluded that when individuals have confidence about their decisions and its outcomes, they take more risk. Moreover, the overconfident person always overvalues his/her own knowledge and does not consider the existing factors that are valuable for decision making (Shleifer, 2000). Similarly, overconfident managers always highly rate their knowledge, skills, capabilities, and consider themselves as smart decision makers than others. As a result, they seek more risk by overconfidently relying on their skills and knowledge (Nofsinger, 2001).

The studies so far conducted in the domain of behavioral corporate finance have supported the idea of relationship between the overconfidence bias and risk perception. Overconfidence tends to produce biased perceptions of risk leading to the pursuit of riskier behavior. The overconfident person fails to recognize the full degree of risk (Kahneman, D., & Lovallo, 1993). Decision makers who possess inflated views of their abilities are less risk-averse (Gervais, Heaton, & Odean, 2011). Overconfident CEOs do not need incentives to maximize the market value of the firm's equity – that is what they believe, they are doing already. Options could even push them towards risk-loving behavior and investments which are riskier (and lower NPV) than shareholders prefer, especially given that the CEOs already overestimate the expected value of those gambles (Malmendier & Tate, 2005b).

Broihanne, Merli, & Roger, (2014) showed that risk perception and overconfidence strongly affect the risk-taking behaviors of professionals. Financial professionals are overconfident in both the general and the financial domains. The errors made by the professionals are related to the amplitude of their confidence intervals with respect to risk perception and forecasted volatility.

In a nutshell, we can conclude that managers, who are overconfident, have a negative impact on corporate financial decisions and by overvaluing their knowledge

and available information; they may increase the risk of the firm. Therefore, from the above discussion the hypothesis H_{II} is proposed:

H_{II}: Overconfidence bias has a significant relationship with risk perception of corporate finance managers

2.3.5.3 Optimism and Risk Perception

Optimism bias among managers tends them to make risky decisions. Shleifer, (2000) argued that optimist persons perceive higher risk relying on the expectation of the positive outcome of their decisions. The riskiness in corporate financial decisions is due to mainly of the optimistic approach of managers in decision making (Hirshleifer, 2001). DeJoy, (1989) showed that while comparing our own risk with others, many errors influenced this process. Thus, it is rational to suggest that minor experience with a fastidious risk may increase optimism and that person may also be mainly optimistic in reaction to highly doubtful events.

Glaser, Schäfers, & Weber(2008) concluded that managers are optimistic and they voluntarily increase their exposure to company-specific risk more often than they reduce it. Hmieleski & Baron (2009) demonstrated a negative relationship between entrepreneurs' optimism and the performance of their new ventures. Optimistic managers overvalue the rate of earnings (Hackbarth, 2008). The optimism bias is much similar to the over-confidence bias. The difference between the two biases is that overconfident manager overestimates the skills and knowledge for a current situation whereas optimistically biased manager will overestimate the probability of the positive outcome of future decisions.

Findings of Heaton, (2002) suggested that managers would be more optimistic than investors to believe that they can control the outcome of the firm's investments.

They become higher risk taker due to this behavior and managers have more at stake in the outcomes of the firm than a diversified investor. According to the Hackbarth, (2008) optimistic managers in corporate decisions perceive debt to be undervalued. Optimism produces a perception of lower default risk due to the higher perceived growth rate of earnings. According to Broihanne, Merli, & Roger, (2014) optimism enhances risk-taking. They demonstrated that managers are willing to assume more risk which is driven by optimism. In the light of above discussion, we can draw the hypothesis H_{III}:

H_{III}: Optimism bias has a significant relationship with risk perception of corporate finance managers

2.3.5.4 Anchoring/Representative and Risk Perception

One of Kahneman and Tversky's biases is known as anchoring/representative is backed by the similar work of Slovic & Lichtenstein, (1971). Busenitz (1999) recommended that business risk can be connected to anchoring/representative bias. They investigated how industrialists use cognitive biases, which results to recognize a certain amount of risk in a given decision situation. Shiller, (2003) stated that anchoring leads to a biased perception, that is pretty much away from the beginning valuation and mostly these perceptions can lead to erroneous results to investors that are why risk level enhances. It means that a prior accessible value disturbs investor when he has to predict an unidentified quantity. Ganzach, (2000) told that initial information not only affects an investor's perception but on his/her decisions based on prior experiences also.

Ramiah et al., (2016) and Zhao, (2011) have considered representative bias as a long run of anchoring bias and studied the influence of anchoring/representativeness bias in short-run corporate financial decisions. The authors argued that the anchoring/representativeness bias has a vital influence on the risk perception of the

managers. Ramiah et al., (2016) and Zhao, (2011) concluded that managers intended to make credit in future to a firm on the basis of the previous credit history despite its poor credit position in the market. This implies that anchoring/representative bias tends to make managers seek high risk in their decision-making. In the previous literature, it is concluded that anchoring/representative biased managers rely on a piece of information and do not consider the available information in the market and thus they make risky decisions.

In a nutshell, the discussion can be summarized that in risky decisions, individuals usually react according to the emotional and cognitive state of mind. The decision makers perceive risk for given decisions according to how they process the information (Ricciardi, 2004). Ramiah; Zhao; Graham and Moosa., (2012) found that anchoring/representative bias tends to the manager to pursue high risk in their decision making. The managers more relay on the information that they have or present rather than considering the whole information available in the market. Due to this behavior, they make riskier decisions. Therefore, from the above-stated literature, we can draw the hypothesis H_{IV}:

H_{IV}: Anchoring/Representative bias has a significant relationship with risk perception of corporate finance managers

2.3.5.5 Loss Aversion and Risk perception

Köbberling & Wakker, (2005) studied the prospect theory and showed that according to this theory, three components affect the risk attitude of the decision takers: probability weighted function, utility function, and loss aversion. Conclusively decision takers under this theory try to prevent losses or avoid risk. Loss averse managers tend

to make such decisions which result in definite gain (Shefrin, 2000). Kahneman & Tversky, (1979) argued that individuals tend to avoid loss in their decision-making.

Shefrin & Statman, (2000) showed the significant relationship between loss aversion and risk perception of the managers in their decision-making. Bodnaruk & Simonov, (2016) created the casual link between investment professional preferences to avoid losses and they found that professionals who are highly loss averse select the portfolio which has low downside risk. Faff, Mulino, & Chai, (2008) studied the financial risk tolerance and risk aversion behaviors of investors. Their results depicted that females are more risk-averse as compared to men. Moreover, Ulrich, schmidt and Stefan , (2002) found that females are less likely to choose the risky investments as compare to men. Similarly, Ert & Erev (2013) studied that people are risk-averse. Johnson, Gaechter, & Herrmann, (2006) found that loss aversion increases with age, income and wealth while on the other hand its decreases through the proper education. According to Schönbohm & Zahn, (2012) loss aversion shows inconsistency towards risk (avoid risk to protect wealth but assume risk to avoid losses). Duxbury & Summers, (2004) studied the loss aversion and risk perception of the investor. They indicated that in assessing riskiness, individuals exhibit loss aversion. The risk preferences of individuals are different, according to how they perceive it. Managers with loss aversion bias tend to make those decision that are less risky and result in sure gains (Coleman, 2007).

The previous literature showed a significant relationship between the loss aversion bias and risk perception of the managers in their decision making (Dupont & Lee, 2001; Duxbury & Summers, 2004; Eric et al., 2010; Faff et al., 2008; Heshmat & Ahmed, 2010). In conclusion, we supposed that there is a negative relationship between

loss aversion and risk perception of the managers. Therefore, the hypothesis 'H_V' is proposed:

H_V: Loss aversion bias has a significant relationship with risk perception of corporate finance managers

2.3.5.6 Mental accounting and Risk Perception

According to Coleman (2007), CFOs do not evaluate decisions rationally, in fact, deviate from utility maximization concept. He reported that mental accounting as one of the reasons for this irrationality. Thaler (1985) discussed the model of mental accounting in which decision makers distribute their capital, knowledge and other types of resources into separate and non-fungible mental accounts.

Managers exhibiting mental accounting bias may take risky decisions. The managers prone to mental accounting, may make decisions related to derivatives; loss/gain on underlying assets will be ignored (Coleman, 2007). The mental accounts are used to collect and combine information that will be used in the decision-making process, and inappropriate data for decision are transferred to a distinct account and eventually affects the financial decisions (Weber & Johnson, 2009). Anolam et al., (2015) investigated the impact of mental accounting on the performance of corporate organizations, using selected corporate entities. The components of mental accounting, i.e. transaction utility, categorization process, and choice bracketing were focused. They applied survey research design approach. They concluded in their results that only categorization process has a significant relationship with corporate profitability. However, mental accounting affects corporate profitability collectively. They also concluded that managers do a cost-benefit analysis to ensure that risks are adequately matched against associated returns.

Although, the evidence which explains the impact of the mental accounting bias in the risk perception of top managers in corporate firms are limited. However, Hidayati et al., (2014) discussed the usefulness of placing risk perception in models of risky decision-making in his findings. Moreover, Coleman (2007) concluded that managers who are exhibiting mental accounting bias overvalue the level of risk in their decision making.

Mental accounting plays a very important role in our decisions. The attractiveness of the risky choice is dependent on the frequency with which it is evaluated. The mental accounting leads managers to take a poor decision that is riskier (De Bondt & Thaler, 1995). When managers assign the activities to specific accounts, this leads them to elect more risk (Thaler, 1999). Shefrin & Thaler, (2004) explained that managers maintain several accounts for their decisions. In different circumstances, mental accounting leads them to make a sub-optimal decision when they decide for each mental account.

Therefore, we drive from the previous literature that narrow framing of the top managers in the form of mental accounting results in seeking more risk in their decisions and proposed the hypothesis H_{VI}:

H_{VI}: Mental accounting bias has a significant relationship with risk perception of corporate finance managers

2.3.6 Financial Literacy

Financial literacy refers to 'the degree of the extent to which individuals understand the financial concepts, terms, events and their ability to make efficient financial decisions to achieve both short-term and long-term goals' (Remund, 2010). Servon & Kaestner, (2008) characterizes financial literacy as 'a man's capacity to comprehend and make utilization of monetary ideas.' 'Literacy' is an equivalent word

for ‘mindfulness’ or ‘capacity’ or ‘authority’ or ‘aptitude’, and ‘proficiency’ implies the capacity to peruse compose (Brown, Saunders, & Beresford, 2006).

Aren & Zengin (2016) investigated the influence of financial literacy and risk perception on the choice of investment. They found that the level of financial literacy and risk perception are important for investment preferences. Besides, risk perception is also affected by financial literacy and gender. Kramer (2014) reported that financial literacy and overconfidence are related to financial advice seeking and risk-taking behavior. Guiso & Jappelli, (2008) also found that risk-averse people are more likely to have less financial knowledge. Sjöberg & Engelberg, (2009) found that students are financially literate and tend to take higher risk than others do. In another study, Wang, Keller, & Siegrist, (2011) conducted a risk perception survey in Switzerland. They found a high correlation between knowledge-related scales and risk-related scales and people display divergence between their attitudes to risk-taking with different level of financial literacy.

2.3.6.1 The moderating role of financial literacy on the relationship of behavioral biases and risk perception

The financial literacy plays a vital role in corporate financial decisions making. Asaad, (2012) concluded that financial literacy is a key factor in the behavioral approach to financial decisions. Financial literacy also matters in risky decisions. The managers who seek more risk in their irrational decisions are not risk seeker. However, they are not known to the propensity of risk (Cai & Thakor, 2008; Simon et al., 2000). Different authors have supported the argument that irrational decision is the result of a lack of financial literacy (Goel & Thakor, 2008; Simon et al., 2000).

The financial literacy and risk perception influence the choice of investment. The level of financial literacy and risk perception are important for investment

preferences (Aren & Zengin 2016). Besides this, the risk perception is also affected by financial literacy. A high correlation between knowledge-related scales and risk-related scales were found, and people display the difference between their attitudes to risk-taking with different level of financial literacy (Wang, Keller, & Siegrist, 2011).

Sometimes, managers exhibit risk-seeking behavior as a result of less financially literate about the outcome of their decisions instead of being only biased. Managers can overcome the biases by enhancing financial literacy; this will reduce the risk associated with their decisions (Coleman, 2007). Managers with overconfidence and anchoring/representative bias perceive high risk in decision making. On the other hand, managers with self-serving and loss aversion bias perceive low risk in decision making. Due to financial literacy managers can overcome these biases (Ahmed & Duellman, 2013; Ma, Xue, Zhao, & Lin, 2013; Veeraraghavan & Ye, 2014).

These arguments support the hypothesis that financial literacy has an impact on the relationship between behavioral biases and risk perception of the managers. Therefore, we proposed the hypothesis H_{VII}

H_{VII}: Financial literacy has a significant impact on relathe tionship between behavioral biases and risk perception of corporate finance managers [3]

2.3.7 Corporate Financial Decisions

The primary objective of corporate financial management is to increase the value of the corporation to shareholders and other stakeholders. The financial decisions in corporations decide the overall performance of the corporation. Increase in a firm's value depends upon the capabilities of managers for balancing the capital funding

[3] See appendix B for details

among the different projects to achieve the long-term profitability and sustainability. The evolutionary progress of corporate finance has passed through several stages of development. One important step of evolution took place when the behavioral aspects of human nature were associated with the field of finance. The authors began to conduct studies on the corporate finance associating with behavioral biases and to define the reasons of the irrationality among the decision makers and their impact on the corporate financial decisions (e.g., Barros & da Silveira, 2007; Oran & Perek, 2013; Vasiliou & Daskalakis, 2009).

The structures of corporate financial decisions are based on two forms of financial decisions: (i) long-term (ii) short-term financial decisions. Long-term financial decisions include the capital structure and dividend policy management whereas working capital management is the part of short-term financial decisions.

2.3.7.1 Capital Structure

The capital structure as the long run financial policy of a firm can be defined as the combination of different sources of financing in the capital. Usually, capital structure is formed based on the following three types of financing sources, i.e. internal finance, debt, and equity. The capital structure of the corporate firms has been defined by three major theories proposed in the literature of finance (Kraus & Litzenberger, 1973; Modigliani & Miller, 1963; Myers & Majluf, 1984). Modigliani & Miller, (1958) proposed the theory of capital irrelevance and pretended a firm's value is not significantly associated with the capital structure of the corporate firms. It is thus associated with the fixed assets, and the capital structure is an irrelevance to a firm's value. Modigliani & Miller, (1963) studied the role of taxation and argued that the firms should not rely on debt financing as there are several disadvantages associated with it, in contrast to internal funds. Trade-off theory explains that a targeted debt to equity

ratio reached the point where the advantage of tax on debt is offset by the financial distress cost and minimize the cost of prevailing market imperfection (Kraus & Litzenberger, 1973; Pinegar & Wilbricht, 1989). The theory tempts to argue that there is a trade-off between the tax deductibility benefits and the bankruptcy cost. In addition, pecking order theory states that corporations prefer the use of inside financing instead of external financing.

As far as the paradigm of rationality is concerned, the previous literature on determinants of capital structure is quite comprehensive (Berger, Ofek, & Yermack, 1997; Booth, Aivazian, Demirguc Kunt, & Maksimovic, 2001; Chang, Lee, & Lee, 2009a; Desai, Foley, & Jr, 2016; Graham & Harvey, 2002a; Hamid, Abdullah, & Kamaruzzaman, 2015; Leary & Roberts, 2005; Marques & Santos, 2003; Masulis, 1983; Serrasqueiro, Matias, & Salsa, 2016; Titman & Wessels, 2007; Velez, 2016). Cassar & Holmes, (2003) investigated the capital structure determinants and financing tools used by the SME's. They used firms' characteristics like size, growth, profitability, asset structure, and risk to link them with capital structure. The results showed that growth, profitability and asset structure are important factors for a firm's financing and capital structure. Contrary to the previous findings, DeAngelo & DeAngelo, (2007) studied the two fundamentals of capital structure, to develop more powerful theory in which a firm can balance their zero adjustment cost, and to meet unexpected capital needs. Low leverage target reduces the corporate taxes as well by using picking order and trade-off theories. The results showed that equity is not only the last resort of financing, profitable firms use debt to take tax benefit as well as pay dividend and maintain their leverage. Capital structure has a negative impact on firms' performance both market and accounting measure but short-term debt to total assets level has a significant effect on the market performance (Accounting & Journal, 2007).

In their survey-based research, Graham & Harvey, (2002) showed that capital structure standards like financial flexibility and credit rating are the most important criteria for debt policy. On the other hand, earning per share dilution is the averseness for companies to issue equity. Stock undervaluation is also important for equity issuance.

Apart from the paradigm of rationality, authors have worked to prove a significant relation between the behavioral biases and financial managers' decision of the capital structure of the corporations. It has been argued that entrepreneurial managers are more prone to the overconfidence and optimism bias rather than non-entrepreneurial managers. Entrepreneurial managers are those who run their own business whereas non-entrepreneurial managers are the one who are hired, executives. The firms having overconfident top management tempts to have more leveraged structure (Barros & da Silveira, 2007). The greater the leverage in a capital structure would be, the greater will be the cost of bankruptcy risk associating with a firm. The top-level managers attribute success with their skills and failure due to external factors (Russo & Schoemaker, 1992). Whereas, self-serving, biased managers will be more overconfident and more overconfident managers will be highly optimistic than non-biased managers (Kafayat, 2014).

2.3.7.2 Dividend Policy Decisions

The dividend policy decision is a long-term financial decision in the corporate sector. This decision includes a set of guidelines, which determines whether the managers should pay the dividends or retain earnings. The residual dividend policy states that a firm relies on internal sources while financing the new projects. The dividends are distributed from the amount of internal funds leftover after financing the

projects. The top managers generally focus on balancing the debt to equity ratio and deciding the payment of dividends, if any amount is left over (Baker & Smith, 2006). In contrast, the dividend stability policy is the correction of the drawbacks originated from the residual dividend policy. Generally, the hybrid dividend policy is adopted by firms to maintain equilibrium between the residual and stable dividend policy. This policy is most commonly used by corporate firms, which pay regular dividends to its shareholders. The firms decide a fix proportion of dividend from its earnings which is easily maintainable and they provide an extra dividend in case if their earnings exceed the general level (Lee, 2009).

Edelman & Farrelly, (1983) indicated that dividend policy decisions are based on numerous factors and the most important factor is, the future earning level and the past dividend patterns. Dividend policy theories also explain the decision relevant to the dividend payment to the shareholders. Shefrin & Statman, (1984) investigated the relationship between the perception of the investors and the cash dividend. They concluded that companies pay a dividend to maximize the value of their shares and to balance the demand of investors. Investors only choose to hold the stock of those companies that pay a dividend. Baker & Powell, (1999) investigated the corporate managers' views about the dividend policy and value of a firm. Their results depicted that dividend policy actively affects a firm's value either positively or negatively. Managers are concerned about the dividend continuity while setting the dividend payments. The Bird in Hand theory of Gordon, (1962a, 1962b) argued that most external investors demand a higher dividend policy. Shefrin & Statman, (1984) developed a theory of dividends, which is constructed on the fact that, if the amount of inflow cash is same, then it can still make a difference for the stockholder whether the cash originates in the form of dividends or capital gains.

Ali & Anis (2012) have argued that the top-level decisions, in general, are driven by emotional biases. The top managers tend to be optimistic while planning for the investment of new projects and they are likely to increase the risk by selecting a high 'levered' dividend policy. Graham, Harvey, & Puri, (2013) stated that top managers who are optimistic are more prone to the better future performance of a firm than others. However, the decision of optimistic managers differs from others as they acquire a less diversified portfolio because they are more prone to better future performance (Puri & Robinson, 2007). The existing evidence in the literature have been contradictory so far. Malmendier & Tate, (2005) argued that optimistic manager will be more confident on self-abilities and will rely on the internal financing sources rather than approaching towards external sources. Their study concluded that optimistic manager approaches the residual dividend policy while financing the capital for new projects and the dividend payments will be ruled out as the managers will prioritize the utilization of the earnings for new financing. If the managers follow residual dividend policy, they will have to skip the dividend distributions for a certain period thus decreasing the value of a firm, ultimately increasing the risk for a firm.

Apart from the contradicting views regarding the nature of the impact of behavioral biases on the dividend policy decisions, the literature, so far provides a solid evidence for the association of psychological factors influencing the cognitive process of managers while maintaining their dividend policies (Ali & Anis, 2012; Ben-David et al., 2007; Biais, Hilton, Mazurier, & Pouget, 2005; Chang et al., 2009; Gervais & Odean, 2001; Graham et al., 2013; Malmendier & Tate, 2005).

2.3.7.3 Working Capital Management

Working capital management includes the short-term financing decisions such as inventory management, debt management, cash management, and other short-term

financing decisions (Kamau, 2014). The firms should take such decisions which ensure the efficient working capital because it is a vital factor for eluding the solvency, bankruptcy cost, liquidity and the profitability (Burns & Walker, 1991).

The components of working capital management are cash management, inventory management, account receivable management, and debt management. Cash management deals with the controlling of cash assessing the cash flows, market liquidity, and investments. The major emphasis of cash management is to elude the certainty of insolvency (Huang et al., 2012). Inventory management refers to the management and controlling of the products that a firm or organization will need in the time of production and sales. The major role of inventory management is to determine the cost associated with the storing and transportation of the goods. Finance managers have to maintain the level of inventory that helps the organization to run their functions smoothly and cost-effectively. Account receivable represents the debtors of firms. Account receivables drive when a firm makes credit sales. Therefore, managers have to choose the right credit policy to manage the account receivables. The debt management refers to the short-term policy for the prioritization of the capital funding sources. The managers develop short-term debt management policies to follow the long-term planning of the future capital structure and dividend policy decisions. The short-term debt includes sources from current liabilities such as accounts payable and accruals. Managers follow the debt management policies that improve the quality of their working capital decisions.

The trade-off of risk & return has become a long discussion among working capital management policies (Brigham and Ehrhardt, 2004; Gitman, 2005; Moyer, 2005; Pinches, 1992). In which, people have been related to higher risk and higher return and these policies called ‘aggressive working capital policies’ while the others

related to lower risk & return, they mostly act as risk-averse called 'conservative working capital policies' (Gardner et al., 1986; Weinraub & Visscher, 1998). Smith (1980) argued that working capital management is an important policy as it affects a firm's effectiveness, risk, and value also. Similarly, Chiou, Cheng, & Wu (2006) reported that properly managed working capital management promotes a firm's wellbeing in the market in the form of liquidity and it also works in terms of increase in the value of shareholders.

Graham et al., (2012) defined the model of working capital management and explained the behavioral prospect of managers and its impact on working capital management policies. Ramiah et al., (2014, 2016) examined that the corporate treasurer behavior, which involved in the process of decision-making in the area of cash, accounts receivable, accounts payable, inventory and associated risk management during the global financial crises. The results illustrated that the managers who are involved in decisions regarding working capital management exhibit behavioral biases. However, these biases might be lead to sub-optimal decisions in some areas of working capital management. From the previous literature, it can be witnessed that meager amount of evidence is available on the relationship of behavioral aspects of working capital management.

2.3.8 Risk Perception and Corporate Financial Decisions

Personality theory has focused on an individual's discrimination in his risk-taking and risk aversion propensities. Some people are adoration to take risk vis-à-vis some people are risk-averse. A person's interpersonal traits develop risk perception. People with aggressive personality take more risk, they show sensation-seeking behavior when making risky decisions (Wildavsky & Dake, 1990).

Decisions are always associated with some outputs. While making any financial decision, some aspects are considered critically important. The risk is one of the factors that is directly associated with financial outcomes. Cain & McKeon (2016) analyzed the relationship between chief executive officer (CEO) personal risk-taking, corporate risk-taking, and the source of the elevated firm risk to specific corporate policies, including leverage. Their results suggested that risk preferences have implications for project selection and various corporate policies. Moreover, the risk-taking behavior is positively associated with the high-levered capital structure.

Guo (2002) argued that investors are more concerned about their dividend payouts, and the risk associated with shares affects their valuation of stock in the long-term. Aivazian, Booth, & Cleary, (2003) and Amidu & Abor, (2006) documented that dividend payout had a negative relationship with risk. Similarly, Chang & Rhee, (1990) argued that the relationship of dividend and risk is considered as an important factor for dividend policy. Their findings indicated that the dividend policy is negatively related to risk.

Literature provides a detailed discussion on the tradeoff on risk/return between the different policies of working capital management (Brigham and Ehrhardt, 2004; Gitman, 2005; Moyer et al, 2005; Pinches, 1992). More aggressive policies of working capital are linked with higher risk and return, while the conservative policies of working capital management are associated with low risk and return (Gardner et al., 1986; Weinraub & Visscher, 1998).

The arguments in literature are supporting that risk perception impacts the financial decision-making variables. Risk perception has a positive relationship with working capital management and capital structure while it has a negative relationship with dividend policy. Hence, the following hypothesis H_{VIII} is proposed.

H_{VIII}: Risk perception of corporate finance managers has a significant relationship with financial decisions of corporate firms [4]

2.3.8.1 The mediating role of Risk Perception on the relationship of behavioral biases and Corporate Financial Decisions

The studies so far described in the literature posit a model defining the relationship between risk perception of the managers and the corporate financial decisions. Managers exhibiting behavioral biases as the perception of high risk prefer maintaining the high levered capital structure with increasing the bankruptcy cost (Barros & da Silveira, 2007). On the other hand, managers perceiving high risk may prefer to invest the amount of retained earnings for new projects and they would not distribute the amount of dividend to the shareholders, therefore, decreasing the value of a firm. The relationship between risk perceived by the managers and the short-run corporate financial decision making is significant (Ramiah et al., 2016; Zhao, 2011).

Using of risk perception as a mediating variable is evident from the literature. e.g., Simon, Houghton, & Aquino, (2000) studied the mediating effect of risk perception between overconfidence and new venture decision. They concluded that individuals start their new venture and do not perceive the risk properly. Individuals with overconfidence perceive that they can control the things; this behavior leads them to take high risk. Nosi & Weber, (2010) studied the mediating role of risk perception with risk attitude and overconfidence, according to them, overconfidence has an impact on risk taking behavior.

The anchor/representative biased managers will also perceive high risk in their decision-making whereas self-attributed and loss averse managers will perceive low

[4] See appendix B for details

risk. The managers with high risk perception might not be able to make debt management decisions efficiently.

Simon et al., (2000) studied the mediating effect of risk perception regarding a new venture. They concluded that self-serving bias directly influences risk perception of individuals when they start new ventures. Managers with self-serving bias take a high level of risk, and the high performance of the company, make them overconfident and they usually attribute success to themselves. Moreover, they also reported that managers tend to have higher leverage that's why they are more likely to repurchase stocks and are less likely to issue dividends (Li, 2010). Bodnaruk & Simonov, (2016) created the casual link between different investment preferences to avoid losses and they found that professionals who are highly loss averse select the portfolio which has low downside risk.

Glaser, Schäfers, & Weber (2008) concluded that managers are optimistic and they voluntarily increase their exposure to company-specific risk more often than they reduce it. According to them optimism directly effects on the risk-taking behavior of the managers while they make any decision in firms. Shefrin & Statman, (2000) showed the significant relationship between loss aversion and risk perception of the managers in their decision-making. Loss aversion forms the person's behavior toward risk rather take it or avoid. The loss averse managers always try to avoid the risk and make safe investments with minimum risk. Hence, from above discussion, we have proposed mediation hypothesis (H_{IX}) between behavioral biases and corporate financial decisions.

H_{IX}: Risk perception mediates the relationship between behavioral biases of corporate finance managers and financial decisions of corporate firms[5]

2.3.9 Managerial Skills

Whetten, Cameron, & Woods, (2000) defined managerial skills as 'the segment of the components such as controllable, behavioral, interrelated, developable, and paradoxical' whereas, Schoening, Sittner, & Todd (2006) defined managerial skill as 'the ability and experience of a manager to accomplish an assigned task well'. Managerial skills improve the internal and external decision making in an organization (Yau & Sculli, 1990).

Apart from the definition of the managerial skills, a broad debate had been taken place in defining the facets of managerial skills. Initially, it was stated that the key aspects of managerial skills include technical, human, and conceptual skills (Katz, 1955). Later, different authors suggested that for a good manager, it is important to have skills such as managerial, interpersonal, and technical as well (Rao, 1985). Kanungo (1990) studied the behavior of successful managers and suggested four main skills: decision-making or problem solving, interpersonal skills, long-term planning and coping with change. While studying managerial skills, Sarawat, (2006) defined seven key characteristics in determining the skills essential for managers. The important characteristics discussed in the study were technical, leadership, controlling, planning, and decision-making skills.

Carmeli & Tishler (2006) came up with nine managerial skills (persuasiveness, administrative ability, fluency in speaking, knowledge about group tasks, diplomacy

[5] See Appendix B for details

and tact, social skills, creativity, conceptual skills and cleverness) which included almost all the key characteristics and skills essential for effective and efficient management. They found that managerial skills strongly impact the performance of a firm regardless of other firm-specific factors.

Managerial capabilities and skills contribute to the corporate decision making and external changes. Corporate strategic decisions are required to be revised over time with effective and skilled management to achieve effective decisions (Adner & Helfat, 2003). These skills help managers to tackle risky situations and to take the calculated risk while making any investment decision in the organization (McKenna, 2004).

Heaton, (2002), analyzed the relationship between managerial experience and irrational decision frequency. The results indicated that managerial experience lowers the irrational decision frequency. Although managerial skills were not considered in the study, However, the authors argued that irrational decision makers learn from their experience. In simple words, growing experience of the managers makes them more skillful in their decision-making and other aspects of management.

Interestingly, the work of Sarawat, (2006) thoroughly studied the managerial skills and stated that decision making is also a key skill for efficient management. Hence, explaining the decision-making skills of managers, the author defined the rational decision-making process as analyzing the situation, setting the objectives, searching for alternatives, evaluating alternatives, making the decision, and evaluating the decision.

2.3.9.1 The moderating role of managerial skills on the relationship of risk perception and corporate financial decisions

In the previous literature, rare evidence was found which supported the managerial skills as moderating role on the relationship between risk perceptions and

corporate financial decisions. Heaton, (2002) stated that experience from the past failures, makes managers learn from their mistakes. Bertrand & Schoar, (2003) studied the managerial skills of old and new managers. They concluded that older CEO's choose a lower level of financial leverage as compared to the new ones. They also found that CEO's with MBA degree are more aggressive. They engage in a higher level of capital expenditures, pay less dividend and hold more debt on the other hand. Older CEO's are less aggressive to maintain high cash holdings, lower financial leverage and lower capital expenditures. According to Bailey, Kumar, & Ng, (2011) explained managerial skill are the key factor in making rational decisions.

Apart from the above discussion, the main emphasis of this study lies on the effective decision making of managers in the corporate sector. According to best of our knowledge, the studies in the context of behavioral corporate finance, had not focused on finding or establishing the relationship of managerial skills with managers' risk perception and corporate financial decisions. From the previous literature, we assumed that managerial skills lower the irrationality in decision-making and they would let managers optimize their risk perception. Therefore, we proposed that managerial skill moderates the relationship between risk perception of top-level managers and corporate financial decisions. The hypothesis (H_X) is proposed by the above literature.

H_X: Managerial skills has a moderating effect between risk perception of corporate finance managers and financial decisions of the firms[6]

2.3.10 Impact of Financial Decisions on Corporate Performance

Corporate performance can be defined as strategic, analytical and financial management of corporate activities. The ultimate impact of decision-making and

[6] See appendix B for details

policies reflects in the corporate performance. The study of corporate performance calls for meticulous attention since several authors centered their endeavors towards it (e.g Kang & Shivdasani, 1995; Abdullah, Shah, Gohar, & Iqbal, 2011; Denis & Denis, 1993; Kang & Shivdasani, 1995; Nickell, 1996; Opler & Titman, 2015; Qi, Wu, & Zhang, 2000; Shah, 2010; Wan, Norwani, Mansor, & Endut, 2016; Zeitun & Tian, 2007). Theorists and practitioners, focusing on the issues in the domain of business management, concluded that there are several factors such as marketing, sales and human development that may affect the corporate performance (Tang & Peng, 2003). Most importantly, the ultimate key impact investigated by different studies conducted in corporate finance is corporate performance (e.g., James, 1999; Jensen & Meckling, 1976; Mousavi, Jari, & Aliahmadi, 2012).

The previous literature discussed that corporate performance is subjective and can be better defined through the financial parameters. The financial parameters are determined by the quality of financial decisions (Wan et al., 2016). One of the important financial decisions is dividend policy. The theory of dividend irrelevance states that the performance of a firm will not be affected by the dividend policy; the operational activities and risk factors involved in their business will do influence the corporate performance (Miller & Modigliani, 1961). Contradictory to dividend irrelevance theory, some authors proposed a different theory explaining the influence of dividend policy decisions on corporate performance. Amidu, (2007) postulated the model of study defining the impact of dividend policy decisions in corporate financial performance. The study concluded a significant positive relationship between dividend policy decisions and corporate performance of the firms. The second notion of dividend policy relevance and performance is based on the objectives of the managers. It is the time in which the managers work for their self-interest rather than the interest of

investors. The agency cost arises influencing the stock value and ultimately impacts on the firm's performance (Shefrin & Statman, 1984). The corporate performance is associated with the efficiency of capital structure decisions (Shah, 2010). Similar to dividend irrelevance, it was also assumed that a firm's performance and value is independent of its capital structure policies (Modigliani & Miller, 1958).

Moreover, several authors have criticized the capital structure irrelevance theory on the basis of the assumptions proposed for the validation of the theory (Jensen & Meckling, 1976). Jensen & Meckling, (1976) argued that the capital structure irrelevance theory assumes no cost, whereas, a firm has to bear several costs while bringing up the sources of capital. A firm has to bear agency cost, bankruptcy cost, transaction cost, and floatation cost as well. Harris & Raviv, (1991) extending the work of Jensen & Meckling, (1976) argued that the capital structure has a vital impact on the performance of a company. The top-level managers holding the power of decision making usually form a levered capital structure. Managers may raise funds from heavy borrowings which negatively impact the performance of a firm (Krishnan & Moyer, 1997). Van Horne & Wachowicz, (2008) argued that firms' total assets generally comprises of current assets, which is the key factor of profitability. Therefore, the working capital management decisions have a vital impact on the performance of a firm. The major emphasis of working capital management is to ensure the liquidity and profitability of the firm (Smith & Dumont, 1997).

Several authors have proved a significant relationship between the working capital management policies and performance of the firm (e.g., Blinder & Maccini, 1991; Czyzewski & Hicks, 1992; Ramiah, Zhao, Moosa, & Graham, 2014; Wang, 2002). The authors, measuring the performance of a firm, argued that a decrease in current assets from total assets increases the profitability of a firm (Deloof, 2003; Wang,

2002). The working capital management (WCM) influences the profitability of a firm in many ways. If a firm maintains high inventory management, it will overcome several costs. The high inventory management reduces the cost of interruption in the production process, supply cost, protection against price fluctuations and loss due to the scarcity of inventory (Blinder & Maccini, 1991). Rahman, Islam, Huque, Hamdan, & Ahmed, (2010) studied the relationship between working capital management decisions and the profitability of the manufacturing firms of Pakistan. Their study revealed a significant positive relation between WCM and profitability of a firm. Therefore, from the above discussion, we have hypothesized (H_{XI}) for this relationships.

H_{XI}: Financial decision making of the firms has a significant relationship with corporate performance of firms[7]

2.3.11 Family vis-à-vis Non-Family Owned Companies in Emerging Economies

Companies can be classified into two main categories based on ownership and management: (I) family owned, (II) non-family owned companies. The family-owned company is the one in which the body of decision makers mainly comprises of family members themselves. On the other hand, the non-family owned company is the one, in which the body of decision makers is comprised of experts and experienced managers (James, 1999). Several Studies have highlighted the rapid growth of family-owned businesses and their development as public limited companies (Faccio & Lang, 2002; Villalonga & Amit, 2006).

The authors explaining the important factors of decision making argued that the strategic and decision-making approach of family-owned companies might differ to a

[7] See Appendix B for details

great extent from the non-family owned companies (James, 1999; Shanker & Astrachan, 1996). However, this cannot be stated whether there is more efficiency in the decision making of family-owned firms or vice versa. The studies so far in the literature, argued that family-owned companies are highly conscious of risk factor and thus the owner-managers always seek to make safe decisions ensuring positive outcomes (Constand, Osteryoung, & Nast, 1991). The professional managers in public limited companies may decide to borrow funds from external sources to avail opportunity in the market whereas self-owned managers always try to elude the riskiness in their decision making, and mostly they stick to pecking order theory (Romano, Tanewski, & Smyrnios, 2001).

The most important aspect of family-owned companies is the irrationality in decisions. Several authors have focused on this facet, arguing that the decisions in family-owned companies are decided and implemented by the members of the family (who own the business) themselves. The family-owned firms lack formalized financial planning. Thus such type of decision making among firms may result in biased decisions (Renfrew, 1984). Bennedsen, Pérez-González, & Wolfenzon (2010) elaborated that how family ownership can impact decision making and control. This implies that in family-owned companies, minor investors usually have a marginal role in decision-making. However, conflict of interests may arise between a group of family owners and minority shareholders. Resultantly, the growth of the company may be restricted within the boundaries of self-benefits of the family owners itself, rather than the mutual objectives of all owners.

The sole control among family-owned companies on financial decisions by certain individual or groups may trigger the impact of behavioral biases more as compared to non-family owned companies. However, the meager amount of research studies

regarding behavioral biases are available, explaining the differentiation in decision making among family and non-family owned corporations.

2.3.12 The Comparison of Pakistan, Turkey, and Malaysia

In line to the objectives of the study, several studies have documented the cross-country comparison, i.e., risk perception and the cultural differences of American and Chinese by Bontempo, Bottom, & Weber (1997), capital structure choices across different countries by Bruhn, Karlan, & Schoar (2010), assessing risk propensity of corporate financial executives of Sweden, Estonia and Ukraine by Kantsukov & Linnas (2013), cross-country determinants of payout policy of European firms by Bancel, Mittoo, & Bhattacharyya (2005), relationship of performance, capital structure of Asian corporations by Krishnan & Moyer (1997), effect of overconfidence, optimism and national culture on capital structure by Antonczyk & Salzmann (2014).

NEXT-11 countries are identified by Goldman Saches (Lawson et al., 2007), for the considerable potential of becoming the promising growing economies along with BRIC countries. Goldman Sachs has used '*macroeconomic stability,' 'political maturity,' 'openness of trade'* and *'investment policies'* as criteria. For our study, we have selected Malaysia, the 3rd largest economy in Southeast Asia, Pakistan as the middle-income economy and Turkey as emerging industrial upper-middle-income economy from NEXT–11 countries. By comparison of these countries as a contextual contribution, this study has contributed not only to the existing literature but also has become interesting for international portfolio investors.

2.4 Summary of the Chapter

This chapter reviews the existing literature and the theoretical framework of the thesis. The first section of this chapter explains the theoretical framework in line with

the objectives of the study and directs us towards a model of behavioral corporate finance. In the second section, the detailed literature review is conducted on all key variables of the research.

The literature review covers the effect of six behavioral biases (self-serving, overconfidence, optimism, loss aversion, mental accounting, and anchoring/representative) on risk perception and the moderating effect of financial literacy on the relationship of these biases with risk perception. Further, the impact of risk perception as a mediating variable on financial decisions, i.e. dividend policy, capital structure, and working capital management decisions are investigated. In addition, the moderating impact of managerial skills is determined on the relationship of risk perception and financial decisions. At the last stage, the literature review of the impact of three financial decisions on corporate performance is conducted. A comparison was made of the family, and non-family owned listed companies in Pakistan, Turkey, and Malaysia.

While reviewing the literature, we found that previous literature lacks in evidence of inclusion of risk perception as an important antecedent of corporate financial decisions. The behavioral biases of decision makers are not extensively explored in the corporate finance literature. Lack of evidence is witnessed in the literature regarding the comparison of family owned and non-family owned companies in emerging countries, i.e. Pakistan, Malaysia, and Turkey.

Next chapter discusses the methodology of the study, which includes a selection of the research instrument and its development in the light of literature. It also explains the sampling technique, data collection method and why primary data used for this study. The statistics have been presented about questionnaire validity, missing data, outliers, and un-engaged responses.

CHAPTER 3:

RESEARCH METHODS

3.1 Introduction

This chapter begins with the justifications of the selected research model & methodology used to address the research questions, discussing the methods used for quantifying variables, validating the model and testing the hypotheses. It also provides an overview of the research design, identifies the study sample, specifies the domains of constructs, addresses the measurement of items and presents the questionnaire for the survey.

3.2 Research Design Overview

The unit of analysis in this cross-sectional study was individual financial decision makers of the corporate sector. This primary data-based study analyzed the effect of six behavioral biases (self-serving, overconfidence, optimism, loss aversion, mental accounting, and anchoring/representative) on risk perception and the moderating effect of financial literacy on the relationship of these biases with risk perception. Further, the impact of risk perception as a mediating variable on financial decisions, i.e. dividend policy, capital structure, and working capital management decisions is investigated. In addition, the moderating impact of managerial skills is determined on the relationship of risk perception and financial decisions. At the last stage, we observed the impact of three financial decisions on corporate performance. A comparison was made of the family, and non-family owned listed companies in

Pakistan, Turkey, and Malaysia. For this purpose, multivariate data analysis technique Partial Least Square Structural Equation Model (PLS-SEM) is applied. Figure 3 explains the entire systematic approach used for empirical investigation of the above stated variables. It also provides a complete overview of the research process including research methodology used to meet the research objectives.

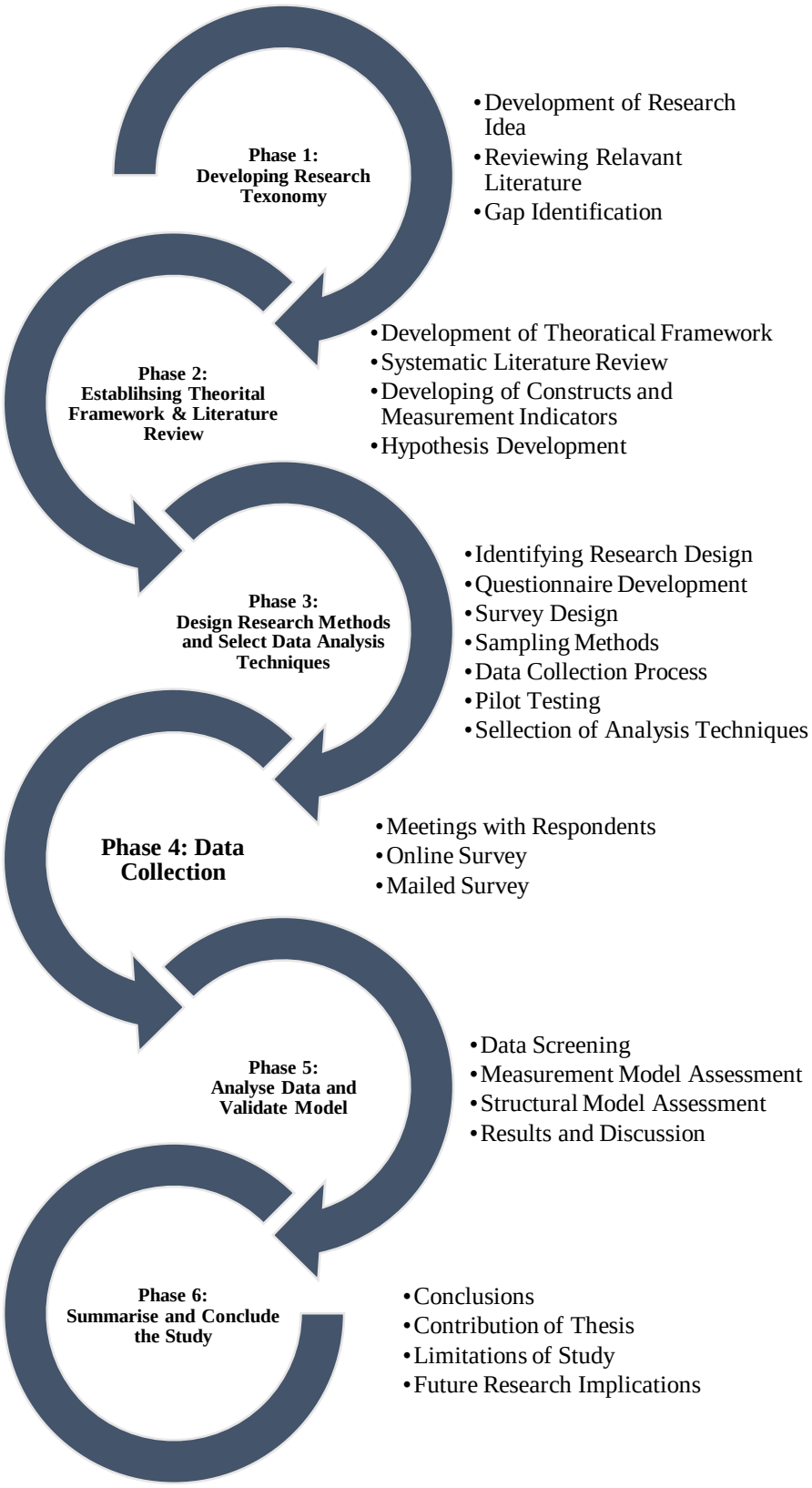

Figure 3: The Research Process

3.3 Rationale and Questionnaire Development

A questionnaire is developed by keeping in the view the measurement scale of numerous related variables appropriate for research objectives. This study has used an adaptive approach for the questionnaire development. Questionnaire items were adapted from different authors, pilot tested and rephrased keeping in view the requirements of testing and unidirectional Likert scale measurement. For this purpose, we have used survey-based research methodology. Graham & Harvey, (2001) discussed the importance of using the survey method as compared to secondary data techniques. He argued that survey-based analysis complements other research based on large samples. Most large sample studies offer statistical power and cross-sectional variation. However, large-sample studies often have weaknesses related to variable specification and the inability to ask qualitative questions. The survey-based studies cover this weakness. At the same time, we are also able to ask very specific questions from respondents. Survey analysis faces the risk that the respondents are not representative of the population of firms, or that the survey questions are misunderstood. However, overall using survey method provides unique information to aid understanding genuine and direct evidence.

3.3.1 Measures

Following is the discussion on justification and adaption of the items and measurement structure (reflective and formative) of all the variables of this study.

3.3.1.1 Self-serving Items

Self-serving managers tend to credit their conquests to inside, or individual efforts yet accuse their distresses for outer elements which are outside of their ability to control. Libby & Rennekamp, (2012) carried experiment method to access the self-

serving attribute among the respondents. For this purpose, 57 MBA students were recruited from Cornell University. Tsang, (2002) tested the attribute of self-serving with secondary data of GDP and stock exchange performance of Singapore. Higgins & Bhatt, (2001) used primary data to assess the self-serving attribution among the undergraduate students of Indian and Canadian universities. About 195 respondents were from Indian universities, and 162 respondents were from a Canadian university. Participants were instructed to visualize and respond to each of twelve life events of interpersonal and achievement domain. Each domain was having half positive and half negative events. Each event was asked to visualize on the basis the occurrence, the most likely cause for the event, and then rate the cause on the dimensions of locus of causality (internal-external to self), and controllability (controllable-uncontrollable by self). It concluded that self-serving bias can be measured in many ways like experimental, judgmental, primary data and secondary data source. Our study used the primary data technique, four questions, concerning success and failure are adapted from the work of Ramiah, Zhao, Moosa, & Graham, (2014) and Miller & Ross, (1975) to study self-serving bias because they were using data of corporate sector as this research employs. These questions (which are shown in the table below) were placed in such a way that respondents were usually unable to judge their mutual relationship.

Four questions coded as SS_1, SS_2, SS_3 and SS_4 (Questionnaire Section-1[8]) were asked. These questions were scaled at 5-point Likert scale where 1= 'Not at all,' 2= 'Very Little', 3 = 'Don't Know', 4= 'Somewhat' and 5 = 'Very much'.

Table 1: Self-Serving Questions

Code	Question Statement	5 Point Likert Scale				
	When your firm is in financial distress to what extent do you blame any of the following?					
SS_1	Your own financial policy	Not at all	Very Little	Don't Know	Some What	Very Much

[8] See Appendix A for Questionnaire

SS_2	The economic environment	Not at all	Very Little	Don't Know	Some What	Very Much
	In times of good financial performance to what extent do you think the following factors have contributed:					
SS_3	Your own financial decisions	Not at all	Very Little	Don't Know	Some What	Very Much
SS_4	The National Macro-economic conditions	Not at all	Very Little	Don't Know	Some What	Very Much

The bias is calculated by taking the difference of values of the questions SS_3 & SS_1 and SS_2 & SS_4. High score of respondent means he/she is highly biased and low score shows that respondents are low or not biased. The absolute value of the difference is used. The calculation method is shown below in Table 2.

Table 2: Self-Serving Bias Calculation Method

Steps	**Calculation Method**
Step 1	$SS_3 - SS_1 = Ans_1 > 0$
Step 2	$SS_2 - SS_4 = Ans_2 > 0$
Step 3	$Ans_1 + Ans_2 = Score$
Decision	**High Score = Highly Biased ; Low Score = Low or not Biased**

3.3.1.2 Overconfidence Items

Usually, people overrate their knowledge and experience for their better performance, and these overestimates increase with personal importance than the task. Hoppe & Kusterer, (2011) experimented to test the overconfidence bias in the students of cologne university. Choi & Lou, (2010) used secondary data to test the overconfidence bias. For this purpose, they used the Thomas Reuters mutual funds database. Ishikawa & Takahashi, (2013) used a questionnaire having two pools of securities. Some respondents were highly exposed to risks due to stock characteristics, and risk-averse respondents were reluctant to hold stock and used options. Using options for a longer period are regarded to be overconfident about future performance. We considered the primary data for measuring the overconfidence bias. The items to

measure overconfidence bias were taken from the work of Ramiah et al. (2016) and Frank (1935). This bias was measured by two questions coded as OC_1 and OC_2. The final calculation of bias was calculated by taking the mean of both questions' values. The high average score indicates a highly biased respondent and vice versa. 5-point Likert scale is used to test the bias where 1= 'Not at all Confident', 2 = 'Little Confident', 3 = 'Don't Know', 4 = 'Somewhat Confident' and 5 = 'Extremely Confident'. The question items are shown in table 3.

Table 3: Overconfidence Items

Code	Question Statement	5 Point Likert Scale				
OC_1	Assuming the economic environment is good, how confident are you with your financial decisions?					
		Not at all Confident	Little Confident	Don't Know	Some What Confident	Very Much Confident
OC_2	How confident are you in your financial decisions when your firm's performance is poor?					
		Not at all Confident	Little Confident	Don't Know	Some What Confident	Very Much Confident

The calculation method for Overconfidence bias is shown in table 4.

Table 4: Overconfidence Bias Calculation Method

Steps	Calculation Method
Step 1	$\frac{OC_1 + OC_2}{2} = Score$
Decision	**High Score = Highly Biased ; Low Score = Low or not Biased**

3.3.1.3 Optimism Items

The tendency of managers that they are less likely than others to experience negative events and more likely than others to experience positive events is called optimism bias. Optimism bias has been tested with many methods. Puri & Robinson, (2007) used secondary data to test the relationship between optimism bias and economic choices. Mohamed & Shehata, (2017) used primary data to investigate an

optimistic approach in their respondents. We also used the questionnaire technique to test optimism bias in our respondents. To test the optimism bias, four questions were asked from the respondents. Balasuriya, Muradoglu, & Ayton, (2010) methodology was adapted to measure optimism in our study. The questions were designed to cope up the core concept of optimism which was presented by Oran & Perek (2013) and Weinstein (1980) in their research. First, two questions were asked from the respondents about the future state of capital structure and dividend policy of their organization. Two further questions were asked from the respondents in section III of the questionnaire about rating their current organization's capital structure and dividend policy. These questions were scaled at 5-point Likert scale as shown in table 5 below.

Table 5: Optimism Bias Items

Code	**Question Statement**	**5 Point Likert Scale**				
OPT_1	Looking ahead, what do you think that your firm's capital structure would be after one year from now?					
		Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
OPT_2	What do you expect for your firm's policy about dividend payout in the next year?					
		Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Undecided	High Concern For Paying Dividend	Highest Concern for Paying Dividend
III_3	Rate your company's capital structure policies?					
		Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
III_4	Which of the following policies best describes your company's current Dividend Policy?					
		Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend

The bias is calculated by taking the difference of values among the questions III_3 & OPT_1 and III_4 & OPT_2. High score of respondent means he/she is highly biased and low score shows that respondent low or not biased. The calculation method is explained below in table 6.

Table 6: Optimism Bias Calculation Method

Steps	Calculation Method
Step 1	$III_3 - OPT_1 = Ans_1 > 0$
Step 2	$OPT_2 - III_4 = Ans_2 > 0$
Step 3	$Ans_1 + Ans_2 = Score$
Decision	**High Score = Highly Biased; Low Score = Low or not Biased**

3.3.1.4 Anchoring/Representative Items

Anchoring bias makes people rely heavily on a trait that influences people's decisions when they access probability-based decisions. Representativeness is similar to anchoring bias. It can be seen as 'long-run anchoring effect. Chen, Kim, Nofsinger, & Rui, (2007) used secondary data of Chinese stock exchanges to test the representativeness of investors. Charness, Karni, & Levin, (2010) used an experimental design to assess the anchoring effect in their respondents and compared the results with the study of Tversky & Kahneman, (1983). Richie & Josephson, (2018) used primary data to assess the effect of anchoring bias. Their respondents were from health care department. Our study used the items for anchoring/representative bias from the work of Amos Tversky & Kahneman, (1974) and Ramiah, Zhao, Moosa, & Graham (2014). The respondents were asked to show their probability to make further credit sales to a low credit rating company, which have returned their dues in time. The next questions were of the same scenario however with low credit rating company which did not pay their dues in time. These questions were measured on a five-point Likert scale as shown in table 7 below.

Table 7: Anchoring/Representative Bias Items

Code	Question Statement	5 Point Likert Scale				
	Assuming that you have made a credit sale to low credit rated company 'A', it has paid on time, what is the likelihood you would:					
ARB_1	Make credit sales to Company A in the future	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely

ARB_2	Make credit sales to another low credit rated company in the future?	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
	Assuming that you have made a credit sale to low credit rated company 'B,' it has not paid on time, what is the likelihood you would:					
ARB_3	Make credit sales to Company B in the future	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
ARB_4	Make credit sales to another low credit rated company in the future?	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely

The bias score is calculated by taking the difference of values from four questions (ARB_1, ARB_2, ARB_3, and ARB_4,). Then, answers were calculated to find the final score. High score of respondent means he/she is highly biased with this bias and vice versa. The calculation method is explained below in table 8.

Table 8: Anchoring/Representative Bias Calculation Method

Steps	Calculation Method
Step 1	$ARB_1 - ARB_3 = Ans_1 > 0$
Step 2	$ARB_2 - ARB_4 = Ans_2 > 0$
Step 3	$Ans_1 + Ans_2 = Score$
Decision	**High Score = Highly Biased; Low Score = Low or not Biased**

3.3.1.5 Loss Aversion Items

Loss aversion is defined as if the value of loss and gain is same. People feel more pain on loss than the happiness of the same gain. Blavatskyy & Pogrebna, (2007) used the experimental game to access the loss aversion bias. As an experiment, a game show was played on TV with a price of the jackpot. This contest show was endowed with a sealed box containing a monetary prize between one cent and half a million euros. During the show, the contestant offered to exchange the box for another sealed box with the same distribution of possible monetary prizes inside and judged the behavior of loss aversion of individuals. Rosenblatt-Wisch, (2008) used time series data and tried to link up Euler equation with prospect theory growth model. Finally, he concluded that loss aversion was traced in the aggregated macroeconomics time series.

Our study used primary data and collected data from the questionnaire. The items used in our questionnaire, were taken from Ramiah, Zhao, Moosa, & Graham, (2014) and Tversky & Kahneman, (1991). Two questions about gains and losses were added in the questionnaire with six scenarios of loss and gain. At first, respondent was asked to indicate how upset he/she would be on 1%, 5% and 10% of bad debts on sales. The second question was about to indicate his/her response on gain of 10%, 20% and 30% on the sales. The difference of each pair should be low for low or no bias. The questions are summarized in table 9 for clarity.

Table 9: Loss Aversion Bias Items

Code	Question Statement	5 Point Likert Scale				
	How upset would you feel if you have total bad debts of:					
LA_1	1% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
LA_2	5% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
LA_3	10% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
	How satisfied you would be with annual profit of:					
LA_4	10% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
LA_5	20% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
LA_6	30% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much

The bias score is calculated by taking the difference of values from six questions (LA_1, LA_2, LA_3, LA_4, LA_5, and LA_6). Then their answers were added to make the final bias score. High score of respondent means he/she is highly biased with this bias and a low score indicates about respondent is low or not biased. The calculation method is explained below in table 10.

Table 10: Loss Aversion Bias Calculation Method

Steps	Calculation Method
Step 1	$LA_1 - LA_4 = Ans_1 > 0$
Step 2	$LA_2 - LA_5 = Ans_2 > 0$
Step 3	$LA_3 - LA_6 = Ans_3 > 0$
Step 4	$Ans_1 + Ans_2 + Ans_3 = Score$
Decision	**High Score = Highly Biased ; Low Score = Low or not Biased**

3.3.1.6 Mental Accounting Items

The bias of mental accounting is measured in many ways, but most of the authors used primary data to assess this bias. Huffman & Barenstein, (2005) used EFS interview for household expenditures in the UK. Our study used two questions MA_1 and MA_2 for this bias and was adapted from the research of Thaler (1999). It is a set of cognitive operations used by an individual to organize, track and evaluate the financial activities. The questions were asked in such a way that the respondent didn't get that what type of bias is being evaluated. These questions are summarized in table 11. 5-Point Likert scale was used to measure the respondent opinion.

Table 11: Mental Accounting Items

Code	Question Statement	5 Point Likert Scale				
MA_1	Imagine that you are about to purchase a jacket for Rs 10000 in store. Meanwhile the salesperson informs you that the jacket you wish to buy is on sale for Rs 9700 at the other branch of the store located 20 minutes' drive away. Would you make a trip to other store?					
		Surely won't	won't	Not Sure	Yes , I will	Surely, I will
MA_2	Imagine that you are about to purchase a calculator for Rs 1200 in store. Meanwhile the salesperson informs you that the calculator you wish to buy is on sale for Rs 900 at the other branch of the store located 20 minutes' drive away. Would you make a trip to other store?					
		Surely won't	won't	Not Sure	Yes, I will	Surely, I will

The bias is calculated by taking the difference of values among the questions MA_1 and MA_2. High score of respondent means he/she is highly biased and low score shows that the respondent is low or not biased. The calculation method is shown below in Table 12.

Table 12: Mental Accounting Bias Calculation Method

Steps	Calculation Method
Step 1	$MA_2 - MA_1 = Score > 0$
Decision	**High Score = Highly Biased ; Low Score = Low or not Biased**

3.3.1.7 Risk Perception Items

Simon, Houghton, & Aquino, (2000) used the self-administered mailed survey to collect data from the MBA students who were going to start a new venture. The study examined the three biases and their impact on the risk perception of the business students who are willing to start venture. Cain & McKeon, (2016) used secondary database of S & P 1500 and extracted data of CEOs from the CompStat executive compensation for risk perception evaluation. Our study used four items to measure the risk perception which were adapted from Sachse, Jungermann, & Belting, (2012). These questions were scaled at 5-point Likert scale where 1 denotes 'Never' and 5 denotes 'Always'. The variable is calculated by taking average of all the scores. These questions are shown in table 13 below.

Table 13: Risk Perception Items

	Question	**5 Point Likert Scale**				
RP_1	Generally, how willing are you to make risky decisions?					
		Never	Seldom	Sometimes	Often	Always
RP_2	Are you always ready to make your decisions based on risk?					
		Never	Seldom	Sometimes	Often	Always
RP_3	Does the riskiness of your decision fluctuate the outcome over a period?					
		Never	Seldom	Sometimes	Often	Always
RP_4	Are your decisions overall highly risky?					
		Never	Seldom	Sometimes	Often	Always

3.3.1.8 Financial Literacy Items

It is the moderating variable on the relationship of behavioral biases and risk perception. In previous studies, financial literacy is measured by various methods like, mailed survey, discussion with respondents, literature, experiments and secondary data. Brown, Saunders, & Beresford, (2006) used online email survey of 122 firms. Bucher-koenen & Ziegelmeyer, (2011) used panel data about 2222 households to assess financial literacy and cognitive ability. In our research this variable was extracted from the work of Hung, Parker, & Yoong, (2009) and four questions were asked from the

respondent to judge their financial literacy. The questions were designed to assess the ability to perceived risk, to understand financial knowledge, and to understand the risk associated with financial decisions. All the items were designed on 5-point Likert scale where 1 indicates 'Very low' and 5 indicates 'Excellent' for the first two questions while next two questions indicate 1 'Never' and 5 as 'Always'. The variable is calculated by taking an average of all the scores. The questions are shown in table 14 below.

Table 14: Financial Literacy Items

	Question	**5 Point Likert Scale**				
LR_1	How would you rate your literacy level regarding financial markets/systems?					
		Very Low	Lover Average	Average	Above Average	Excellent
LR_2	Your knowledge to understand key financial terms, concepts, and situations					
		Very Low	Lover Average	Average	Above Average	Excellent
LR_3	You are always aware of the outcome of your financial decisions					
		Never	Seldom	Sometimes	Often	Always
LR_4	You are aware of the risk associated with your decision					
		Never	Seldom	Sometimes	Often	Always

3.3.1.9 Managerial Skills Items

Our research used managerial skills as a moderator variable on the relationship of risk perception and corporate financial decisions (i.e., dividend policy, capital structure, and working capital management). The managerial skills have been measured with different data techniques in different researches which include interviewing and self-administered questionnaire. Most of the authors used self-administer questionnaire for this purpose, and we also used the same method of data collection. The studies of Pansiri & Temtime, (2008) and Shipper & Davy, (2002) are in line with this methodology. The items of managerial skills were extracted from the research of Sarawat, (2006) and four types of skills were examined in this study. The respondents were asked about their technical, leadership, controlling and planning skills on 5-point

Likert scale where 1 stands for ‘very poor’ and 5 for ‘very good’. The question statements are shown in table 15 for details.

Table 15: Managerial Skills Items

	Question	5 Point Likert Scale				
MS_1	You have the technical skills and ability to maintain an optimal capital structure of the organization.					
		Very Poor	Poor	Acceptable	Good	Very Good
MS_2	Rate your leadership skills for motivating and guiding your subordinates for achieving the goals and targets.					
		Very Poor	Poor	Acceptable	Good	Very Good
MS_3	Rate your skills for controlling financial and economic factors that influence your financial policy.					
		Very Poor	Poor	Acceptable	Good	Very Good
MS_4	Rate your skills for planning and formulation of strategies for implementing your financial policies and decisions.					
		Very Poor	Poor	Acceptable	Good	Very Good

3.3.1.10 Dividend Policy Items

Many methods have been used to measure the data of dividend policy motives. Baker, Baker, & Powell, (2015) used mailed survey to collect data of dividend policy of 603 firms from New York stock exchange and used this data in their research. Adaoglu, (2000), used secondary data in its research to assess dividend variable. The data of industrial and commercial firms of Istanbul stock exchange were taken. Our study used primary data to assess the dividend policy of firms and method of Edelman & Farrelly, (1983) was adapted. Five close-ended questions were asked from respondents. One question was about the firm’s dividend policy in general and the rest of the four questions were asked about factors affecting dividend policy decisions. All the items were measured on a 5-point Likert scale. Table 16 shows the asked items in detail.

Table 16: Dividend Policy Items

Code	Question Statement	5 Point Likert Scale				
DP_1	Which of the following policies best describe your company’s Dividend Policy?					
		Lowest Concern for	Low Concern for	Moderate Concern for	High Concern for	Highest Concern

		Paying Dividend	Paying Dividend	Paying Dividend	Paying Dividend	for Paying Dividend
DP_2	To what extent do you agree with the following statements of decisions in dividend policy?					
	We are concerned for paying dividends rather than risky investments.	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	We are concerned for paying dividends rather than availability of cash.	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	We are concerned for shareholders value maximization by paying dividends	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	We are concerned for increasing the firm value by paying dividends	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

3.3.1.11 Capital Structure Items

Beattie et al., (2006) and Graham & Harvey, (2001) used primary data in their research to measure capital structure. For this purpose, they used mailed survey for collecting data from firms. Haniffa & Hudaib, (2006) used data of 410 listed financial and unit trust companies. They used secondary data to assess capital structure in their research. Our study used the items for capital structure decisions from Bancel & Mittoo (2004). These items were placed in section III of the questionnaire. Two close-ended questions measured on 5-point Likert were asked to assess a firm's capital structure and eight close-ended questions were asked to assess the importance of financial planning principles in the firm (see table 17).

Table 17: Capital Structure Items

Code	Question Statement	5 Point Likert Scale				
CS_1	Rate your company's capital structure policies					
		Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
CS_2	Rate your company's target capital structure ratio					
		Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
CS_3	Indicate the relative importance of the following financial planning principles in governing your company's financing decisions					
	Maintaining financial flexibility	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important

	Ensuring long-term survivability (avoiding bankruptcy)	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Considering financial decisions of competitors	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Considering market response	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Maintaining a stable dividend policy	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Maximizing profitability	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Maintaining voting control of shareholders	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
	Preferring previously used financing sources	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important

3.3.1.12 Working Capital Management Items

Different authors used primary and secondary data to measure WCM in their research. Afza & Nazir, (2007) used secondary data in their research to measure WCM. They collected data from 208 firms listed at KSE. The research of Burns & Walker, (1991) used mailed survey to collect information about WCM. In our research study, we used primary data for this variable and items were derived from the work of Ramiah et al., (2016), designed to measure one or more choices about techniques and practices. The respondents were also asked to rank these factors in 5-point Likert scale. The questionnaire items are summarized in table 18.

Table 18: Working Capital Management Items

Code	Question Statement	5 Point Likert Scale				
1 WCM	Which of the following policies best describe your company's working capital management?					
		Highly Conservative	Conservative	Moderate	Aggressive	Highly Aggressive
2	Please indicate the Cash Management approach used by your company. (You may Select multiple) a. Managing cash through netting b. Meet payment in a timely manner					

	c. Diversification of banks d. Minimize floats e. Managing cash through leading and lagging f. Streamline Bank Relations g. Centralization of cash management decisions h. Emergency liquidity reserves					
3.	What approach does your firm use for Inventory Management? (You may Select multiple) a. Material requirement planning b. Sales forecasting c. Inventory models d. Just-in-time e. Supply Chain Management f. ERP Systems					
4.	Rate the factor given below for their importance while taking decisions regarding account payables					
	Financial motives	Not at all important	Not Important	Neutral	Important	Highly important
	Operational Motives	Not at all important	Not Important	Neutral	Important	Highly important
	Price Motives	Not at all important	Not Important	Neutral	Important	Highly important
	Transaction Motives	Not at all important	Not Important	Neutral	Important	Highly important
5.	What is bad debt level in your accounts receivable?					
		Less than 1%	1-3%	3-6%	6-9%	More than 10 %

3.3.1.13 Corporate Performance Items

The scales for corporate performance vary in previous literature. However, according to the needs of the research, the items for measuring the corporate performance were derived from the work of Khalique (2012) and Khan, Khalique, & Nor (2014). They were using the base methodology of Vorhies, Harker, & Rao, (1999). Khan et al (2014) showed 26 performance indicators by which corporate performance can be measured. We selected five performance indicators (market share, yearly sales growth, customer satisfaction, profitability and return on investment) and overall performance. The respondents were asked to perceive, how well or poor, their firm performed as compared to the closest competitor. These indicators were measured by a semantic differential scale ranging from -2 to +2 ('-2' means much worse, '0' means

about the same and '+2' means much better). The items in the questionnaire are summarized in table 19 below.

Table 19: Organizational Performance Questionnaire Item

OP	In the last three years, relative to your closest competitors how well or poorly do you perceive your firm has performed on the following performance measures? '-2' means much worse, '0' means about the same and '+2' means much better					
1	Overall business performance	-2	-1	0	1	2
2	Market share	-2	-1	0	1	2
3	Sales growth	-2	-1	0	1	2
4	Customer satisfaction	-2	-1	0	1	2
5	Profitability	-2	-1	0	1	2
6	Return on investment	-2	-1	0	1	2

All the sources, from which the items of the questionnaire were extracted or adapted, have been summarized in table 20 for bird's eye view.

Table 20: Items and their Sources used in Questionnaire

Sr #	Variables	Sources
1.	Self-serving	Miller & Ross, (1975); Ramiah et al., (2014)
2.	Overconfidence	Frank, (1935); Ramiah et al., (2014)
3.	Optimism	Balasuriya et al., 2010; Weinstein, (1980)
4.	Anchoring/representative	Ramiah et al., (2014); Amos Tversky & Kahneman, (1974)
5.	Loss Aversion	Ramiah et al., (2014); Amos Tversky & Kahneman, (1991)
6.	Mental Accounting	Thaler, (1999)
7.	Financial Literacy	Hung, Parker, Yoong, et al., (2009)
8.	Risk Perception	Sachse et al., (2012)
9.	Managerial Skills	Sarawat, (2006)
10.	Dividend Policy	Edelman & Farrelly, (1983)
11.	Capital Structure	Bancel & Mittoo, (2004)
12.	Working Capital Management	Ramiah et al., (2014)
13.	Corporate performance	Khalique, (2012)

3.3.2 Validity of the Questionnaire

To examine the internal and external validity of items in the questionnaire in the context of experimental design, the validity test is necessary. We are concerned about the issues of the authenticity of the cause and effect relationship. There are several types of validity test which measure the goodness of items in the questionnaire. We

focused on some of the major types of validity for questionnaire as defined by Sekaran & Bougie (2010).

Content validity ensures that the items are adequate and representative to tap the concept of underlying theory. The content validity of the instrument is proven by a panel of experts to establish the questionnaire validity. Therefore, this research used an adaptive approach; hence content validity is supported by the research work from which the measure is adapted. Face validity is part of content validity and validates that items added in the questionnaire are intended to measure the concept and does the face of these items measure the concept adequately? Is flow of the questions and understandability of items at an adequate level? For this purpose, experts in the industry read the questionnaire, and some changes were made on their suggestions for improvement. After several meetings and incorporating all changes, the questionnaire was pilot tested.

Construct validity shows how well the outcomes acquired by using a research instrument, and measures fit the concept and philosophy for which it was designed. This validity is confirmed by convergent and discriminant validity. For this research, these validities are explained in detail under the heading of measurement model assessment in results and discussion section. The internal consistency of items is indicative of the homogeneity of the items in a construct. All the items in a construct should hang together as a set, and they should be capable of measuring the same concept independently. This is measured by the factor loading of each item impacting on a latent variable. This validity is further explained in the section of outer model assessment (measurement model) in the results and discussion section.

3.3.3 Reliability of Items

This reliability is confirmed by investigation of the consistent respondents' answers in a construct. It is the level of measuring the same concept incipiently and are they correlated with each other? is called Reliability. Mostly, it is measured by Cronbach's alpha and used for items having multipoint scales. Table 21 shows the Cronbach's Alpha of constructs used in the questionnaire of this study. Normally, the cut off value for Cronbach's Alpha is considered 0.6 (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Each reflective construct where this test was applicable has achieved a satisfactory level of alpha; hence, the reliability of instruments is proved.

Table 21: Reliability Score

	Cronbach's Alpha
Capital Structure	0.771
Corporate Performance	0.969
Financial Literacy	0.915
Managerial Skills	0.627
Risk Perception	0.603

3.3.4 Pilot Testing

Regarding the selection and measurement process of all variables, formal interviews with executive managers were conducted to bridge the gap between academia and current industry practices. The interviews last about one and a half hours with each respondent in different industrial sectors. The information collected was used to project a preliminary draft of the questionnaire. On the initial draft of the questionnaire (after incorporating around 26 queries), a pilot survey was also carried out. The final questionnaire was articulated on the roots of responses. The final version of the questionnaire contained 35 questions (see Appendix A). After this assessment, the data collection process was started.

3.4 Data Collection Procedure

Our data gathering approach drawn on Belt & Smith, (1991); Graham & Harvey, (2001); and Ramiah et al., (2016) and argued that online questionnaires make the participation process more efficient by reducing the reply cost and time, since it omits the need for the participants to mail back their feedback.

After the self-administrated pilot study, the online version of the questionnaire was built with the help of web developers of the department of computer science. For three countries Pakistan, Malaysia and Turkey separate web pages were built. An email as a cover letter (see Appendix A) was sent to all respondents and follow up was also made. The LinkedIn forum was also used to identify and locate the contact information of corporate financial decision makers of Malaysia and Turkey. For Pakistan, a database provided by LSE Financial Service Limited was used to contact chief financial officers and financial managers of listed companies. The process of data collection and analysis was completed in almost one year starting from July 2016 to June 2017.

3.5 Target Population

The population is the total number of the audience being targeted for the collection of data to investigate the study phenomenon. The target population of the study was the finance managers and chief financial officers of listed companies of a non-financial sector of Pakistan, Malaysia, and Turkey.

3.5.1 Sampling Technique

We selected convenience-sampling technique to collect data for three countries because of constraints of resources and time duration. Other major reasons behind choosing this sampling technique are the absence of proper organizational structures in the population.

3.5.2 Data Screening

Several steps of the data screening were carried out to check the consistency and normality of data. The details of the steps are given below.

Duplication was avoided by asking the participants not to respond twice. Each questionnaire entered in SPSS V.23 for data screening. On the first step, duplicate cases were removed accordingly. Screening of missing data using frequency distribution in SPSS was assessed for each item. It was observed that limited numbers of missing cases were identified which had the missing values less than 10 percent. And were replaced with the midpoint of their respective scales, as suggested by Hair et al. (2014). Some cases were found having missing data more than 10% and removed accordingly. Outlier screening for demographic variables carried out by box plot graph and no outlier found in the data, however, screening of outlier for Likert scale is not appropriate as suggested by Hair et al. (2014). The unengaged responses from the respondents were analyzed by using MS Excel, and standard deviation of each case was used as a criterion. The cases having a value of standard deviation less than 0.7 were removed because these cases were looking as unengaged responses. They were removed from the data for accurate analysis. The summary of the data screening is shown in table 22 below.

Table 22: Questionnaire Screening Statistics

Country	Pakistan	Malaysia	Turkey
Questionnaire Sent	425	1092	618
Responses	236	165	138
Duplicate Cases Found	18	6	10
Cases with Missing data more than 10%	16	20	28
Outliers	9	9	11
Un Engaged Responses	21	5	8
Questionnaire used for Data Analysis	**172**	**125**	**81**

3.6 Data Analysis Techniques Used

Following statistical techniques are used for analysis.

3.6.1 What is PLS-SEM and Why to Use it?

It was originally developed by Wold (1975, 1980, 1982), Partial Least Square (PLS) is a Structural Equation Model (SEM) technique built on an iterative approach which maximizes the explained variance of endogenous constructs (Fornell & Bookstein, 1982).

Recently, considerable attention has been received by PLS-SEM in various fields of social sciences and business studies like operation management (Peng & Lai, 2012), Management Information System (Ringle, Sarstedt, & Straub, 2012), Accounting (Lee, Petter, Fayard, & Robinson, 2011), Marketing and Strategic Management (Hair, Marko Sarstedt, 2012). The credit goes to PLS-SEM because of its ability to handle complex modeling issues that routinely occurs in the social sciences.

3.6.2 Prior Researches Conducted through PLS-SEM

PLS-SEM is gaining acceptance as a viable analysis methodology in business research. Many scholars have published their research studies and concluded their results with the help of PLS-SEM. The studies have been summarized in table 23 which includes the application of PLS-SEM, the year of publication, the range of years covered by the review, number of articles analyzed, and the justifications, given for using PLS-SEM. These research studies also reported top three reasons for applying PLS-SEM technique, which includes (1) data distribution, (2) sample size, and (3) use of formative indicators.

Table 23: Prior Studies conducted with PLS-SEM

Business Discipline	Reported by	Time Period	No. of Studies	Reasons for using PLS-SEM
Marketing	Hair, et al. (2012)	1981-2010	204	Non-normal data: 50% Small Sample size: 46 Formative Indicators: 33%
Strategic Management and Financial Policies	Hair, et al. (2012)	1981-2010	37	Non-normal data: 59% Small Sample size: 46 Formative Indicators: 27%

Management Information Systems	Ringle et al., (2012)	1992-2011	65	Non-normal data: 34% Small Sample size: 37 Formative Indicators: 31%
Production and Operation management	Peng & Lai, (2012)	2000-2011	42	Non-normal data: 14% Small Sample size: 33 Formative Indicators: 19%
Accounting	Lee et al., (2011)	2005-2011	20	Not analyzed

Note: Percent of Studies is providing the corresponding reasons; not all article provided justifications but some article providing multiple reasons.
Source: Hair. et al., (2014)

3.6.3 When to Use PLS-SEM

Using PLS-SEM technique provides several benefits to researchers, the most prominent justifications for using PLS-SEM are

- Non-normal data available for analysis;
- Research has small sample sizes to analyze; and
- Research study has formative constructs along with reflective constructs

When applying PLS-SEM, researchers need to follow a multi-stage process that involves the specification of the inner and outer models, data collection and examination, the actual model estimation, and the evaluation of results. In the following, this review centers on the three most salient steps:

- Model specification and design;
- Measurement (Outer) Model Assessment, and
- Structural (Inner) Model Assessment.

The model specification stage deals with the set-up of the measurement and structural models. The measurement models evaluate the relationships between the indicator variables and their corresponding construct while the structural model displays the relationships between the constructs under evaluation. The assessment process of each step explains in detail in chapter 5 ‘Results and Discussion’

3.7 Summary of the Chapter

This chapter contains the justifications of the selected research model & methodology used to address the research questions, discussing the methods used for quantifying variables, validating the model and testing the hypotheses. It also provides an overview of the research design and identifies the study sampling technique. This chapter also explains the reason for using questionnaire method as a research instrument. The development of constructs, measurement of items with the relation of past researches have also been discussed. The next chapter discusses the descriptive, disruptive and PLS-SEM analysis & results of Pakistan.

CHAPTER 4:

RESULTS AND DISCUSSION FOR PAKISTAN

4.1 Introduction

This chapter presents the analysis and results of Pakistan. The first section of the chapter presents general fundamental descriptive & disruptive analysis comprising basic tables which are effortlessly understandable for a wide group of audience. The second section of the chapter presents comprehensive PLS-SEM analysis which includes a detailed explanation about the assessment of measurement and structural model. Measurement model explains the reliability and validity of constructs while the structural model explains the path coefficient, mediation, and moderation effects of the variables along with their significance. Later in this chapter, other statistics about the model fit are presented.

4.2 Descriptive Analysis – Pakistan

This section summarizes the descriptive statistics for the responses collected from Pakistani respondents.

Table 24: Gender/Age/Designation Wise Respondent Distribution – Pakistan

Pakistan		Frequency	Percent
Gender	Male	158	92
	Female	14	8
	Total	172	100
Age	18-25	11	6.4
	26-35	25	14.5

	36-45	49	28
	46-55	46	26.7
	56-60	25	14.5
	60-Above	16	9.3
	Total	172	100
Designation	CFO	81	47.1
	CEO	10	5.8
	General Manager	12	6.5
	Director Finance	11	6.4
	General Manager Finance	49	29.3
	Managing Director	9	5.2
	Total	172	100

Table 24 shows the descriptive statistics about gender, age and designation of respondents. The sample composition shows that 92% $(n = 158)$ of respondents are male and 8% $(n = 14)$ are female. The age of the respondents is observed which explains that 6.4% $(n = 11)$respondents are between 18-25 years of age, 14.5% $(n = 25)$ respondents are between 26-35 age, 28% $(n = 49)$ respondents are between 36-45 years of age, 26.7% $(n = 46)$ respondents are between 46-55 years age, 14.5% $(n = 25)$ respondents are of the age between 56-60 of years, and 9.3%$(n = 16)$ of the respondents are having age more than 60 years. The statistics about designations of respondents explain that chief financial officer are having percentage of 47.1% with $(n = 81)$, chief executive officers are having percentage of 5.8% with $(n = 10)$, general managers are having percentage of 6.5% with $(n = 12)$, director finance having percentage of 6.5% with $(n = 11)$, general manager finance are having percentage of 29.3% with $(n = 49)$ and managing director are having percentage of 5.2% with $(n = 9)$. It concludes that the maximum value of respondents is male which lies under the age group of 36-45 years. It clearly indicates that 80% of our sample contains mature professionals having age more than 36 years.

Table 25: Education/Work Experience Wise Respondent Distribution – Pakistan

Pakistan	Sub Groups	Frequency	Percentage
Education	Graduation	9	5.2
	Master	31	18
	MS/M.Phil.	17	9.9
	Ph.D.	0	0
	CFA	5	2.9
	ACMA/CFP/CPA	27	15.7
	ACCA	14	8.1
	CA/CIMA	69	40.1
	Total	172	100
Years of Experience	1-5	6	3.5
	6-10	23	13.4
	11-15	30	17.4
	16-20	51	29.7
	21-25	25	14.5
	25-30	21	12.2
	Above 30	16	9.3
	Total	172	100

Table 25 shows the level of academic qualification and work experience of the respondents. The data of the respondents from Pakistan explains that 5.2% $(n = 9)$ respondents are holding graduation degree, 18% $(n = 31)$ are holding master degree, 9.9% $(n = 17)$are holding post-graduation degree, whereas, 2.9% $(n = 5)$ respondents are certified financial analyst holding CFA certification, 15.7% $(n = 27)$ respondents are entitled by ACMA and 8.1% $(n = 14)$ respondents are holding ACCA certification. Maximum value of respondents entitled with chartered accountant 40.1% $(n = 69)$. Similarly, statistics of work experience indicate that 3.5% $(n = 6)$ respondents' job experience is 1-5 years, whereas, 13.4% $(n = 23)$ are having 6-10 years of professional experience. 17.4% $(n = 30)$ are having 11-15 years of experience. The maximum respondents are 29.7% $(n = 51)$ having experience of 16-20 years. The respondents having work experience of 21-25 years in our sample size are 14.5% $(n = 25)$ from different industrial sectors. The respondents who have 25-30 and above 30 years of professional experiences are 12.2% $(n = 21)$ and 9.3% $(n = 16)$ in our total sample size of 172, respectively.

Table 26: Industry Wise Distribution of Respondents from Pakistan

Industry Type	Pakistan	
	Frequency	Percent
Automobile Assembler	15	8.7
Automobile Assembler and Parts	5	2.9
Cable and Electrical Goods	1	.6
Cement	7	4.1
Chemical	12	7
Engineering	7	4.1
Fertilizer	6	3.5
Food & Personal Care Products	21	12.2
Glass and Ceramics	3	1.7
Jute	2	1.2
Leather and Tanneries	1	.6
Oil and Gas Exploration	3	1.7
Oil and Gas Marketing	2	1.2
Paper and Board	2	1.2
Pharmaceuticals	2	1.2
Power Generation & Production	2	1.2
Sugar and Allied	5	2.9
Synthetics and Rayon	2	1.2
Technology and Communication	4	2.3
Textile	61	35.5
Textile Weaving	3	1.8
Textile Spinning	6	3.5
Total	**172**	**100.0**

The above table 26 reveals industry wise distribution of received sample from Pakistan. The statistics indicate that 8.7% $(n = 15)$ respondents are from automobile assembler sector, whereas 2.9% $(n = 5)$ respondents are from 'automobile assembler and part' sector, 4.1% $(n = 7)$ respondents are from cement sector. 7.1% $(n = 12)$ respondents are from chemical sector, 4.1% $(n = 7)$ respondents are from engineering sector, 3.5% $(n = 6)$ respondents are from fertilizer sector, 12.4% $(n = 21)$ respondents are from 'food and personal care product' sector, and 1.8% $(n = 3)$ respondents are from glass and ceramics sector, 1.2% $(n = 2)$ respondents are from jute sector, 0.6% $(n = 1)$ respondents are from leather and tanneries sector, 1.8% $(n = 3)$ respondents are from oil and gas exploration sector, 1.2% $(n = 2)$ respondents are from oil and gas the marketing sector, 1.2% $(n = 2)$ respondents are from paper and board sector, 1.2% $(n = 2)$ respondents are from pharmaceutical

sector, 1.2% $(n = 2)$ respondents are from power generation and production sector, 2.7% $(n = 4)$ respondents are from sugar and allied sector, 1.2% $(n = 2)$ respondents are from synthetic and rayon sector, and 2.4% $(n = 4)$ respondents are from technology and communication sector. The maximum respondents are observed from textile sector across the country which are 35.5% $(n = 61)$ in sample. The statistics for textile weaving and spinning remained 1.7% $(n = 3)$ and 3.5% $(n = 6)$ respectively.

Table 27: Credit Rating/No. of Employee/Family Owned Status Distribution – Pakistan

Pakistan		Frequency	Percent
Credit Rating	AAA	15	8.7
	AA	11	6.4
	A	41	23.8
	BBB	9	5.2
	BB	2	1.2
	B	4	2.3
	CCC	1	0.6
	CC	1	0.6
	Other	88	51.2
	Total	172	100.0
No of Employees	1-999	46	26.6
	1000-1999	21	12.2
	2000-2999	33	19.2
	3000-3999	18	10.5
	4000-4999	15	8.7
	Above 5000	39	22.7
	Total	172	100.0
Family Owned	Yes	113	65.7
	No	59	34.3
	Total	172	100.0

The above table 27 shows credit rating, company size and family-owned status of Pakistani companies which explains that maximum percentage of companies fall in 'A' category with 23.8% $(n = 41)$. The statistic of credit rating for 'AAA' companies are observed as 8.7% $(n = 15)$, for 'AA' companies 6.4% $(n = 11)$, for 'BBB' companies, 5.2% $(n = 9)$, for 'B' companies 2.3% $(n = 4)$. The percentage for companies having credit rating of 'BB' 'CCC' and 'CC' companies remain 1.2% $(n = 2)$ and 0.6 % $(n = 1)$, 0.6 % $(n = 1)$ respectively. Non-credit rating companies

are 51.2 % ($n = 88$).The credit rating procedure is expensive and takes processing time, that's why the companies focusing on domestic market are not much interested in taking credit from bank or any other financial institution.

Similarly, these companies having employees in range of 1-999 are 26.6% ($n = 46$), employees in range 1000-1999 are12.2% ($n = 21$), companies with employees range 2000-2999 are 19.2% ($n = 33$), companies with employees range between 3000-3999 are 10.5% ($n = 18$), the companies having employees in range 4000-4999 are 8.7%($n = 15$), and the companies having employees above 5000 are 22.7% ($n = 39$).

Family owned status of the companies participating in the study from Pakistan indicates that 65.7% ($n = 113$) of companies are family owned while 34.3% ($n = 59$) are non-family owned companies.

Table 28: Annual Revenue/Foreign sales Distribution of Companies – Pakistan

Pakistan		Frequency	Percent
Annual Revenue in US$	30 Million or Less	73	42.4
	30-99 Million	52	30.2
	100-499 Million	37	21.5
	500-999 Million	7	4.1
	1000 -1999 Million	3	1.7
	1999 Million and above	0	0
	Total	172	100.0
Foreign Sales	0%	32	18.6
	1-24.99%	59	34.3
	25-49.99%	26	15.1
	50 % Above	55	32
	Total	172	100.0

The respondents' statistics report about annual revenue and foreign sales of their companies which are summarized in table 28. The respondents of the companies with annual revenue, up to 30 million US$ are 42.4% ($n = 73$), companies with annual revenue in range of 30-99 million US$ are 30.6% ($n = 52$), the respondents of the

companies with annual revenue in range of 100-499 million US$ are 21.5% $(n = 37)$, respondents of companies having annual revenue in range of 500-999 million US$ are 4.1% $(n = 7)$, and respondents of the companies having annual revenue in range of 1000-1999 million US $ are 1.7% $(n = 3)$. The percentage of export with respect to its total sales volume, the statistics reveal that 18.6% $(n = 32)$ companies have no foreign sales, whereas 34.3% $(n = 59)$ companies fall under 25% of foreign sales with respect to their total sales, companies with foreign sales up to 50% are 15.1% $(n = 26)$, and companies having foreign sales more than 50% are reported 32%$(n = 55)$.

The total sample of 172 companies were used for this analysis which also depict a diversified revenue position per annum from different industrial sectors having domestic and foreign sales.

4.3 Disruptive Analysis of Biases with Other Variables of Study – Pakistan

This section shows the disruptive tables of biases compared with other variables in this study.

Table 29: Financial Literacy Compared with Behavioral Biases

Financial Literacy	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	15	36	15	36	21	30	23	28	23	28	22	29
Medium	9	21	13	17	5	25	22	8	19	11	6	24
High	17	74	33	58	19	72	49	42	37	54	34	57

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 29 shows the crosstab disruptive statistics about six behavioral biases and financial literacy. When the respondents are prone towards a bias, it is represented by a high score. Similarly low score indicates low biased respondents. The scores of six

biases, self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting are horizontally placed. Financial literacy of respondents is segregated in three subsamples of low, medium and high groups and placed vertically in the table for crosstab analysis. The results indicate that although managers are financially literate however they are influenced by behavioral biases. The high number of financially literate respondents falls in the high biased column. A large number of respondents with low financial literacy are also influenced by these behavioral biases while the respondents with medium financial literacy are least influenced with them. The largest group of respondents is found with high financial literacy and highly biased as 74 in self-serving, 58 in overconfidence, 72 in optimism, 42 in anchoring/representative, 54 in loss aversion, and 57 respondents in mental accounting.

Table 30: Managerial Skills Compared with Behavioral Biases

Managerial Skills	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	12	27	10	29	15	24	21	18	17	22	18	21
Medium	11	31	18	24	9	33	23	19	20	22	11	31
High	18	73	33	58	21	70	50	41	42	49	33	58

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 30 shows the crosstab disruptive statistics about six behavioral biases and managerial skills. The results show a mixed trend of respondents with managerial skills and behavioral biases. The largest group of respondents is found with high managerial skills and high bias score, e.g. 73 in self-serving, 58 in overconfidence, 70 in optimism, 41 in anchoring/representative, 49 in loss aversion, and 58 in mental accounting.

Table 31: Corporate Performance Compared with Behavioral Biases

	SS	OC	OPT	ARB	LA	MA

Corporate Performance	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	3	4	4	3	1	6	6	1	5	2	5	2
Medium	2	10	3	9	3	9	7	5	7	5	6	6
High	36	117	54	99	41	112	81	72	67	86	51	102

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 31 shows statistics about corporate performance and six behavioral biases. The respondents were categorized with respect to organizational performance by a low, medium, and high subsample groups. The results show a mixed trend of respondents as far as biases are concerned. However, the largest group of respondents reported their organizational performance at high level. The statistics of highly biased respondents in this group are found 117 in self-serving, 99 in overconfidence, 112 in optimism, 72 in anchoring/representative, 86 in loss aversion, and 102 respondents in mental accounting.

Table 32: Risk Perception Compared with Behavioral Biases

Risk Perception	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	19	26	29	16	13	32	33	12	9	36	19	26
Medium	4	25	4	25	10	19	22	7	6	23	5	24
High	18	80	28	70	22	76	39	59	64	34	38	60

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 32 shows the statistics about six behavioral biases and risk perception. The results for this table indicate that managers with high risk perception are highly biased while respondents with low risk perception are less biased. The largest group of respondents has reported high risk perception and highly biases as 80 in self-serving, 70 in overconfidence, 76 in optimism, 59 in anchoring/representative, 34 in loss aversion, and 60 in mental accounting respectively.

Table 33: Gender/Age/Designations Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Gender	Male	39	119	56	102	41	117	87	71	72	86	57	101
	Female	2	12	5	9	4	10	7	7	7	7	5	9
Age	18-25	4	7	4	7	1	10	5	6	5	6	4	7
	26-35	8	17	7	18	5	20	10	15	10	15	6	19
	36-45	12	37	20	29	16	33	31	18	21	28	20	29
	46-55	10	52	16	46	13	49	31	31	26	36	21	41
	56-60	6	15	12	9	8	13	15	6	15	6	10	11
	60-Above	1	3	2	2	2	2	2	2	2	2	1	3
Designation	CFO	12	52	26	38	11	53	30	34	28	36	24	40
	CEO	4	6	6	4	2	8	2	8	6	4	5	5
	GM Finance	10	39	10	39	17	32	33	16	18	31	18	31
	Director Finance	3	4	3	4	2	5	4	3	6	1	4	3
	General Manager	10	26	15	21	10	26	21	15	17	19	8	28
	Managing Director	2	4	1	5	3	3	4	2	4	2	3	3

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 33 shows the crosstab statistics about six behavioral biases, gender, age and designation of the respondents. The biases are divided into two subsamples of high and low. Each cell reports the number of respondents in the crosstab relationship of respondent between gender and behavioral biases that's why male respondents are the most in number among the respondents and more biased as compared to female. Similarly, the respondents fall in the age group of 36 to 55. The respondents are mostly influenced by optimism, self-serving, mental accounting and overconfidence biases. This table also shows the crosstab relation of designation and behavioral biases. CFOs are the most in the number who are highly biased.

Table 34: Education/Work experience Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Education	Graduation	3	6	3	6	2	7	4	5	3	6	3	6

	Master	6	24	11	19	11	19	16	14	9	21	10	20
	MS/M.Phil.	2	15	7	10	2	15	9	8	7	10	7	10
	CFA	1	4	1	4	2	3	3	2	4	1	0	5
	ACMA	7	20	9	18	11	16	17	10	11	16	12	15
	ACCA	5	9	4	10	4	10	8	6	8	6	4	10
	CA	17	53	26	44	13	57	37	33	37	33	26	44
Experience	1-5 Years	3	3	2	4	0	6	5	1	4	2	1	5
	6-10 Years	8	15	7	16	8	15	16	7	11	12	11	12
	11-15 Years	4	23	10	17	7	20	10	17	15	12	11	16
	16-20 Years	6	22	8	20	9	19	18	10	11	17	8	20
	21-25 Years	11	38	19	30	11	38	29	20	21	28	16	33
	25-30 Years	6	16	9	13	6	16	9	13	8	14	11	11
	Above 30 Years	3	14	6	11	4	13	7	10	9	8	4	13

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 34 describes the relationship of the respondents' education level and work experience with behavioral biases. From the table, it is revealed that the group of high self-serving bias is having a maximum number of respondents in master qualification while the low biased group in self-serving is CFA. The group of high overconfident respondents is having CA qualification while the low biased group of overconfident respondents is having CFA qualification. The same trend in qualification group of respondents is observed with ACMA and ACCA qualification. They fall in the highly biased group of all other biases.

When we talk about work experience with behavioral biases. Each cell reports the number of respondents for crosstab relation. The mixed trend is observed in the results. The maximum number of respondents falls in the group of 21-25-year work experience and show less behavioral biases as compared to other age groups.

Table 35: Industry Compared with Behavioral Biases

Industry	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Automobile Assembler	1	13	5	9	2	12	7	7	7	7	5	9
Automobile Assembler and Parts	2	3	2	3	1	4	3	2	2	3	0	5
Cable and Electrical Goods	0	1	0	1	0	1	1	0	0	1	1	0
Cement	2	7	3	6	2	7	6	3	7	2	5	4
Chemical	3	9	8	4	3	9	7	5	10	2	3	9
Engineering	3	4	2	5	0	7	5	2	2	5	0	7

Fertilizer	1	5	0	6	4	2	4	2	4	2	1	5
Food & Personnel Care Products	5	16	7	14	5	16	11	10	8	13	8	13
Glass and Ceramics	0	3	2	1	1	2	1	2	2	1	2	1
Jute	1	1	2	0	0	2	1	1	1	1	1	1
Leather and Tanneries	0	1	0	1	0	1	1	0	0	1	0	1
Oil and Gas Exploration	1	2	1	2	1	2	2	1	1	2	2	1
Oil and Gas Marketing	0	2	1	1	1	1	0	2	1	1	0	2
Paper and Board	2	0	2	0	1	1	1	1	1	1	2	0
Pharmaceuticals	0	2	1	1	0	2	0	2	0	2	1	1
Power Generation & Production	0	2	1	1	0	2	0	2	1	1	0	2
Refinery	0	0	0	0	0	0	0	0	0	0	0	0
Sugar and Allied	3	2	2	3	1	4	2	3	2	3	1	4
Synthetics and Rayon	1	1	2	0	0	2	1	1	2	0	1	1
Technology and Communication	1	3	1	3	0	4	1	3	3	1	2	2
Textile	13	47	17	43	20	40	37	23	24	36	24	36
Textile Weaving	1	2	1	2	1	2	1	2	0	3	0	3
Textile Spinning	1	5	1	5	2	4	2	4	1	5	3	3
Textile Woolen	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 35 explains the statistics among the relationship of industry type and behavioral biases. Most of the respondents are from industrial organizations. The respondents from the textile sector are found highly biased as compared to all other sectors in Pakistan.

Table 36: Credit Rating/No. of Employee Compared with Behavioral Biases

		SS		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Credit Rating	AAA	9	32	17	24	7	34	19	22	21	20	18	23
	AA	1	8	4	5	4	5	7	2	5	4	2	7
	A	14	28	13	29	10	32	26	16	18	24	14	28
	BBB	1	6	4	3	4	3	3	4	1	6	4	3
	BB	0	2	0	2	0	2	1	1	2	0	0	2
	B	1	3	0	4	1	3	3	1	1	3	1	3
	CCC	0	1	1	0	0	1	0	1	0	1	0	1
	CC	0	1	1	0	0	1	1	0	0	1	0	1
	C	0	1	0	1	1	0	1	0	1	0	0	1
	Other	15	49	21	43	18	46	33	31	30	34	23	41
No of Employees	1-999	9	36	15	30	15	30	26	19	20	25	13	32
	1000-1999	7	14	5	16	5	16	11	10	10	11	11	10
	2000-2999	7	26	10	23	3	30	14	19	17	16	12	21
	3000-3999	4	15	12	7	5	14	9	10	7	12	4	15
	4000-4999	2	13	4	11	4	11	11	4	4	11	4	11
	5000-5999	12	27	15	24	13	26	23	16	21	18	18	21
	6000-Above	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 36 shows statistics about the credit rating, company size (with respect to the number of employees working in the company) and behavioral biases. Our sample size shows that most of the respondents are working in firms with a credit rating of AAA, AA, A, and Others. The further statistics show that the overall trend of the respondents from AAA, A crediting rating companies are highly biased. It also explains the crosstab statistics about a number of employees working in an organization with behavioral biases of the respondents. Most of the companies lie in the group with a number of employees range from 1000-1999 and 5000- 5999 which are found highly biased.

Table 37: Annual Revenue/Foreign Sales Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Annual Revenue	30 Million or Less	19	53	23	49	20	52	38	34	33	39	24	48
	30-99 Million	13	40	21	32	7	46	28	25	20	33	21	32
	100-499 Million	8	28	13	23	16	20	23	13	20	16	16	20
	500-999 Million	1	7	2	6	2	6	5	3	3	5	0	8
	1000 -1999 Million	0	3	2	1	0	3	0	3	3	0	1	2
	1999 Million & Above	0	0	0	0	0	0	0	0	0	0	0	0
Foreign Sales	0%	9	21	9	21	8	22	16	14	11	19	7	23
	1-24%	14	49	27	36	13	50	33	30	36	27	26	37
	25-49%	9	18	13	14	7	20	15	12	12	15	11	16
	50-75%	3	19	5	17	8	14	12	10	8	14	5	17
	75% and Above	6	24	7	23	9	21	18	12	12	18	13	17

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 37 shows crosstab relations of annual revenue, foreign sales of the companies with behavioral biases of the respondents. The statistics show that the respondents working in organization bearing annual revenue of $ 30 to 500 million are highly biased. It also indicates that the respondents working in an organization with foreign sales are overall highly biased. Most of the companies fall in the subsample

group 1-24% of the foreign sale. Interestingly, the responders from no foreign sales companies are found biased as well.

Table 38: Capital Structure Policy Decisions

Capital Structure Decisions	Mean	S.D.	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
Capital Structure Policies	3.00	1.2	16.9%	10.5%	40.7%	19.8%	12.2%
Capital Structure Target Ratio	2.77	1.1	17.4%	20.3%	39.5%	13.4%	9.3%

The table 38 explains about the percentage of the respondents indicating the capital structure policies of their firms. The mean and standard deviation are also reported. Our statistical results show that 40.7% of respondents are reporting 'moderate' level of capital structure policies, which is reported by the maximum number of respondents. The statistics about capital structure target ratio indicates that 39.5% of respondents use moderate level for CS target ratio. It concludes that Pakistani firms generally use high or moderate levered capital structure policies.

Table 39: Capital Structure Policy Motives

Capital Structure Decisions	Mean	S.D.	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
Maintaining Financial Flexibility	3.94	0.8	2.9%	3.5%	11.0%	61.0%	21.5%
Ensuring Long-term Survivability	4.37	0.6	0.0%	0.6%	8.7%	43.6%	47.1%
Considering Financial Decisions of Competitors	3.70	0.8	0.0%	7.0%	34.3%	39.5%	19.2%
Considering Market Response	3.831	0.7	0.0%	2.3%	30.8%	48.3%	18.6%
Maintaining a Stable Dividend Policy	3.390	0.9	6.4%	7.6%	33.1%	46.5%	6.4%
Maximizing Profitability	3.814	0.7	0.0%	3.5%	26.7%	54.7%	15.1%
Maintaining Voting Control of Shareholders	4.116	0.6	0.0%	1.7%	10.5%	62.2%	25.6%
Preferring Previously Used Financing Sources	3.349	0.8	3.5%	8.7%	43.0%	39.0%	5.8%

The table 39 presents the percentage of the respondents regarding the importance of the capital structure decision motives. The mean and standard deviation of each factor is also calculated. The statistics concluded that the most important financial motive is 'maintaining voting control of shareholders' and the least important financial motive is 'preferring previously used financing sources.'

Table 40: Capital Structure Policy Motives Compared with Behavioral Biases

Behavioral Bias		Maintaining Financial Flexibility	Ensuring Long-term Survivability	Considering Financial Decisions of Competitors	Considering Market Response	Maintaining a Stable Dividend Policy	Maximizing Profitability	Maintaining Voting Control of Shareholders	Preferring Previously Used Financing Sources
Self-Serving	High	3.95	4.42	3.73	3.84	3.37	3.83	4.15	3.32
	Low	3.93	4.22	3.63	3.80	3.44	3.76	4.00	3.44
Overconfidence	High	3.89	4.39	3.73	3.81	3.41	3.80	4.14	3.39
	Low	4.05	4.34	3.67	3.87	3.36	3.84	4.07	3.28
Optimism	High	3.92	4.35	3.69	3.82	3.39	3.83	4.06	3.40
	Low	4.02	4.44	3.78	3.87	3.40	3.78	4.29	3.20
Anchoring/Representative	High	4.06	4.44	3.72	3.88	3.45	3.85	4.19	3.27
	Low	3.85	4.32	3.70	3.79	3.34	3.79	4.05	3.41
Loss Aversion	High	3.89	4.38	3.71	3.75	3.41	3.85	4.01	3.43
	Low	4.01	4.37	3.71	3.92	3.37	3.77	4.24	3.25
Mental Accounting	High	3.96	4.35	3.76	3.87	3.46	3.84	4.12	3.43
	Low	3.92	4.40	3.61	3.76	3.26	3.77	4.11	3.21

The table 40 narrates the relationship between behavioral biases and capital structure decisions motives. The values shown in the table indicate the average Likert scale score of each motive divided into two subsamples based on behavioral biases. All of six behavioral biases, self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting were categorized in two subsamples of 'high' and 'low' which indicate the intensity of influence. The motives of capital structure decisions i.e. 'maintaining financial flexibility', 'ensuring long-term survivability', 'financial decisions of competitors', 'market response, maintaining

stable dividend policy', 'maximizing profitability', 'maintaining voting control of shareholders' and 'previously used financing sources' were measured on Likert scale from 1 to 5 (from least important to most important). Overall, the results exhibit mixed pattern regarding biases of respondents in capital structure decision motives, however, 'maintaining voting control of shareholders' is reported significantly different for subsamples of all biases.

Table 41: Dividend Policy Decisions

Dividend Policy	Mean	S.D.	Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend
Dividend Policy Decisions	3.081	0.99	8.1%	19.8%	29.7%	40.7%	1.7%

The table 41 explains the percentage of the respondents indicating the dividend policy of their respective company. The mean and standard deviation are also reported. Our statistics show that 8.1% respondents report 'lowest concern for paying dividend', 19.8% respondents report 'low concern for paying dividend', 29.7% respondents report 'moderate concern for paying dividend', 40.7% respondents report 'high concern for paying dividend', and 1.7% respondents report 'highest concern for paying dividend'. Our results show that Pakistani firms normally exhibit moderate and high concern for paying dividend to their shareholders.

Table 42: Dividend Policy Motives

Dividend Policy	Mean	S.D.	Strongly Disagree	Disagree	Un-Decided	Agree	Strongly Agree
Paying Dividends rather than Risky Investments	3.052	0.897	3.5%	26.2%	33.1%	36.0%	1.2%
Paying Dividends rather than Availability of Cash	2.738	0.992	6.4%	43.6%	22.7%	24.4%	2.9%
Shareholder's Value Maximization by Paying Dividends	3.267	0.939	1.2%	28.5%	15.1%	52.9%	2.3%

Firm Value Maximization by Paying Dividends	3.262	0.880	2.3%	19.8%	29.7%	45.9%	2.3%

The table 42 shows the percentage of the respondents based on a response rate of each dividend policy motive on a scale of importance. The mean and standard deviation of each decision is also reported. The statistics conclude that about 36% of the respondents in Pakistani firms agree to pay dividend rather than investing in risky portfolio, 43.6% respondents disagree to pay dividend rather than availability of cash, about 52.9% of respondents are agreed to maximize the shareholders' wealth by paying dividend and 45.9% of respondents focus on firms' value maximization by paying dividends.

Table 43: Dividend Policy Motives with Behavioral Biases

Behavioral Biases		Paying Dividends rather than risky investments	Paying Dividends rather than availability of Cash	Maximizing Shareholder value by paying dividends	Increasing the Firm Value by Paying Dividends
Self-Serving	High	3.05	3.02	2.68	3.20
	Low	3.17	3.17	2.93	3.49
Overconfidence	High	3.07	3.12	2.75	3.26
	Low	3.10	2.93	2.72	3.28
Optimism	High	3.09	3.09	2.76	3.33
	Low	3.04	2.93	2.67	3.09
Anchoring/Representative	High	3.10	2.92	2.69	3.38
	Low	3.06	3.16	2.78	3.17
Loss Aversion	High	3.16	2.98	2.75	3.22
	Low	2.99	3.14	2.72	3.33
Mental Accounting	High	3.14	3.15	2.78	3.26
	Low	2.98	2.89	2.66	3.27

The table 43 narrates the relationship between behavioral biases and dividend policy motives of respondents in Pakistan. The values shown in the table indicate the average Likert scale score of each motive divided into two subsamples based on behavioral biases. All of six behavioral biases, self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting are categorized into two

levels ‘high’ and ‘low’. The dividend policy motives i.e. ‘paying dividends rather than risky investments’, ‘paying dividends rather than availability of cash’, ‘maximizing shareholder value by paying dividends’, ‘Increasing the firm value by paying dividends’, were scaled from 1 to 5. Overall, this table explains the pattern of biased respondents in dividend policy decisions by the mean level of agreement on each function of dividend policy.

Table 44: Working Capital Management Policy

Working Capital Management	Mean	S.D.	Highly Conservative	Conservative	Moderate	Aggressive	Highly Aggressive
WCM Policy	3.25	1.10	0.6%	37.8%	8.7%	41.3%	11.6%

The table 44 explains the choice of working capital policies of respondents in percentage. The mean and standard deviation are also reported. Our statistics show that 0.6% respondents report that they are highly conservative about WCM policies, whereas 37.8% report conservative, 8.7% report moderate, 41.3% report aggressive and 11.6% respondents report that they are highly aggressive in their WCM policies. Mix trend of conservative and aggressive WCM policies are witnessed in Pakistani companies.

Table 45: Cash Management Approaches Used by Companies

Cash Management Approaches used by Companies	Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Number of Responses	50	62	51	43	56	33	39	18

The table 45 indicates the count of respondents who have marked their cash management approaches. The approach 'diversification of banks' is the most popular and 'emergency liquidity reserves' is least important for decision makers of Pakistani firms.

Table 46: Cash Management Approaches Compared to Behavioral Biases

Behavioral Bias		Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Self-Serving	High	83.8%	79.0%	66.7%	67.4%	83.9%	80.4%	87.2%	83.3%
	Low	16.2%	21.0%	33.3%	32.6%	16.1%	19.6%	12.8%	16.7%
Overconfidence	High	66.0%	66.1%	60.6%	60.5%	67.9%	62.7%	69.2%	66.7%
	Low	34.0%	33.9%	39.4%	39.5%	32.1%	37.3%	30.8%	33.3%
Optimism	High	67.7%	74.2%	81.8%	74.4%	71.4%	84.3%	69.2%	88.9%
	Low	32.3%	25.8%	18.2%	25.6%	28.6%	15.7%	30.8%	11.1%
Anchoring/ Representative	High	44.5%	40.3%	39.4%	48.8%	46.4%	45.1%	53.8%	55.6%
	Low	55.5%	59.7%	60.6%	51.2%	53.6%	54.9%	46.2%	44.4%
Loss Aversion	High	54.6%	45.2%	48.5%	55.8%	44.6%	39.2%	35.9%	50.0%
	Low	45.4%	54.8%	51.5%	44.2%	55.4%	60.8%	64.1%	50.0%
Mental Accounting	High	64.6%	59.7%	69.7%	67.4%	62.5%	58.8%	79.5%	38.9%
	Low	35.4%	40.3%	30.3%	32.6%	37.5%	41.2%	20.5%	61.1%

The table 46 describes the crosstab percentage of cash management approaches used by respondents and subsamples of behavioral biases. Each cell represents the percentage of the cash management decision in relation to behavioral biases. The respondents in a subgroup of highly biased in self-serving, optimism and mental accounting are showing a significant difference in choice of cash management approaches. The rest of the respondents are moderately biased, the subgroups of overconfidence, anchoring/representative and loss aversion are showing least difference in the cash management approaches.

Table 47: Approaches for Inventory Management

Approaches for Inventory Management	Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
No. of Responses	50	62	33	43	56	51

The table 47 indicates the sum of respondents using inventory management approaches for their companies. The approach 'supply chain management', 'material requirement planning' and 'sale forecasting' are the most useable approaches while the least useable approach for inventory management is 'inventory models'.

Table 48: Approaches for Inventory Management Compared with Behavioral Biases

		Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
Self-Serving	High	71.4%	75.0%	78.1%	80.0%	74.0%	88.5%
	Low	28.6%	25.0%	21.9%	20.0%	26.0%	11.5%
Overconfidence	High	68.6%	65.0%	65.6%	60.0%	68.8%	76.9%
	Low	31.4%	35.0%	34.4%	40.0%	31.2%	23.1%
Optimism	High	65.7%	77.5%	73.4%	77.8%	75.3%	76.9%
	Low	34.3%	22.5%	26.6%	22.2%	24.7%	23.1%
Anchoring/Representative	High	54.3%	47.5%	42.2%	51.1%	48.1%	46.2%
	Low	45.7%	52.5%	57.8%	48.9%	51.9%	53.8%
Loss Aversion	High	51.4%	48.8%	48.4%	71.1%	54.5%	34.6%
	Low	48.6%	51.3%	51.6%	28.9%	45.5%	65.4%
Mental Accounting	High	60.0%	66.3%	60.9%	62.2%	59.7%	65.4%
	Low	40.0%	33.8%	39.1%	37.8%	40.3%	34.6%

The table 48 describes the crosstab percentage of inventory management approaches with behavioral biases. Each cell presents the percentage of the inventory management approaches with relation to behavioral biases. The highly biased respondents are reported in self-serving, overconfidence, mental accounting, and optimism in all inventory management approaches while rest of the respondents are moderately biased in anchoring/representative, and loss aversion for using their inventory management approaches.

Table 49: Account Payable Motives

Account Receivable Motives	Mean	S.D.	Not at All Important	Not Important	Neutral	Important	Highly Important
Financial Motives	3.814	0.835	4.1%	0.6%	19.8%	61.0%	14.5%
Operational Motives	3.860	0.685	2.9%	0.6%	12.2%	76.2%	8.1%
Price Motives	3.942	0.578	0.6%	0.6%	14.5%	72.7%	11.6%
Transaction Motives	3.913	0.663	0.6%	1.7%	18.0%	65.1%	14.5%

The table 49 presents the percentage of the respondents based on a response rate of each account payable motive by their respective scale of importance. The mean and standard deviation of each motive is also reported. The column is indicating the percentage response of account payable motives. The statistics conclude that 76.2%, 72.7%, 65.1% and 61.0% of the respondents in Pakistani companies are paying importance to operational, price, transaction and financial motives, respectively while taking a decision regarding account payable.

Table 50: Account Payable Motives Compared with Behavioral Biases

		Financial Motives	Operational Motives	Price Motives	Transaction Motives
Self-Serving	High	3.84	3.87	3.97	3.94
	Low	3.73	3.83	3.85	3.83
Overconfidence	High	3.84	3.91	3.93	3.91
	Low	3.77	3.77	3.97	3.92
Optimism	High	3.80	3.84	3.93	3.86
	Low	3.87	3.91	3.98	4.07
Anchoring/Representative	High	3.83	3.85	3.87	3.90
	Low	3.80	3.87	4.00	3.93
Loss Aversion	High	3.80	3.86	3.82	3.83
	Low	3.84	3.86	4.09	4.01
Mental Accounting	High	3.86	3.81	3.97	3.96
	Low	3.73	3.95	3.89	3.82

The table 50 narrates the relationship between behavioral biases and account payable motives of the respondents in Pakistan. The values shown in the table indicate the average proportion for a subsample of the respondents based on behavioral biases in each account receivable motive. All the six behavioral biases self-serving,

overconfidence, optimism, anchoring/representative, loss aversion and mental accounting are categorized in two levels of 'high' and 'low' which indicate the intensity of influence of bias. Account payable motives, i.e. 'financial motives', 'operational motives', 'price motives' and 'transaction motives' are scaled from 1 to 5. Overall, the table explains the pattern of biased respondents in account payable motives by the mean values placed in the table in term of the importance of each factor.

Table 51: Bad Debt level in Accounts Receivable

Working Capital Management	Mean	S.D.	Less Than 1%	1-3 %	3-6 %	6-9 %	More than 10%
Bad Debt level in Accounts Receivable	2.80814	1.395	25.6%	19.2%	16.9%	25.6%	12.8%

The table 51 explains the percentage of the respondents indicating the bad debts status of the companies. The mean and standard deviation are also reported. Our statistics show that 25.6% of the companies having bad debt 'less than 1%', 19.2% of the companies having '1-3% of bad debts', 16.9% of companies having '3-6% bad debts', 25.6% of companies having '6-9% of bad debts' and 12.8% of companies having 'more than 10% of bad debts' level in account receivables in Pakistan.

Table 52: Bad Debt level in Accounts Receivable compared with Behavioral Biases

Bad Debt	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Less Than 1%	17	25	14	28	11	31	21	21	17	25	17	25
1 to 3%	4	26	10	20	6	24	12	18	13	17	10	20
3 to 6%	7	22	12	17	7	22	21	8	14	15	14	15
6 to 9%	9	40	15	34	18	31	30	19	25	24	16	33
More than 10%	4	18	10	12	3	19	10	12	10	12	5	17

The table 52 presents the relationship of level of bad debts with behavioral biases. Each cell is indicating the number of respondents from each behavioral bias in relation to bad debt. Most of the Pakistani companies are reporting a high level of behavioral biases with a bad debt level of 6 to 9%. Rest of the companies depict mixed results shown in the table above.

Table 53: A Comparison of Family and Non-Family Owned Companies

Family Owned	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
No	11	48	20	39	21	38	32	27	20	39	18	41
Yes	30	83	41	72	24	89	62	51	59	54	44	69

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 53 narrates the comparison of family owned and non-family owned companies for effects of behavioral biases. The statistics show that family owned, and non-family owned companies subjected to low self-serving bias are 30, 11 and to high self-serving bias are 83, 48 respectively. Family owned, with low self-serving overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 30, 41, 24, 62, 59 and 44 while with high self-serving overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 83, 72, 89, 51, 54 and 69 respectively. Non-family owned, with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 20, 21, 32, 20 and 18 while non-family owned companies with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 48, 39, 38, 27, 39 and 41 respectively.

4.3.1 Summary of Disruptive Analysis

In Pakistan, financial managers are financially literate however they are influenced by behavioral biases. The results show a mixed trend of respondents with managerial skills and behavioral biases. Managers with high risk perception are highly biased while with low risk perception respondents are less biased. CFOs are the most in number, however, are highly biased. Male respondents are the most in number among the respondents and more biased as compare to female. The maximum number of respondents fall in the age of 26-55 years and show less behavioral biases as compared to other age groups. The respondents from the textile sector are found highly biased as compared to all other sectors in Pakistan. The statistics show that the respondents working in organizations with the foreign sale are overall highly biased and interestingly the responders from no foreign sales are also biased. Firms are generally reporting moderate levered level in their capital structure policies. The statistics conclude that the most important financial motives are 'maintaining financial flexibility' and 'maximizing profitability' and the least important is 'preferring previously used financing sources'.

Overall, the results exhibit mixed pattern regarding biases of respondents in capital structure decision motives, however, 'maintaining voting control of shareholders' is reported significantly different for subsamples of all biases. 14.8% of respondents have the opinion of 'lowest concern for paying dividend', 21% respondents have the opinion 'low concern for paying dividend', 21% respondents have the opinion 'moderate concern for paying dividend', 33.3% respondents have the opinion 'high concern for paying dividend', and 9.9% respondents have the opinion 'highest concern for paying dividend'. Firms are normally having moderate and high concern for paying dividend to their shareholders. 14.8% respondents report that their companies are

highly conservative about WCM policies, 30.9% respondents report that their company is conservative for WCM policy, 11.1% respondents report moderate WCM policy. 29.6% respondents have the opinion for aggressive WCM policy, and 13.6% respondents have the opinion that they are highly aggressive in their WCM policies. The approach 'meet payment in a timely manner and streamline bank relations' is used most in Pakistani firms. The highly biased respondents are reported in self-serving, overconfidence, optimism, and mental accounting in all cash management approaches as shown by the higher parentage values. Rest of the respondent are moderately biased in anchoring/representative and loss aversion in cash management approaches.

The approach 'supply chain management', and 'sale forecasting' are pointed out to be the most used approach with values 40 and 44 while the third highest approach is 'inventory models' with value 33 in Pakistan. The highly biased respondents are reported in self-serving and optimism. Rest of the respondent are moderately biased in overconfidence, anchoring/representative, mental accounting and loss aversion in inventory management approaches. 49.4%, 74.1%, 70.4% and 58% of the respondents in Pakistani firms are paying importance to financial motives, operational price and transaction motives respectively. 25.6% of the companies having bad debt less than 1%, 19.2% of the companies having 1-3 % of bad debt, 16.9% of companies having 3-6 % bad debts, 25.6% of companies having 6-9 % of bad debts and 12.8 % of companies having more than 10 % of bad debts levels in account receivables in Pakistan. All the companies have shown mixed results. However, companies having a large amount of bad debts are reporting a high level of behavioral biases.

4.4 What is Partial Least Square Structural Equation Modeling (PLS-SEM)

Partial Least Square Structural Equation Modeling (PLS-SEM) technique is built on an iterative approach which maximizes the explained variance of endogenous constructs (Fornell & Bookstein, 1982). It combines aspects of factor analysis and simultaneous regressions to examine the relationships among measurement indicators with their constructs and relationship among constructs of the structural model (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014).

4.5 Assessment of Measurement Model – Pakistan

The measurement model includes the assessment of path relationships of items with their respective latent variables. It also includes verifying the reliability and validity of the model. Reliability of the model is assessed through composite reliability and their factor loadings (Mohammad, Quoquab, Rahman, & Idris, 2015; Chin, 2010). The validity measurement includes two validities (1) convergent validity, (2) discriminant validity. The model of Pakistan is assessed separately for validities and reliabilities and explained in the next section.

4.5.1 Individual Indicator Reliability – Pakistan

Individual indicator reliability is measured by analyzing the factor loading of each observed variable to its respective latent variable (Hulland, 1999). The correlations of observed variables with their respective latent variable are called factor loadings (Hair & Jnr, 2009). The high value of factor loading shows the strong association of observed & latent variables and commonness in nature (Carmines & Zeller, 1979). These factor loadings should also be statistically significant otherwise, should be removed. Many researchers discussed the criteria of factor loadings and suggested that

it should be more than 0.7 (Hulland, 1999; Chin, 1998; Fornell & Larcker, 1981). In some cases, the cut off value of factor loading can be reduced to 0.4, if the nature of research is exploratory (Hulland, 1999). Nunnally (1967) suggested that indicators with factor loading less than 0.7 should be removed. Deleting them will result in improved composite reliability and AVE (Average Variance Extracted) values. However, one can retain indicator of weak factor loading due to the support of its content validity (Hair et al., 2011).

The estimation factor loadings of variables for Pakistan remained more than 0.7 and statistically significant. The table 54 shows the values of factor loadings of variables of Pakistan along with respective construct details.

4.5.2 Convergent Validity – Pakistan

Convergent validity means that items of a specific measure should converge a large portion of the variance. In other words, it is the extent to which a measure correlates positively with alternative measures of the same construct (Hair et al., 2014). Convergent validity is estimated to ensure that the indicators are assumed to measure each respective construct and not another construct (Hulland, 1999). The assessment of convergent validity of each country model is based on average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha (α) of each construct.

4.5.2.1 Composite Reliability (CR) and Cronbach's Alpha

Traditionally, the criteria for measuring composite reliability is Cronbach's alpha, which estimates the reliability based on the inter-correlations of the observed items (Hair & Jnr, 2009). Cronbach's alpha has some limitations to estimate the internal consistency reliability:

- It assumes that all the indicators are equally reliable

- It is low when data has a multi-dimensional structure.
- It is sensitive to the number of indicators in the scale and generally tends to underestimate the internal consistency reliability

Following is the formula (equation 1) to estimate Cronbach's alpha (Cronbach, 1951):

$$\text{Cronbach's } \propto = \frac{N \times \bar{r}}{1 + (N - 1) \times \bar{r}}$$

Equation 1: Calculation of Cronbach's Alpha

Where,

N = number of indicators

$\bar{r}$ = average inter-correlation among indicators

It would be better to apply different measurement methods to estimate internal consistency reliability that is referred as composite reliability (CR). For this purpose, the formula (equation 2) of Hair et al (2014) is given below:

$$\text{CR} = \frac{(\Sigma_i l_i)^2}{(\Sigma_i l_i)^2 + \Sigma_i var(e_i)}$$

Equation 2: Formula for Internal Consistency Reliability

Where,

l_i= standardized outer loading indicator variable i

e_i = the measurement error of indicator variable i

$var(e_i)$= variance of the measurement error and calculated as $1 - l_i^2$

Hence, the superior method to calculate internal consistency reliability is CR than Cronbach's alpha because it uses the indicator loadings obtained within the theoretical model (Fornell & Larcker, 1981). The values of composite reliability (CR) and Cronbach's Alpha (α) are calculated by Smart PLS 3.2 software and results are summarized in the table 54 for Pakistan.

Table 54: Factor Analysis of Measurement Model along with Composite Reliability (CR) and Average Variance Extracted (AVE) – Pakistan

Variable Name	Item Code	Cronbach's alpha	Loadings	(CR)	(AVE)
Risk Perception	RP5	0.771	0.694	0.854	0.594
	RP6		0.816		
	RP7		0.814		
	RP8		0.753		
Capital Structure	CS1_1	0.969	0.985	0.985	0.970
	CS1_2		0.985		
Corporate Performance	OP4_1	0.915	0.925	0.930	0.693
	OP4_2		0.694		
	OP4_3		0.856		
	OP4_4		0.670		
	OP4_5		0.922		
	OP4_6		0.888		
Financial Literacy	FL1	0.627	0.936	0.830	0.712
	FL2		0.741		
Managerial Skills	MS12	0.603	0.904	0.829	0.709
	MS9		0.776		

Notes: *AVE=Average Variance Extracted, CR= Composite Reliability.*

The threshold values of CR is 0.7 and Cronbach's alpha is 0.6, which are based on Churchill, (1979) and Nunnally, (1967). The results indicate that CR and alpha value of these constructs are above than the threshold value hence, the internal consistency reliability of measurement indicators is appropriate for their relevant constructs. It is important to note that CR and alpha values for the constructs with single item (constructs of behavioral biases, working capital management and dividend policy are

formative, and their measurement process is discussed in the methodology section in detail) are 1.00. And it cannot be interpreted as evidence that these constructs have perfect reliability as discussed by Hair et al. 2014a. Figure 4 depicts the CR values of the constructs for each country model.

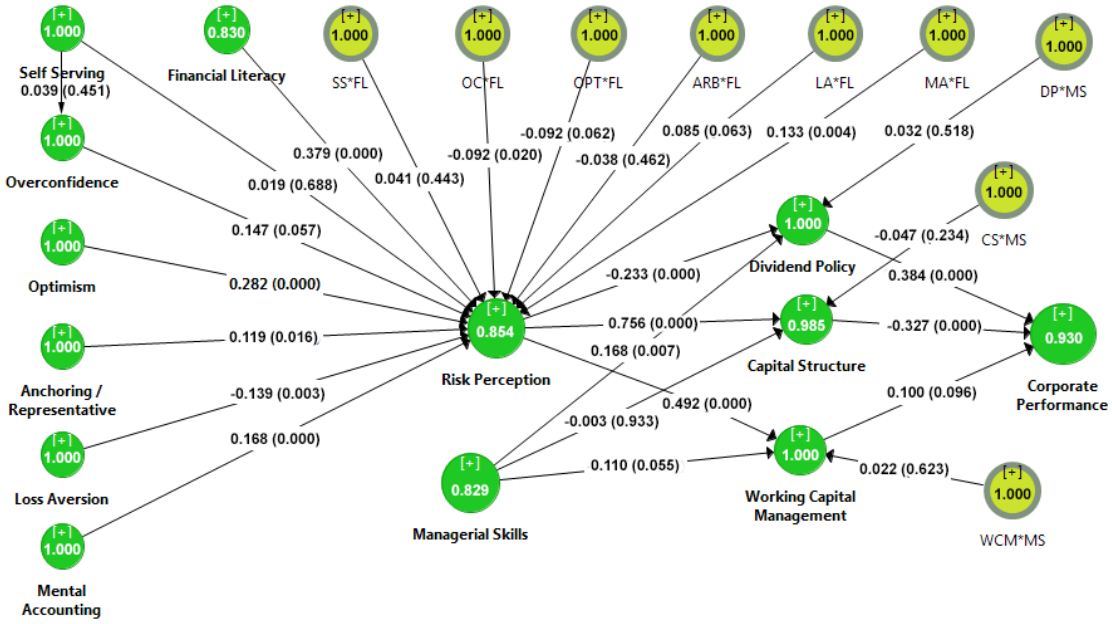

Figure 4: Composite Reliability of Constructs – Pakistan

4.5.2.2 Average Variance Extracted (AVE)

Convergent validity at the construct level is commonly measured using average variance extracted (AVE) (Hair jr. et al., 2014). It measures the variance amount that a construct obtains from its related items due to measurement errors (Fornell & Larcker, 1981). The benchmark value of AVE is higher than 0.5, which indicates that the construct explains 50% variance from its indicators. The AVE can be calculated in the following formula (Equation 3):

$$AVE = \frac{\Sigma {\lambda_i}^2}{\Sigma {\lambda_i}^2 + \Sigma_i var(\epsilon_i)}$$

Equation 3: Formula for Average Variance Extracted (AVE)

Where,

λ_i=Loading of each item to its latent variable while $var(\epsilon_i) = (1 - \lambda_i^2)$.

The value of AVE is also generated by using Smart PLS 3.2 and all AVE values are well above the minimum level of 0.5 (please refer table 54). Hence, the measures of reflective constructs for each model of Pakistan have high levels of convergent validity.

The results of convergent validity have been indicated in the table 54 for Pakistan. The measurement model implies good convergent validity and internal consistency which infer that items of each latent variable measure its construct. It is notable that the constructs with single-items (self-serving, overconfidence, optimism, anchoring/representative, loss version, mental accounting, dividend policy, working capital management) are not shown in the table because convergent validity and internal consistency reliability are not applicable to single-item constructs (Hair et al., 2014a). However, blindfolding algorithm of Smart PLS is used to estimate the validity of single-item constructs for this study. Figure 5 depicts the AVE values of constructs for Pakistan in Smart PLS.

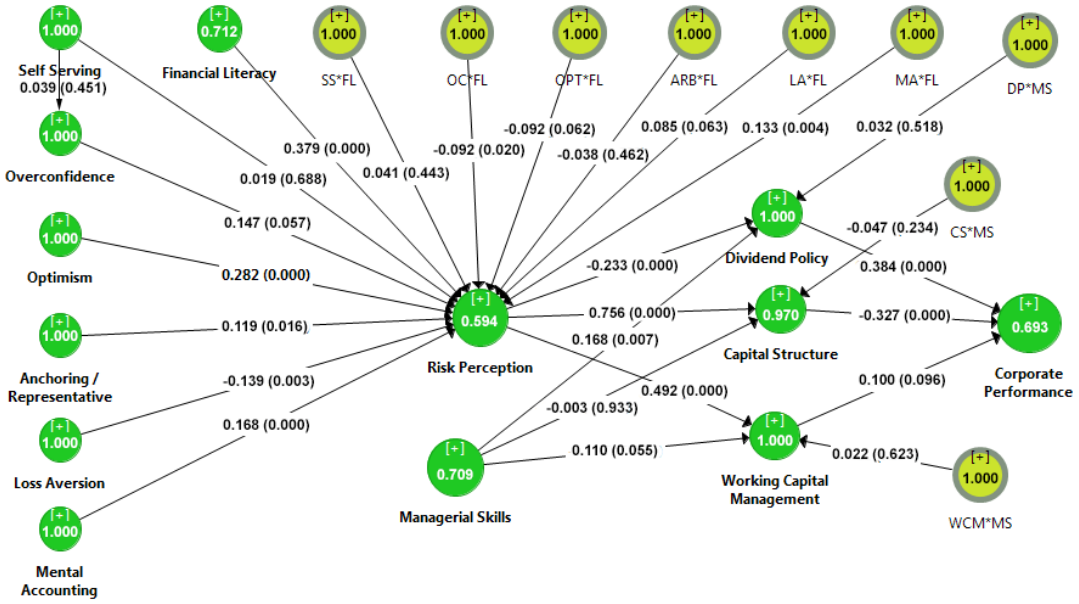

Figure 5: Average Variance Extracted (AVE) of Constructs – Pakistan

In nutshell, all the constructs are representing composite reliability (CR) and average variance extracted (AVE) more than 0.7 and 0.5. The loading factors are also having value of 0.7 except three constructs RP5, OPT2 and OPT4. Their values are 0.694, 0.694 and 0.670, which can also be accepted on the base of CR and AVE value.

4.5.3 Discriminant Validity – Pakistan

Discriminant validity establishes that each construct in the measurement model is unique and distinct from other constructs (Hulland, 1999). It also implies that each construct absorbs its own phenomena rather than represented by other constructs (Hair jr. et al., 2014) Our study uses (Fornell & Larcker, 1981) criterion for establishing the discriminant validity. It is the square root of average variance extracted from each construct inset diagonally in the table and correlation of each construct is also shown in rows and columns off-diagonally. For valid discriminant validity, the AVE of each construct should be greater than the correlation between each construct.

Following the tables display the correlation matrix for each construct, no correlation value is identified between constructs, which are greater than or equal to the AVE square root. Hence, the condition of discriminant validity is satisfied at the construct level under (Fornell & Larcker, 1981) criterion.

The results of discriminant validity for Pakistan are shown in the table 55. These measurement models present acceptable convergent validity, discriminant validity, and indicator reliability. The results show that all constructs are lying within an acceptable level of error. Hence, the measurement models demonstrate the ample robustness needed to assess the structural models (relationships among constructs).

Table 55: Discriminant Validity by (Fornell & Larcker, 1981) Criterion – Pakistan

	Mean	Standard Deviation	ARB*FL	Anchoring/Representative	CS*MS	Capital Structure	Corporate Performance	DP*MS	Dividend Policy	Financial Literacy	LA*FL	Loss Aversion	MA*FL
ARB*FL	---	---	1.000										
Anchoring/Representative	2.600	0.540	0.339	1.000									
CS*MS	---	---	-0.066	0.072	1.000								
Capital Structure	2.862	1.191	-0.002	-0.074	-0.151	0.985							
Corporate Performance	3.890	1.002	-0.006	-0.070	0.033	-0.324	0.833						
DP*MS	---	---	-0.066	0.072	1.000	-0.151	0.033	1.000					
Dividend Policy	2.960	1.290	0.019	-0.143	0.007	-0.128	0.408	0.007	1.000				
Financial Literacy	3.856	0.707	-0.029	-0.264	0.030	0.225	0.038	0.030	-0.031	0.844			
LA*FL	---	---	-0.028	0.050	0.042	-0.060	0.032	0.042	0.001	-0.138	1.000		
Loss Aversion	3.520	0.410	0.062	-0.017	0.133	-0.056	0.060	0.133	0.218	0.085	-0.048	1.000	
MA*FL	---	---	0.124	0.028	0.251	-0.024	0.010	0.251	0.043	-0.176	0.209	-0.073	1.000
Managerial Skills	3.621	0.778	-0.073	-0.208	0.000	0.181	0.115	0.000	0.096	0.647	-0.085	0.106	-0.018
Mental Accounting	2.780	0.590	0.029	0.120	0.252	0.129	-0.105	0.252	0.057	0.178	-0.063	0.123	0.108
OC*FL	---	---	0.189	-0.041	-0.138	0.018	-0.001	-0.138	0.002	0.140	-0.099	0.052	-0.257
OPT*FL	---	---	-0.231	0.034	0.314	-0.050	-0.036	0.314	-0.011	-0.182	0.500	-0.115	0.301
Optimism	3.240	0.650	0.041	-0.166	-0.066	0.270	0.187	-0.066	0.574	0.070	-0.111	0.329	-0.057
Overconfidence	1.10	0.540	-0.055	0.253	-0.078	-0.085	-0.081	-0.078	0.014	-0.601	0.056	0.028	0.010
Risk Perception	2.982	0.982	0.011	0.037	-0.074	0.768	-0.135	-0.074	-0.057	0.264	0.033	-0.003	0.108
SS*FL	---	---	0.071	0.085	-0.025	0.064	0.020	-0.025	-0.021	0.065	0.330	-0.095	0.014
Self-Serving	4.040	0.560	0.077	0.245	-0.061	0.106	-0.053	-0.061	-0.034	0.047	-0.070	0.165	-0.058
WCM*MS	---	---	-0.066	0.072	1.000	-0.151	0.033	1.000	0.007	0.030	0.042	0.133	0.251
Working Capital Management	3.26	1.30	0.046	0.180	-0.059	0.526	-0.141	-0.059	-0.179	0.040	0.102	-0.159	0.094

Note: *Square root of average variance extracted is represented in the bold diagonal text and the remaining of the entries are correlation values. Fornell & Larcker's(1981).*

(Cont.): Discriminant Validity by Fornell & Larcker, (1981) Criterion – Pakistan

	Mean	Standard Deviation	Managerial Skills	Mental Accounting	OC*FL	OPT*FL	Optimism	Overconfidence	Risk Perception	SS*FL	Self-Serving	WCM*MS	Working Capital Management
ARB*FL	---	---											
Anchoring/Representative	2.600	0.540											
CS*MS	---	---											
Capital Structure	2.862	1.191											
Corporate Performance	3.890	1.002											
DP*MS	---	---											
Dividend Policy	2.960	1.290											
Financial Literacy	3.856	0.707											
LA*FL	---	---											
Loss Aversion	3.520	0.410											
MA*FL	---	---											
Managerial Skills	3.621	0.778	0.842										
Mental Accounting	2.780	0.590	0.059	1.000									
OC*FL	---	---	0.004	0.008	1.000								
OPT*FL	---	---	-0.008	-0.051	-0.263	1.000							
Optimism	3.240	0.650	0.094	0.123	0.037	-0.181	1.000						
Overconfidence	1.10	0.540	-0.489	-0.143	0.226	0.042	-0.133	1.000					
Risk Perception	2.982	0.982	0.256	0.259	-0.060	-0.073	0.234	-0.137	0.771				
SS*FL	---	---	0.058	-0.067	0.062	0.076	-0.148	0.036	0.054	1.000			
Self-Serving	4.040	0.560	-0.064	0.156	0.024	-0.113	0.062	0.039	0.079	-0.118	1.000		
WCM*MS	---	---	0.000	0.252	-0.138	0.314	-0.066	-0.078	-0.074	-0.025	-0.061	1.000	
Working Capital Management	3.26	1.30	0.115	0.079	-0.064	-0.006	0.105	0.054	0.516	0.051	0.038	-0.059	1.000

Note: *Square root of average variance extracted is represented in the diagonal bold text and the remaining of the entries are correlation values. Fornell & Larcker's (1981).*

4.6 Evaluation of Structural Model – Pakistan

We have checked the results of measurement models for Pakistan. Now, we continue to analyze and focus on the results of the structural models. It includes 6 steps to present the underlying concept of the path model:

- Assessment of Path Coefficients and their significance
- Assessment of Mediating Effects
- Assessment of Interaction (Moderation) Effects
- Assessment Coefficient of Determination R^2 Value
- Assessment of Effective Size f^2 value
- Assessment of predictive relevance through Q^2 value

4.6.1 Structural Model Path Coefficients – Pakistan

The values of path coefficient are standardized in the range from to + 1 or -1. The coefficients, which are close to 1 represent strong positive relationships while the path coefficients close to -1 represent strong negative relation. The path coefficient values close to +1 or -1 are usually statistically significant however for the precise estimation, a standard error must be calculated using bootstrap and check for the significance value (Helm, Eggert, & Garnefeld, 2009). The Hypotheses in this study are considered to be supported by 10% significant level (Hair et al., 2014). We executed a bootstrap algorithm with 500 randomly drawn samples with replacement to get path coefficients and their significance level. Figure 6 shows the path coefficients and their R^2 values for Pakistan Model.

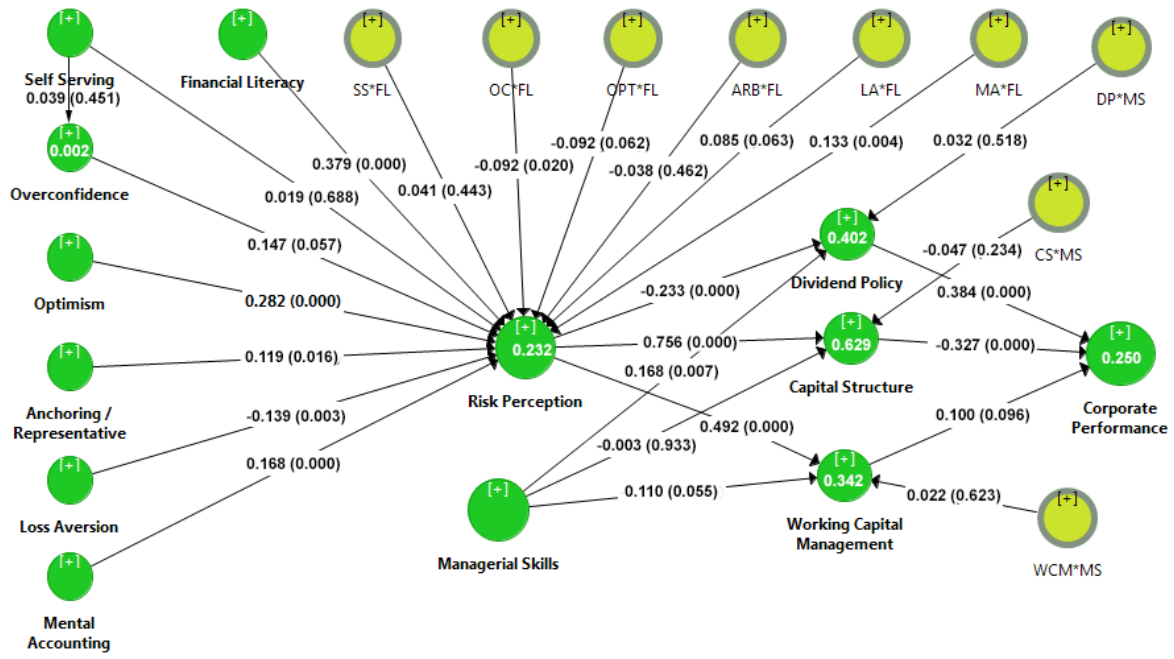

Figure 6: Path Coefficients (β) and R^2 values of constructs – Pakistan

The results of path coefficients and their significance have been presented in the table 56 for Pakistan.

In the hypothesis H_1 and H_{1a}, the relationship of self-serving bias is proposed with risk perception and overconfidence (H_1: self-serving bias has a significant relationship with risk perception of corporate finance managers & H_{1a}: self-serving bias has a significant relationship with overconfidence of corporate finance managers). The test results of these hypothesis H_1 and H_{1a} are not supported significantly with $\beta = 0.019, p = 0.688$ and $\beta = 0.039, p = 0.451$ respectively.

The relationship between overconfidence and risk perception is hypothesized in H_2 that corporate finance managers with high overconfidence bias may have high-risk perception. The test results support the relationship for all three models between overconfidence and risk perception with $\beta = 0.147, p = 0.057$ for Pakistan. It supports hypothesis 2 reasonably (H_2: overconfidence bias has a significant relationship with risk perception of corporate finance

managers). The findings indicate that a financial manager or a chief financial officer with more overconfidence bias will be more likely to have more risk perception.

Table 56: Direct Relationship Path Coefficients – Pakistan

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
H_1	Self-Serving → Risk Perception	0.019	0.047	0.402	0.688	Not-Supported
H_{1a}	Self-Serving → Overconfidence	0.039	0.051	0.755	0.451	Not-Supported
H_2	Overconfidence → Risk Perception	0.147	0.077	1.909	0.057	Supported
H_3	Optimism → Risk Perception	0.282	0.055	5.096	0.000	Supported
H_4	Anchoring/Representative → Risk Perception	0.119	0.049	2.418	0.016	Supported
H_5	Loss Aversion → Risk Perception	-0.139	0.047	2.989	0.003	Supported
H_6	Mental Accounting → Risk Perception	0.168	0.046	3.625	0.000	Supported
H_7	Risk Perception → Dividend Policy	-0.233	0.049	4.786	0.000	Supported
H_8	Risk Perception → Capital Structure	0.756	0.029	26.295	0.000	Supported
H_9	Risk Perception → Working Capital Management	0.492	0.048	10.159	0.000	Supported
H_{10}	Dividend Policy → Corporate Performance	0.384	0.057	6.736	0.000	Supported
H_{11}	Capital Structure → Corporate Performance	-0.327	0.041	8.065	0.000	Supported
H_{12}	Working Capital Management → Corporate Performance	0.100	0.060	1.667	0.096	Supported

Note: *Significance Level < 0.1 (two tailed)*

The findings of hypothesis 3 (H_3: optimism bias has a significant relationship with risk perception of corporate finance managers) show that increases in optimism bias resulted in higher risk perception for corporate finance managers with significant value for Pakistan $\beta = 0.282, p = 0.000$,

Hypothesis H_4 is hypothesized that anchor/representative bias has significant impact on risk perception, which is also significant with $\beta = 0.119, p = 0.016$, hence, hypothesis H_4 is supported. The findings indicate that both biases (optimism and anchoring/representative) positively impact the risk perception of corporate finance managers.

The relationship between loss aversion bias and risk perception is hypothesized in H_5 that loss aversion bias has a significant relationship with risk perception of corporate finance managers. The findings of data indicate significant support for hypothesis by estimated value $\beta = -0.139, p = 0.003$ which implies that corporate finance managers with high loss aversion bias are more likely to have low risk perception.

The last relation between behavioral bias and risk perception is hypothesized in H_6 as mental accounting has significant impact on risk perception (H_6: mental accounting bias has a significant relationship with risk perception of corporate finance managers). The results indicate that mental accounting bias is significantly impacting risk perception for Pakistan with $\beta = 0.168, p = 0.000$.

According to the theoretical framework, the relationships between risk perception and financial decisions are investigated. Financial decisions include the long-term and short-term decisions which are dividend policy decisions, capital structure decisions, and working capital management decisions. The relationship between risk perception and dividend policy are hypothesized in H_7 (risk perception of corporate finance managers has a significant relationship with dividend policy decisions of corporate firms). The statistically test results indicate that

this relationship is significant for Pakistan however negative in direction with $\beta = -0.233, p = 0.000$.

The next relationship between risk perception and financial decisions is hypothesized in H_8 (risk perception of corporate finance managers has a significant relationship with capital structure decisions of corporate firms). Our analysis results show that risk perception is positively affecting capital structure. The significant values for Pakistan are $\beta = 0.765, p = 0.000$.

The last relation of risk perception and the financial decision is hypothesized in H_9 (Risk perception of corporate finance managers has a significant relationship with working capital management decisions of corporate firms). Our study results show that this relation is significant with $\beta = 0.492, p = 0.000$ in Pakistan. It explains that the high-risk perception of corporate finance managers will result in aggressive working capital management decisions.

At the last phase of direct relations, three relationships are hypothesized (H_{10}, H_{11} & H_{12}) between financial decisions and corporate performance. The H_{10} is on relationship of dividend policy decisions with corporate performance of firms. Our statistical estimation specifies that dividend policy decisions are significantly affecting corporate performance with $\beta = 0.384, p = 0.000$.

The next hypothesis H_{11} is about the relationship between capital structure decisions and corporate performance and after statistically testing, it is concluded that capital structure decisions impact negatively on corporate performance with $\beta = -0.327, \ p = 0.000$ in Pakistan. It can be reported that aggressive capital structure reduces the performance of the firms.

The last hypothesis of direct relationships is H_{12} on the relationship of working capital management decisions with corporate performance of the firms. The analysis shows the beta β and p value for Pakistan as $\beta = 0.100, p = 0.096$.

4.6.2 Analysis of Mediating Effects – Pakistan

To examine the statistical significance of the mediation effects of risk perception between behavioral biases and financial decisions, the Bootstrapping algorithm in Smart PLS is executed to get the values of the direct and indirect path coefficients with 500 resamples as recommended by (Preacher & Hayes, 2004). The size of the indirect effect of mediating variable risk perception is assessed using the variance accounted for (VAF), which represents the ratio of indirect effect to the total effect (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Iacobucci & Duhachek, 2004; Shrout & Bolger, 2002). The formula of variance accounted for is explained below for further clarity.

$$Total\ Effect = Direct\ Effect + Indirecct\ Effect$$

Equation 4: Formula for Calculating Total Effects

$$VAF = \frac{Indirect\ Effect}{Total\ Effect}$$

Equation 5: Formula for Calculating Variance Accounted For (VAF)

Our mediation analysis follows four rules of Baron & Kenny, (1986). In our study risk perception mediates the effect of behavioral biases on financial decisions. The following four conditions must hold:

1. The path of behavioral bias → financial decision variable should be significant
2. The path of behavioral bias → risk perception should be significant
3. The path of risk perception → financial decision should be significant after controlling behavioral bias

4. The path of behavioral bias → financial decision should become insignificant after controlling Risk Perception.

The mediation results are summarized in the table 57 for Pakistan. The results of hypothesis testing of mediation are divided into four categories, which include, (1) not significant, (2) partial mediation, (3) full mediation and (4) no mediation.

Table 57: Mediation Path Coefficients – Pakistan

Hypothesis	Direct Relation	Direct Impact	Indirect Impact	Total Impact	VAF	Mediation
H_{22a}	SS → DP	-0.047	0.001	-0.046	---	Not Significant
		(0.305)	(0.941)	(0.342)		
H_{22b}	SS → CS	0.085 **	0.02	0.105 **	---	Not Significant
		(0.011)	(0.577)	(0.046)		
H_{22c}	SS → WCM	-0.005	0.018	0.013	---	Not Significant
		(0.917)	(0.515)	(0.797)		
H_{23a}	OC → DP	0.172 ***	-0.034 *	0.137 **	-25%	Partial Mediation
		(0.004)	(0.081)	(0.021)		
H_{23b}	OC → CS	0.048	0.111 *	0.160 **	100%	Full Mediation
		(0.260)	(0.057)	(0.024)		
H_{23c}	OC → WCM	0.148 ***	0.072 *	0.220 ***	33%	Partial Mediation
		(0.010)	(0.067)	(0.001)		
H_{24a}	OPT → DP	0.634 ***	-0.066 ***	0.568 ***	-12%	Partial Mediation
		(0.000)	(0.001)	(0.000)		
H_{24b}	OPT → CS	0.111 ***	0.214 ***	0.324 ***	66%	Partial Mediation
		(0.003)	(0.000)	(0.000)		
H_{24c}	OPT → WCM	0.100 *	0.139 ***	0.239 ***	58%	Partial Mediation
		(0.054)	(0.000)	(0.000)		
H_{25a}	ARB → DP	-0.036	-0.028 **	-0.064	100%	Full Mediation
		(0.452)	(0.039)	(0.206)		
H_{25b}	ARB → CS	-0.110 ***	0.090 **	-0.020	-22%	Partial Mediation
		(0.001)	(0.018)	(0.685)		
H_{25c}	ARB → WCM	0.165 ***	0.059 **	0.224 ***	26%	Partial Mediation
		(0.002)	(0.021)	(0.000)		
H_{26a}	LA → DP	-0.019	0.032 ***	0.014	100%	Full Mediation
		(0.713)	(0.008)	(0.789)		
H_{26b}	LA → CS	-0.094 **	-0.105 ***	-0.200 ***	53%	Partial Mediation
		(0.046)	(0.003)	(0.001)		
H_{26c}	LA → WCM	-0.200 ***	-0.068 ***	-0.268 ***	26%	Partial Mediation
		(0.000)	(0.005)	(0.000)		
H_{27a}	MA → DP	0.061	-0.039 ***	0.021	100%	Full Mediation
		(0.201)	(0.005)	(0.671)		
H_{27b}	MA → CS	-0.05	0.127 ***	0.078	100%	Full Mediation
		(0.161)	(0.000)	(0.141)		
H_{27c}	MA → WCM	-0.046	0.083 ***	0.037	100%	Full Mediation
		(0.403)	(0.001)	(0.485)		

***Notes**: SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. P values are shown in parentheses, VAF=Variance Accounted For. * p < 0.10, ** p < 0.05, *** p < 0.01 (two-tailed)*

The mediation hypotheses H_{22a}, H_{22b} and H_{22c} are defined as mediation impact of risk perception between self-serving bias and three financial decisions, i.e. dividend policy, capital structure, and working capital management respectively. These three hypotheses are not statistically supported in Pakistan as p value is greater than 0.1 for all the direct and indirect paths.

The mediation hypotheses H_{23a}, H_{23b} and H_{23c} propose the relationship of overconfidence bias with dividend policy, capital structure and working capital management respectively with mediating role of risk perception. The results indicate that direct paths OC→DP and OC→WCM are statistically significant in Pakistan. The path coefficients are $\beta = 0.172, (p = 0.005)$ and $\beta = 0.148, (p = 0.014)$ for DP and WCM respectively. After calculating the mediating variable, the indirect paths OC→RP→DP and OC→RP→WCM are also significant, with beta value $\beta = -0.034, p = 0.081$ and $\beta = 0.072, p = 0.067$. Hence, the partial mediation is supported for H_{23a} and H_{23c} hypothesis. The value of VAF indicates -25% and 33% of total effect of overconfidence bias on dividend policy and working capital management decisions are explained by indirect effect of risk perception of corporate finance managers of Pakistani firms. For testing the mediation effect for Hypothesis H_{23b}, the direct path relation OC→CS was tested and found that it is not statistically significant in data set of Pakistan. The value of direct relation remained $\beta = 0.048, p = 0.260$ for Pakistan. By adding the mediating variable Risk Perception, the indirect relation OC→RP→CS was tested for Pakistan and found to be significant with beta and p value $\beta = 0.111, p = 0.057$. Hence, full mediation is supported for hypothesis H_{23b} in Pakistan.

The next mediation Hypotheses H_{24a}, H_{24b} and H_{24c} hypothesized as the relationship of optimism bias with dividend policy, capital structure and working capital management respectively with mediating role of Risk perception. The statistical results for Pakistan exposed

that direct paths OPT→DP, OPT→CS and OPT→WCM are statistically significant with path coefficients $\beta = 0.634, (p = 0.000)$, $\beta = 0.111, (p = 0.003)$ and $\beta = 0.100, p = 0.054$ respectively. After analyzing the mediating variable in the model of Pakistan, the indirect paths OPT→RP→DP, OPT→RP→CS and OPT→RP→WCM are also significant with beta value $\beta = -0.066, p = 0.001$, $\beta = 0.214, p = 0.000$ and $\beta = 0.139, p = 0.000$ which indicate that partial mediation is supported for hypotheses H_{24a}, H_{24b} and H_{24c} in Pakistan. The value of variance accounted for (VAF) indicates -12%, 66% and 58% of total effect of optimism bias on dividend policy, capital structure and working capital management decisions is explained by indirect effect of risk perception of corporate finance managers.

The mediation H_{25a}, H_{25b} and H_{25c} are hypothesized as the relationship of anchoring/representative bias with dividend policy, capital structure and working capital management respectively by mediating role of risk perception. The statistics conclude that direct paths ARB→CS and ARB→WCM are statistically significant with path coefficients $\beta = -0.110, (p = 0.001)$ and $\beta = 0.165, (p = 0.002)$ respectively while direct path of ARB→DP was not significant with $\beta = 0. -0.036, (p = 0.452)$. When the role of mediating variable is added in the model and analyzed, the indirect paths ARB→RP→DP, ARB→RP→CS and ARB→RP→WCM are significant with beta value $\beta = -0.028, (p = 0.039), \beta = 0.090, (p = 0.018), \beta = 0.059, (p = 0.021)$ Hence, the partial mediation supported for H_{25b} and H_{25c} hypothesis. VAF value specifies -22% and 26% of total effect of anchoring/representative bias on capital structure and working capital management decisions are explained by indirect effect of risk perception of corporate finance managers. The full mediation is supported for the hypothesis H_{25a} in Pakistan.

The mediation hypotheses H_{26a}, H_{26b} and H_{26c} proposed the relationship of loss aversion bias with financial decision-making variables, dividend policy, capital structure and

working capital management respectively by investigating the role of mediating variable risk perception. The results show that direct paths LA→CS and LA→WCM are statistically significant with path coefficients $\beta = 0. -0.094, (p = 0.046)$ and $\beta = -0.200, (p = 0.000)$ respectively. After adding the mediating variable in the model, the indirect path LA→RP→CS and LA→RP→WCM are also significant with beta value $\beta = -0.105, p = 0.003$ and $\beta = -0.068, p = 0.005$ Hence, the partial mediation is supported for H_{26b} and H_{26c} hypotheses. The value of VAF indicates 53% and 26% of total effect of loss aversion bias on capital structure and working capital management decisions are explained by indirect effect of risk perception of corporate finance managers. The direct path relation LA→DP is not statistically significant with $\beta = -0.019, p = 0.713$ while the indirect relation of same variable by mediating risk perception LA→RP→DP is significant with $\beta = 0.032, p = 0.008$. Hence, full mediation is supported for hypothesis H_{26a}.

The last three mediation hypotheses H_{27a}, H_{27b} and H_{27c} re hypothesized as the relationship of mental accounting bias with dividend policy, capital structure and working capital management respectively by mediating role of risk perception. Our statistical results expose that direct paths MA→DP, MA→CS and MA→WCM are not significant with $\beta = 0.061, (p = 0.203), \beta = -0.050, p = 0.161$ and $\beta = -0.046, p = 0.403$ respectively. Hence, the full mediation is supported with indirect paths MA→RP→DP, MA→RP→CS and MA→RP→WCM having significant beta and p value $\beta = -0.039, p = 0.005, \beta = 0.127, p = 0.000$ and $\beta = 0.083, p = 0.000$. Hence, the hypotheses H_{27a}, H_{27b} and H_{27c} are supported for full mediation of risk perception between mental accounting and three financial decision variables for Pakistan.

4.6.3 Analysis for Moderation Effects – Pakistan

To test the moderation hypothesis, we generated moderation variables in Smart PLS 3.2.6, which automatically generate standardized values for independent variables or constructs. It generates product indicators for interaction construct. The bootstrap process with 500 resamples in Smart PLS is used as recommended by Chin (2010) and results for interaction terms are summarized in the table 58 for Pakistan which includes path coefficients of interaction term and their significance level. The six hypotheses (hypothesis 13 to 18) are proposed for the moderation of financial literacy between six behavioral biases (self-serving bias, overconfidence bias, anchoring/representative bias, optimism bias, loss aversion, and mental accounting) and risk perception. Whereas three hypotheses (hypotheses 19 to 21) are proposed for the moderation impact of managerial skills between risk perception and financial decision-making variables (e.g., dividend policy, capital structure and working capital management). The direct impact of financial literacy on risk perception is statistically significant for Pakistan with path coefficient $\beta = 0.379, p = 0.000$. Similarly, direct impact of managerial skills for three corporate financial decisions (dividend policy, capital structure and working capital management) is tested. The results exposed that managerial skills are significantly impacting on divided policy and working capital management with path coefficients $(\beta = 0.168, p = 0.007)$ and $(\beta = 0.110, p = 0.055)$ respectively while the relationship between managerial skills and capital structure is not significant $(p = 933)$.

Hypothesis $H_{13}$was hypothesized as financial literacy has a significant impact on the relationship between self-serving bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested and results revealed that interaction path of this construct (self-serving × financial literacy) is not significant in Pakistan with p value 0.443. Similarly, hypothesis H_{16} is hypothesized as moderation effect of financial literacy has a significant relationship between anchoring/representative bias and risk perception of corporate

finance managers. The interaction effect for this hypothesis is tested empirically for Pakistan model and results show that interaction path of this construct (anchoring/representative × financial literacy) is not significant at p value 0.462 (Pakistan).

Next, hypothesis H_{14} is hypothesized as financial literacy has a significant impact on the relationship between overconfidence bias and risk perception of corporate finance managers. The interaction effect of this hypothesis is tested empirically for Pakistan involved in study and results indicate that interaction path of product construct (overconfidence × financial literacy) is significant on risk perception with path coefficient $\beta = -0.092, p = 0.020$ for Pakistan. Hence, H_{14} is supported statistically for Pakistan.

The hypothesis H_{15} is hypothesized as financial literacy has a significant impact on the relationship between optimisms bias and risk perception of corporate finance managers. The results indicate that interaction path of product construct (optimism × financial literacy) is significant on risk perception in Pakistan with path coefficient $\beta = -0.092, p = 0.049$ the H_{15} is supported for Pakistan.

The hypothesis H_{17} is hypothesized as financial literacy has a significant impact on the relationship between loss aversion bias and risk perception of corporate finance managers. The interaction effect of this hypothesis is tested empirically, and results indicate that interaction path of product construct (loss aversion × financial literacy) is significant on risk perception with path coefficient $\beta = 0.085$ and p value 0.063 in Pakistan model. Hence, the H_{17} is supported statistically only for the Pakistan model.

Table 58: Moderation Path Coefficients – Pakistan

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
	Financial Literacy → Risk Perception	0.379	0.072	5.249	0.000	Supported
	Managerial Skills → Dividend Policy	0.168	0.062	2.697	0.007	Supported
	Managerial Skills → Capital Structure	-0.003	0.042	0.084	0.933	Not-Supported
	Managerial Skills → Working Capital Management	0.110	0.057	1.922	0.055	Supported
H_{13}	SS*FL → Risk Perception	0.041	0.054	0.768	0.443	Not-Supported
H_{14}	OC*FL → Risk Perception	-0.092	0.040	2.325	0.020	Supported
H_{15}	OPT*FL → Risk Perception	-0.092	0.049	1.874	0.062	Supported
H_{16}	ARB*FL → Risk Perception	-0.038	0.052	0.735	0.462	Not-Supported
H_{17}	LA*FL → Risk Perception	0.085	0.046	1.865	0.063	Supported
H_{18}	MA*FL → Risk Perception	0.133	0.045	2.917	0.004	Supported
H_{19}	DP*MS → Dividend Policy	0.032	0.050	0.646	0.518	Not-Supported
H_{20}	CS*MS → Capital Structure	-0.047	0.039	1.192	0.234	Not-Supported
H_{21}	WCM*MS → Working Capital Management	0.022	0.045	0.491	0.623	Not-Supported

Notes: *SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. Significance Level < 0.1 (two-tailed)*

The last hypothesis of the moderation effect of financial literacy H_{18} is hypothesized as financial literacy has a significant impact on the relationship between mental accounting bias and risk perception of corporate finance managers. The results show that interaction path of product construct (mental accounting × financial literacy) is significant on risk perception for Pakistan dataset where the path coefficients remained $\beta = 0.133, p = 0.004$. Therefore, the H_{18} is supported for Pakistan.

The 2nd moderation impact of managerial skills is hypothesized in H_{19}, H_{20} and H_{21} between risk perception and three corporate financial decisions (dividend policy, capital structure and working capital management). Out of three, no interaction path of product construct is significant in the data set of Pakistan. The p values of path coefficients for Pakistan model remained $p = 0.518$ (risk perception × managerial skills → dividend policy), $p = 0.234$ (risk perception × managerial skills → capital structure) and $p = 0.623$ (risk perception × managerial skills → working capital management) respectively.

4.6.4 Coefficient of Determination (R^2) Value – Pakistan

The predictive accuracy of the model is measured through R^2. Another explanation of R^2 is that it explains combine effect of exogenous variable on endogenous variable. It is calculated as the squared correlation between a specific endogenous construct's actual and predictive value. The value of R^2 normally fall between 0 to 1, while 1 represents the complete predictive accuracy in model. It is suggested as a rule of thumb regarding acceptance of R^2, with values 0.25, 0.50, 0.75 describing weak, moderate, and substantial levels of predictive accuracy (Hair, Ringle, & Sarstedt, 2011; Henseler, Ringle, & Sinkovics, 2009). Therefore, R^2 is a valuable tool in assessing the quality of a theoretical model.

The value of R^2 and its significance is obtained by bootstrap for all endogenous variables (capital structure, corporate performance, dividend policy, overconfidence, risk

perception and working capital management. See figure 1 theoretical model). All the values of R^2 are significant at level $p < 0.01$ except overconfidence. The R^2 value of overconfidence is not significant because it is predicted by only one independent construct self-serving and the path coefficient for this relation is not significant. The model for Pakistan explained 40.2% $(R^2 = 0.402)$ of variance in dividend policy, 62.9% $(R^2 = 0.629)$ of variance in capital structure, 34.2% $(R^2 = 0.342)$ of variance in working capital management, 25% $(R^2 = 0.253)$ of variance in corporate performance and 24% $(R^2 = 0.237)$ of variance in risk perception by their respective exogenous variables. All the values of R^2 with significance and level of predictive accuracy are summarized in table 59 for Pakistan.

Table 59: Table of Coefficient of Determination (R^2) – Pakistan

Target Construct	R^2	T Statistic	P Value	Predictive Accuracy
Dividend Policy	0.402	10.144	0.000	Moderate
Capital Structure	0.629	21.902	0.000	Moderate
Working Capital Management	0.342	8.289	0.000	Weak
Corporate Performance	0.253	4.833	0.000	Weak
Risk Perception	0.237	6.193	0.000	Weak
Overconfidence	0.002	0.266	0.790	Not Significant

***Note**:R^2 predictive accuracy levels 0.00 ≥ Weak, 0.25 ≥ Feasible, 0.50 ≥ Moderate, 0.75 ≥ Substantial*

Predicting the model fitness on the value of R^2 is not a safe approach because adding or omitting non-significant variable in structural model fluctuate the R^2 value. Therefore, the next step for the assessment of structural model by exploring the change in R^2 value is to see either the exogenous construct has a large impact on endogenous construct (Chin, 1998).

4.6.5 Effect Size (f^2) Value – Pakistan

After calculating the values of R^2 for the constructs of structural models, the effect size for each path model should be estimated as discussed by Cohen (1988). It estimates the change in the R^2 value if a specified exogenous variable or construct eliminated from model. It assesses whether the excluded variable or construct has actually effect on dependent variable or

endogenous construct. This estimation is said to be f^2or effect size. The calculation formula is defined below.

$$f^2 = \frac{R^2_{Included} - R^2_{Excluded}}{1 - R^2_{Included}}$$

Equation 6: Calculation formula for f^2 value

$R^2_{Included}$ And $R^2_{Excluded}$ are the values of R^2 of endogenous variable or constructs when a specified exogenous variable or construct is included or excluded from the model.

Recommended effect size by Cohen (1988) is determined as 0.02 ≥ small effect, 0.15 ≥ medium effect and 0.35 ≥ large effect respectively.

The f^2 estimates for each relationship between endogenous and exogenous constructs across the model are shown in the table 60. The results show that all of the predictor variables of risk perception have small effect, self-serving ($f^2 = 0.000$), overconfidence ($f^2 = 0.013$), optimism ($f^2 = 0.084$), anchoring/representative ($f^2 = 0.012$), loss aversion ($f^2 = 0.021$) and mental accounting($f^2 = 0.032$). The effect size of one predictor (self-serving) of overconfidence is also having small effect ($f^2 = 0.002$). The constructs dividend policy, capital structure and working capital management are predicted by the construct of risk perception. The effect size estimated for risk perception on capital structure remained large with ($f^2 = 1.240$). Working capital management and dividend policy f^2 values measured ($f^2 = 0.296$) and ($f^2 = 0.073$) with effect size of medium and small respectively. The last construct of corporate performance is predicted by dividend policy, capital structure and working capital management. The effect size of working capital management is small with ($f^2 = 0.009$), while capital structure($f^2 = 0.103$) and dividend policy ($f^2 = 0.189$) remained medium.

Table 60: Effect size of Path Coefficient (f^2) – Pakistan

Depended Construct	Independence Construct	f^2	Effect Size
Risk Perception	Self-Serving	0.000	Small
	Overconfidence	0.013	Small
	Optimism	0.084	Small
	Anchoring/Representative	0.012	Small
	Loss Aversion	0.021	Small
	Mental Accounting	0.032	Small
Overconfidence	Self-Serving	0.002	No Effect
Dividend Policy	Risk Perception	0.073	Small
Capital Structure	Risk Perception	1.240	Large
Working Capital Management	Risk Perception	0.296	Medium
Corporate Performance	Capital Structure	0.103	Medium
	Dividend Policy	0.189	Medium
	Working Capital Management	0.009	Small

Notes: *Value of f^2 0.02 ≥ Small Effect, 0.10≥ Medium effect and 0.35 ≥ Large Effect*

4.6.6 Predictive Relevance (Q^2) Value by Blindfolding Technique – Pakistan

The Q^2 is measured to check the predictive relevance of assessing the structural (or inner) model. The value of Q^2 is estimated on the base of sample re-use technique, that omits a portion of the data matrix, and calculate model parameters, then tries to predict the omitted portion using these estimates. The smaller the difference between predicted and original values, the greater Q^2 value and thus define models' predictive accuracy. Precisely, the Q^2 value should be greater than zero for a particular endogenous variable or construct to indicate predictive relevance of the path model for this particular construct (Rigdon, 2014; Sarstedt, Ringle, Henseler, & Hair, 2014).

The Q^2 values of Pakistan presented in the table 61 for all endogenous constructs. All the Q^2 values are above the said criteria of zero except the construct overconfidence. The largest Q^2 value is estimated for capital structure ($Q^2 = 0.575$) while next smaller value is estimated for dividend policy ($Q^2 = 0.363$). The Q^2 values of constructs in path model e.g., capital structure, working capital management and risk perception are estimated 0.306, 0.147

and 0.119 respectively. Finally, all the constructs have predictive relevance except overconfidence.

Table 61: Predictive Relevance (Q^2) Table – Pakistan

Endogenous Construct	Q^2	Predictive Relevance
Capital Structure	0.575	Yes
Corporate Performance	0.147	Yes
Dividend Policy	0.363	Yes
Overconfidence	0.000	No
Risk Perception	0.119	Yes
Working Capital Management	0.306	Yes

***Note**: Predictive relevance of Construct > 0*

4.7 Summary of the Chapter

This chapter explains the descriptive, disruptive and PLS-SEM analysis for Pakistan. The statics of each bias have been compared with different variables of the model. After that, the main analysis and results of the model are explained. The main analysis consists the detailed information about Smart PLS, calculation methods, and interpretations. Each result is explained in the light of research objectives and proposed hypotheses. The next chapter explains the results of Malaysia.

CHAPTER 5:

RESULTS AND DISCUSSION FOR MALAYSIA

5.1 Introduction

This chapter presents analysis and results for Malaysia. First, we presented a descriptive & disruptive analysis of respondents and tables generated which are easy to understand for a wide range of audience. Second, this chapter expresses comprehensive PLS-SEM analysis which includes ample explanation about the assessment of measurement and a structural model for Malaysia. The measurement model includes the assessment of path relationships of items with their respective latent variable. It also includes verifying the reliability and validity of the constructs. Reliability of the construct is assessed through composite reliability and its factor loadings. The validity measurement includes two validities (1) convergent validity and (2) discriminant validity. The structural model assesses path coefficients and their significance, mediating effects, interaction effects, the coefficient of determination (R^2), f^2 value and Q^2 value of the model. Each analysis result is explained with respect to research objective and proposed hypothesis. At the end of this chapter, summary is added.

5.2 Descriptive Analysis – Malaysia

This section summarizes the descriptive statistics for the sample collected from Malaysia.

Table 62: Gender/Age/Designation Wise Respondent Distribution – Malaysia

Malaysia	Gender	Frequency	Percent
Gender	Male	113	90.6
	Female	12	9.4
	Total	125	100
Years of Experience	18-25	2	1.6
	26-35	21	16.8
	36-45	25	20
	46-55	43	34.4
	56-60	23	18.4
	60-Above	11	8.8
	Total	125	100
Designations	CFO	41	32.8
	CEO	0	0
	General Manager	11	8.8
	Director Finance	17	13.6
	General Manager Finance	29	23.2
	Manager Finance	27	21.6
	Managing Director	0	0
	Total	125	100

The table 62 exhibits the details of gender, age, and designation of employee's distribution of the sample. The sample composition shows that 90.6% $(n = 113)$ of respondents are male and 9.4 % $(n = 12)$ are female. While age of overall respondents from Malaysia which explains that 1.6% $(n = 02)$respondents are between 18-25 years, 16.8% $(n = 21)$ are 26-35 years, 20% $(n = 25)$ are 36-45 years, and 34.4% $(n = 43)$ are 46-55 years, 18.4% $(n = 23)$ are 56-60 years, and above 60 years are 8.8%$(n = 11)$.

Similarly, the respective designation of respondents, chief financial officer, are 32.8% $(n = 41)$, general managers are 8.8% $(n = 11)$, director finance are 13.6% $(n = 17)$, general manager finance are 23.2% $(n = 29)$ and manager finance are 21.6% $(n = 27)$ reported by Malaysian sample. In other words, most of the respondents are male and their age is observed between 46-55 years' age group. It clearly indicates that 80% of our Malaysian sample contains mature professionals having age more than 45 years.

Table 63: Education/Work Experience Wise Respondent Distribution – Malaysia

	Malaysia	Frequency	Percent
Education	Graduation	3	2.4
	Master	15	12
	MS/M.Phil.	12	9.6
	Ph.D.	6	4.8
	CFA	14	11.2
	ACMA/CFP/CPA	17	13.6
	ACCA	31	24.8
	CA/CIMA	27	21.6
	Total	125	100
Year of Experience	1-5	3	2.4
	6-10	12	9.6
	11-15	16	12.8
	16-20	26	20.8
	21-25	38	30.4
	25-30	19	15.2
	Above 30	11	8.8
	Total	125	100

The table 63 depicts the data of education and work experience of respondents from Malaysia which explains 2.4% $(n = 3)$ respondents are holding graduation degree, 12% $(n = 15)$ respondents are holding master's degree, 9.6% $(n = 12)$ respondents are holding post-graduation degree, and Ph.D. respondents are 4.8 %$(n = 6)$. The statistics also show that 11.2% $(n = 14)$ respondents are certified financial analyst, holding CFA certification, 13.6% $(n = 17)$ respondents are entitled by CFP (certified financial planner), 24.8 % $(n = 31)$ respondents are holding ACCA certification, and the respondent entitled with CIMA or CA are 21.6% $(n = 27)$.

The statistics about work experience indicate that 2.4% $(n = 3)$ respondents are having job experience of '1-5 years' whereas 9.6% $(n = 12)$ are having '6-10 years' of professional experience. The statistics also reveals that 12.8% $(n = 16)$ respondents are having 11-15 years of experience, the maximum value of respondent falls under 20.8% $(n = 26)$ are having professional experience in the range of 16-20 years in the sample. The respondents having work experience of 21-25 years in our sample size are 30.4% $(n = 38)$ from different sectors of industry. The respondents who are 25-30 years and above 30 years of professional experience

are 15.2 % ($n = 19$) and 8.8 % ($n = 11$) respectively. The total of 125 samples are collected for Malaysia.

Table 64: Industry Wise Distribution of Respondents from Malaysia

Industry Type	Malaysia	
	Frequency	Percent
Construction	13	10.4
Consumer	15	12
Hotels	4	3.2
Industrials	60	48
Plantation	8	6.4
Technology	11	8.8
Mining	2	1.6
Others	12	9.6
Total	**125**	**100**

The table 64 reveals industry wise distribution of received sample from Malaysia. Around 10% ($n = 13$) corporate executive respondents are from construction sector, 12% ($n = 15$) are from consumer sector, 3.2% ($n = 4$) are from hotels sector, 48% ($n = 60$) respondents are from industrial sector, 6.4% ($n = 8$) respondents are from plantation sector, 8.8% ($n = 11$) are from technology sector, 1.6% ($n = 2$) are from mining sector, and 9.6% ($n = 12$) respondents are from others sectors across Malaysia.

Table 65: Credit Rating/No. of Employee/Family Own Status Distribution of Companies – Malaysia

Malaysia		Frequency	Percent
Credit Rating	AAA	15	12
	AA	7	5.6
	A	28	22.4
	BBB	19	15.2
	BB	6	4.8
	C	14	11.2
	D	5	4
	N/A	31	24.8
	Total	125	100
No of Employees	1-999	3	2.4
	1000-1999	21	16.8
	2000-2999	24	19.2
	3000-3999	27	21.6
	4000-4999	19	15.2
	Above 5000	31	24.8
	Total	125	100

Family Owned	Yes	47	37.6
	No	78	62.4
	Total	125	100

The table 65 shows statistics about credit rating, company size (with respect to a number of employees) and family-own status of Malaysian firms. The maximum percentage of companies fall in 'A' category with the percentage of 22.4% $(n = 28)$. Further, statistics indicate that 'AAA' companies are reported 12% $(n = 15)$, companies with credit rating 'AA' are reported 5.6% $(n = 7)$, companies with credit rating 'BBB' are reported 15.2% $(n = 19)$, and companies with credit rating 'BB' are reported 4.8% $(n = 6)$. The percentage for companies having credit rating 'C' and 'D' are estimated 11.2% $(n = 14)$ and 4% $(n = 5)$ respectively. Non-credit rating companies are 24.8% $(n = 31)$. Usually, Malaysian companies do not register their-self to governing body for credit rating because the procedure of registration needs extensive documentation and required more time to do this, usually, companies don't need credit rating while operating in local markets.

The next statistics show the respondents, company size. The size of the company is determined by the number of employees working in it. The statistics indicate that the firms having employees in range of '1-999' are 2.4% representing $(n = 3)$, in range '1000-1999' are 16.8% $(n = 21)$, in range '2000-2999' are19.2% $(n = 24)$, in range '3000-3999' are 21.6% $(n = 27)$, in range '4000-4999' are 15.2% $(n = 19)$, and in range 'above 5000' are 24.8% $(n = 31)$. The detail of family owned status of companies listed in Malaysia and participating in the study. The sample composition shows that 37.6% $(n = 47)$ companies are family owned and 62.4% $(n = 78)$ are non-family owned.

Table 66: Annual Revenue/Foreign Sales distribution of companies – Malaysia

Malaysia		**Frequency**	**Percent**
Annual Revenue in US$	30 Million or less	17	13.6
	30-99 Million	24	19.2
	100-499 Million	18	14.4
	500-999 Million	32	25.6
	1000 -1999 Million	29	23.2

	1999 Million and above	5	4
	Total	125	100.0
Foreign Sales	0%	40	32
	1-24%	36	28.8
	25-49%	27	21.6
	50 % Above	22	17.6
	Total	125	100.0

The data collected from Malaysia is summarized in table 66 discussing the annual revenues and foreign sales. The corporate firms under annual revenue up to 30 million US$ are 13.6% $(n = 17)$, the firms with annual revenue of '30-99 million US$' are 19.2% $(n = 24)$, the firms with annual revenue of '100-499 million US$' are 14.4% $(n = 18)$, the firms with annual revenue of '500-999 million US$' are 25.6% $(n = 32)$, the firms with annual revenue of '1000-1999 million' are 23.2% $(n = 29)$ and the firms more than 1999 million US$ revenue are reported 4% $(n = 5)$. The total sample of 125 companies are used to generate these statistics. The statistics about the foreign sales of the companies shows that 32% $(n = 40)$ companies have no foreign sale, 28.8% $(n = 36)$ companies have 25% foreign sales, 21.6% $(n = 27)$ have 50% foreign sales, and 17.6% $(n = 22)$ firms are exporting more than 50% of their sale volume.

5.3 Disruptive Analysis of Biases with Other Variables of Study – Malaysia

This section shows disruptive tables of behavioral biases compared with other variables.

Table 67: Financial Literacy Compared with Behavioral Biases

Financial Literacy	**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	11	24	11	24	13	22	15	20	15	20	14	21
Medium	5	17	10	12	4	18	15	7	14	8	5	17
High	14	54	26	42	14	54	36	32	29	39	26	42

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 67 indicates the relationship of behavioral biases with financial literacy in Malaysia. The count of respondents with low self-serving bias having financial literacy in low, medium and high literacy rate are 11, 5, 14 and with high self-serving bias are 24, 17 and 54 respectively. The count of respondents with low overconfidence bias having financial literacy in low, medium and high literacy rate is 11, 10, 26 and with high overconfidence in low, medium and high literacy rate are 24,12 and 42 respectively. The count of respondents with low optimism bias having financial literacy in low, medium and high literacy rate are 13, 4, 14 and with high optimism in low, medium and high literacy rate are 22, 18 and 54 respectively. The count of respondents with low anchoring/representative bias having financial literacy in low, medium and high literacy rate are 15, 15, 36 and with high anchoring/representative in low, medium and high literacy rate are 20, 7 and 32 respectively. The count of respondents with low loss aversion bias having financial literacy in low, medium and high literacy rate are 15, 14, 29 and with high loss aversion in low, medium and high literacy rate are 20, 8 and 39 respectively. The count of respondents with low mental accounting bias having financial literacy in low, medium and high literacy rate are 14, 5, 26 and with high loss aversion in low, medium and high literacy rate are 21, 17 and 42 respectively. Overall it indicates that respondents are biased with each level of financial literacy for the dataset of Malaysia.

Table 68: Managerial Skills Compared with Behavioral Biases

Managerial Skills	**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	8	19	8	19	10	17	14	13	12	15	11	16
Medium	7	25	13	19	7	25	17	15	15	17	9	23
High	15	51	26	40	14	52	35	31	31	35	25	41

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 68 indicates the relationship of behavioral biases with managerial skills in Malaysia dataset. The count of respondents with low self-serving bias with managerial skills in low, medium and high level are 8, 7, 15 and with high self-serving bias in low, medium and

high set of managerial skills are 19, 25 and 51 respectively. The count of respondents with low over-confidence bias with the effect of managerial skills in low, medium and high is 8, 13, 26 and with high overconfidence in low, medium and high managerial skills are 19, 19 and 40 respectively. The count of respondents with low optimism bias with the effect of managerial skills in low, medium and high are 10, 7, 14 and with high optimism in low, medium and managerial skills are 17, 25 and 52 respectively. The count of respondents with low anchoring/representative bias with the effect of managerial skills in low, medium and high is 14, 17, 35 and with high anchoring/representative in low, medium and high set of managerial skills are 13, 15 and 31 respectively. The count of respondents with low loss aversion bias with set of managerial skills in low, medium and high are 12, 15, 31 and with high loss aversion in low, medium and high set of managerial skills are 15, 17 and 35 respectively. The count of respondents with low mental accounting bias with the effect of managerial skills in low, medium and high skills are 11, 9, 25 and with high loss aversion in low, medium and high set of managerial skills are 16, 23 and 41 respectively. It concludes that Malaysian respondents are biased at each level of managerial skill.

Table 69: Organizational Performance Compared with Behavioral Biases

Org. Performance	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	2	3	2	3	1	4	4	1	4	1	3	2
Medium	2	7	3	6	2	7	5	4	5	4	4	5
High	26	85	42	69	28	83	57	54	49	62	38	73

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 69 indicates the cross-tab relationship of behavioral biases with organizational performance in Malaysia. The results show that respondents' count with low self-serving bias in low, medium and high organizational performance are 2, 2, 26 and with high self-serving bias in low, medium and high organizational performance are 3, 7 and 85 respectively. The count of respondents with low over-confidence bias in low, medium and high

organizational performance are 2, 3, 42 and with high overconfidence bias in low, medium and high organizational performance are 3, 6 and 69 respectively. The count of respondents with low optimism bias in low, medium and high organizational performance are 1, 2, 28 and with high optimism bias in low, medium and high organizational performance are 4, 7 and 83 respectively. The count of respondents with low anchoring/representative bias in low, medium and high organizational performance are 4, 5, and 57 and with high anchoring/representative bias in low, medium and high organizational performance are 1, 4 and 54 respectively. The count of respondents with low loss aversion bias in low, medium and high organizational performance are 4, 5, 49 and with high loss aversion bias in low, medium and high organizational performance are 1, 4 and 62 respectively. The count of respondents with low mental accounting bias in low, medium and high organizational performance are 3, 4, 38 and with high mental accounting bias in low, medium and high organizational performance are 2, 5 and 73 respectively.

Table 70: Risk Perception Compared with Behavioral Biases

Risk Perception	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	16	20	23	13	9	27	26	10	7	29	15	21
Medium	2	16	3	15	6	12	14	4	3	15	3	15
High	12	59	21	50	16	55	26	45	48	23	27	44

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 70 indicates the relationship of behavioral biases with risk perception in Malaysia, in which respondents' count with low self-serving bias in low, medium and high level of risk perception are 16, 2, 12 and with high self-serving bias in low, medium and high-risk perception are 20, 16 and 59 respectively. The count of respondents with low overconfidence bias with low, medium and high risk perception are 23, 3, 21 and with high overconfidence in low, medium and high level of risk perception are 13, 15 and 50 respectively. The count of respondents with low optimism bias with low, medium and high-risk perception

are 9, 6, 16 and with high optimism in low, medium and high-risk perception level are 27, 12 and 55 respectively. The count of respondents with low anchoring/representative bias with low, medium and high-risk perception is 24, 14, 26 and with high anchoring/representative in low, medium and high risk perception are 10, 4 and 45 respectively. The count of respondents with low loss aversion bias within low, medium and high-risk perception are 7, 3, 48 and with high loss aversion in low, medium and high-risk perception are 29, 15, 23 respectively. The count of respondents with low mental accounting bias within low, medium and high-risk perception level are 15, 3, 27 and with high loss aversion in low, medium and high-risk perception are 21, 15 and 44 respectively.

Table 71: Designation Compared with Behavioral Biases

Designation	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
CFO	5	36	16	25	6	35	21	20	20	21	13	28
Manager Finance	6	21	12	15	9	18	15	12	13	14	11	16
General Manager Finance	10	19	10	19	6	23	14	15	16	13	9	20
Director Finance	6	11	7	10	7	10	10	7	2	15	7	10
General Manager	3	8	2	9	3	8	6	5	7	4	5	6

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 71 indicates the statistics of behavioral biases with the designation of respondents in Malaysia, in which CFOs' count with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 5, 16, 6, 1, 20, and 13. The count of CFO with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 36, 25, 35, 20, 21, and 28 respectively. The count of manager finance with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 6, 12, 9, 15, 13 and 11 and the count of manager finance with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 21, 15, 18, 12, 14 and

16 respectively. The count of general manager finance, with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 10, 10, 6, 14, 16 and 9 and the count of general manager finance with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 19, 19, 23, 15, 13 and 20 respectively. The count of director finance with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 6, 7, 7, 10, 2 and 7 and the count of director finance with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 11, 10, 10, 7, 15 and 10 respectively. The count of general manager with low self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 3, 2, 3, 6, 7 and 5 and the count of general manager with high self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 8, 9, 8, 5, 4 and 6 respectively.

Table 72: Gender and Age Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Gender	Male	27	86	40	73	28	85	60	53	55	58	38	75
	Female	3	9	7	5	3	9	6	6	3	9	7	5
Age	18-25	1	4	0	5	3	2	2	3	1	4	1	4
	26-35	5	13	8	10	3	15	9	9	5	13	7	11
	36-45	10	15	11	14	7	18	13	12	11	14	10	15
	46-55	10	33	16	27	8	35	26	17	21	22	17	26
	56-60	2	21	8	15	10	13	12	11	13	10	6	17
	60-Above	2	9	4	7	0	11	4	7	7	4	4	7

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 72 narrates the statistics about behavioral biases with respect to gender and age in Malaysia. The statistics show that male respondents are more biased than female respondents. The statistics show that overall age group of 18-25 years of respondents are low biased in self-serving, overconfidence, optimism anchoring/representative, loss aversion and

mental accounting bias whereas age group of 46-55 years are highly biased in self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting biases.

Table 73: Education and Work Experience Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Education	Graduation	3	0	1	2	0	3	3	0	0	3	1	2
	Master	5	10	5	10	4	11	7	8	6	9	2	13
	MS/M.Phil.	2	10	4	8	3	9	7	5	9	3	5	7
	PhD.	1	5	4	2	0	6	1	5	2	4	3	3
	CFA	3	11	4	10	4	10	8	6	8	6	7	7
	CFP	5	12	7	10	9	8	10	7	5	12	4	13
	ACCA	6	25	8	23	6	25	18	13	15	16	14	17
	CIMA	5	22	14	13	5	22	12	15	13	14	9	18
Work Experience	1-5 Years	1	2	1	2	3	0	1	2	0	3	1	2
	6-10 Years	5	7	4	8	2	10	8	4	6	6	1	11
	11-15 Years	2	14	6	10	4	12	7	9	8	8	6	10
	16-20 Years	3	23	7	19	6	20	14	12	9	17	12	14
	21-25 Years	12	26	15	23	11	27	22	16	20	18	16	22
	25-30 Years	5	14	7	12	5	14	8	11	11	8	4	15
	Above 30 Years	2	9	7	4	0	11	6	5	4	7	5	6

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 73 shows the crosstab relationship of respondents' education level and work experience with behavioral biases. The biases are segregated into two subgroups of low and high. Each group is matched as number of respondents are counted for analysis. It indicates that most of the respondents have ACCA qualification and most of them are influenced by behavioral biases. The data of work experience is also compared with low and high group of behavioral biases, and results indicate that most of the respondents have working experience of 21-25 years. The statistics show that the respondents with experience between 16 to 30 years are highly biased as compared to work experience group ranging from 1 year to 15 years.

Table 74: Industry Compared with Behavioral Biases

Industry	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Construction	4	9	5	8	4	9	10	3	5	8	3	10

Consumer	2	13	6	9	4	11	7	8	10	5	6	9
Hotels	1	3	1	3	0	4	0	4	1	3	0	4
Industrial	13	47	19	41	14	46	33	27	27	33	18	42
Plantation	3	5	6	2	3	5	4	4	3	5	5	3
Technology	2	9	6	5	3	8	6	5	5	6	6	5
Mining	0	2	0	2	0	2	0	2	1	1	0	2
Other	5	7	4	8	3	9	6	6	6	6	7	5

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 74 explains the crosstab statistics about industry type with biases. Most of the respondents in our study belong to the industrial organizations of Malaysia. The statistics show most of the respondents from the industrial organization are highly biased while the respondents from the other organizational sector are less biased. The respondents from the mining sector are found less biased among all the other organizational sectors in Malaysia.

Table 75: Credit Rating/No. of Employee Compared with Behavioral Biases

		SS		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Credit Rating	AAA	5	10	9	6	4	11	10	5	7	8	3	12
	AA	0	7	3	4	2	5	2	5	1	6	4	3
	A	8	20	8	20	9	19	12	16	12	16	11	17
	BBB	5	14	8	11	5	14	10	9	13	6	6	13
	BB	1	5	2	4	2	4	3	3	2	4	3	3
	C	8	6	7	7	2	12	8	6	4	10	5	9
	D	1	4	2	3	0	5	2	3	2	3	3	2
	N/A	2	29	8	23	7	24	19	12	17	14	10	21
No. of Employees	1-999	0	3	1	2	1	2	1	2	0	3	0	3
	1000-1999	4	17	7	14	7	14	11	10	9	12	8	13
	2000-2999	7	17	9	15	6	18	14	10	12	12	8	16
	3000-3999	10	17	11	16	6	21	14	13	13	14	11	16
	4000-4999	3	16	8	11	7	12	11	8	10	9	4	15
	5000-5999	3	14	6	11	4	13	9	8	8	9	9	8
	6000-Above	3	11	5	9	0	14	6	8	6	8	5	9

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 75 shows the mix-up trend of crosstab analysis among credit rating, company size and behavioral biases. Our sample size shows that most of the respondents are working in AAA, BBB and no-credit rating firms. The statistics also indicate that most of the respondents are highly biased and working in the firms with a credit rating of 'AAA', 'BBB' and 'N/A'

while the respondents from the other credit rating companies like 'AA', 'C', or 'D' are less biased. The second tabular relationship is also added in this table to show the relationship between company size and behavioral biases. The results indicate that most of the respondents are working in the companies which have almost 3000–3999 employees and they are optimistic.

Table 76: Annual Revenue/Foreign Sales Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Annual Revenue	30 Million or Less	4	13	6	11	5	12	7	10	6	11	3	14
	30-99 Million	4	20	7	17	6	18	13	11	13	11	7	17
	100-499 Million	7	11	9	9	3	15	7	11	12	6	9	9
	500-999 Million	8	24	13	19	10	22	23	9	14	18	12	20
	1000 -1999 Million	6	23	10	19	7	22	14	15	11	18	13	16
	1999 Million and Above	1	4	2	3	0	5	2	3	2	3	1	4
Foreign Sales	0%	11	29	17	23	11	29	23	17	14	26	12	28
	1-24%	9	27	12	24	9	27	17	19	24	12	11	25
	25-49%	6	21	12	15	5	22	15	12	11	16	12	15
	50-Above	4	18	6	16	6	16	11	11	9	13	10	12

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 76 shows relations of the annual revenue of companies and foreign sales with behavioral biases of the respondents. The statistics show that the respondents working in organization bearing annual revenue of $ 500 to 1999 million and most of them are influenced by self-serving and optimism bias. The tabular relationship between foreign sales of companies and behavioral biases of the respondents indicate that respondents working in an organization with the foreign sale are highly biased. Most of them are working in the organizations which have more than 1% foreign sales. However, the responders from no foreign sale companies are also found to be highly biased in different biases types.

Table 77: Capital Structure Policy Decisions

Capital Structure Decisions	Mean	S.D.	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered

Capital Structure Policies	3.016	1.239	17.6%	9.6%	40.0%	19.2%	13.6%
Capital Structure Target Ratio	2.728	1.176	19.2%	20.0%	38.4%	13.6%	8.8%

The table 77 explains about the percentage of respondents indicating the capital structure policies of their respective firms. The mean and standard deviation are also reported. Our statistical results show that 40% of respondents have an opinion of moderate capital structure policies. The statistics about the capital structure target ratio indicated 38.4% respondents have a moderate opinion. It concludes that Malaysian firms have the moderate levered capital structure in general.

Table 78: Capital Structure Policy Motives

Capital Structure Decisions	Mean	S.D.	Not at all important	Low Importance	Neutral	High Importance	Extremely Important
Maintaining Financial Flexibility	3.91	0.87	3.2%	4.0%	12.0%	60.0%	20.8%
Ensuring Long-term Survivability	4.32	0.67	0.0%	0.8%	9.6%	45.6%	44.0%
Considering Financial Decisions of Competitors	3.73	0.85	0.0%	7.2%	32.0%	40.8%	20.0%
Considering Market Response	3.8	0.76	0.0%	2.4%	31.2%	46.4%	20.0%
Maintaining a Stable Dividend Policy	3.3	0.98	7.2%	7.2%	34.4%	43.2%	8.0%
Maximizing Profitability	3.86	0.72	0.0%	3.2%	27.2%	54.4%	15.2%
Maintaining Voting Control of Shareholders	4.14	0.66	0.0%	1.6%	12.8%	59.2%	26.4%
Preferring Previously Used Financing Sources	3.38	0.86	3.2%	8.8%	41.6%	39.2%	7.2%

The table 78 presents the percentage of the proportion of respondents based on a response rate of each capital structure decision by their relative scale of importance. The mean and standard deviation of each factor are also calculated. The columns with response headings are indicating the percentage rating of their respective Likert scale. The statistics conclude that ‘maintaining financial flexibility’ and ‘maintaining voting control of shareholders’ are most important motives whereas ‘preferring previously used financing sources’ are the least important motive of capital structure decisions for Malaysian firms.

Table 79: Capital Structure Decisions Motives Compared with Behavioral Biases

		Maintaining Financial Flexibility	Ensuring Long-term Survivability	Considering Financial Decisions of Competitors	Considering Market Response	Maintaining a Stable Dividend Policy	Maximizing Profitability	Maintaining Voting Control of Shareholders	Preferring Previously Used Financing Sources
Self-Serving	High	3.83	4.34	3.76	3.85	3.35	3.76	4.09	3.43
	Low	4.17	4.30	3.67	3.80	3.47	4.00	4.13	3.23
Overconfidence	High	3.88	4.37	3.77	3.91	3.46	3.79	4.10	3.54
	Low	3.96	4.26	3.68	3.72	3.23	3.85	4.11	3.13
Optimism	High	3.99	4.34	3.74	3.89	3.39	3.83	4.11	3.31
	Low	3.68	4.29	3.71	3.68	3.32	3.77	4.10	3.61
Anchoring/Representative	High	3.95	4.32	3.68	3.86	3.37	3.81	3.98	3.42
	Low	3.88	4.33	3.79	3.82	3.38	3.82	4.21	3.35
Loss Aversion	High	3.96	4.31	3.76	3.88	3.42	3.82	4.06	3.42
	Low	3.86	4.34	3.71	3.79	3.33	3.81	4.16	3.34
Mental Accounting	High	3.89	4.36	3.76	3.80	3.41	3.81	4.05	3.29
	Low	3.96	4.27	3.69	3.91	3.31	3.82	4.20	3.56

The table 79 narrates the relationship between behavioral biases and capital structure decision motives of Malaysian respondents. The table indicates the average proportion of capital structure motive for a subsample of respondents based on biases group. All the six behavioral biases, self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting are categorized in two levels ‘high’ and ‘low’ which indicated the intensity of the influence. The motives are ‘maintaining financial flexibility’, ‘ensuring long-term survivability’, ‘financial decisions of competitors’, ‘market response’, ‘maintaining stable dividend policy’, ‘maximizing profitability’, ‘maintaining voting control of shareholders’ and ‘previously used financing sources’ and is scaled from 1 to 5. The table explains the pattern of biased respondents in capital structure decision motives by the mean values placed in the table in terms of the importance of each factor. Overall, the table is depicting mixed results.

Table 80: Dividend Policy Decisions

Dividend Policy	Mean	S.D.	Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend
Policies that Describes	3.032	1.035	10.4%	18.4%	31.2%	37.6%	2.4%

The table 80 explains the percentage of respondents indicating the policy concern about the dividend payout ratio. The mean and standard deviation are also reported. Our statistics show that 10.4% of respondents have opinion of 'lowest concern for paying dividend', 18.4% of respondents have the opinion 'low Concern for paying dividend', 31.2% of respondents have the opinion 'moderate concern for paying dividend', 37.6% respondents are of the opinion 'high concern for paying dividend', and 2.4% of respondents have the opinion of 'highest concern for paying dividend'. Our results show that Malaysian firms normally have moderate and high concern for paying dividend to their shareholders.

Table 81: Dividend Policy Motives

Dividend Policy	Mean	S.D.	Strongly Disagree	Disagree	Un-Decided	Agree	Strongly Agree
Paying Dividends rather than Risky Investments	3.056	0.888	3.2%	25.6%	35.2%	34.4%	1.6%
Paying Dividends rather than Availability of Cash	2.76	0.999	6.4%	42.4%	23.2%	24.8%	3.2%
Shareholder's Value Maximization by Paying Dividends	3.264	0.948	0.8%	29.6%	15.2%	51.2%	3.2%
Firm Value Maximization by Paying Dividends	3.224	0.875	3.2%	18.4%	32.8%	44.0%	1.6%

The table 81 presents the percentage proportion of respondents based on the response rate of each dividend policy motive by their respective scale of importance. The mean and standard deviation of each decision is also reported. The columns indicate the percentage

response of dividend policy motives. The statistics conclude that about 35.2% of the respondents of Malaysian firms are un-decided to paying dividends rather than risky investment, 42.4% of the respondents in Malaysian firms disagree to paying dividends rather than availability of cash, about 51.2% of the respondents agree to maximize to shareholder wealth rather than paying dividend. 44% of the respondents focus on firm value maximization by paying dividends.

Table 82: Dividend Policy Motives with Behavioral Biases

		Paying dividends rather than risky investments	Paying dividends rather than availability of cash	Maximizing shareholder value by paying dividends	Increasing the firm value by paying dividends
Self-Serving	High	3.00	3.09	2.79	3.17
	Low	3.13	2.93	2.67	3.57
Overconfidence	High	3.09	3.18	2.86	3.28
	Low	2.94	2.85	2.60	3.23
Optimism	High	3.02	3.15	2.72	3.32
	Low	3.06	2.77	2.87	3.10
Anchoring/Representative	High	3.07	3.08	2.83	3.32
	Low	3.00	3.03	2.70	3.21
Loss Aversion	High	3.03	3.10	2.78	3.30
	Low	3.03	3.00	2.74	3.22
Mental Accounting	High	2.99	3.06	2.66	3.25
	Low	3.11	3.04	2.93	3.29

The table 82 explains the relationship between behavioral biases and dividend policy decisions of respondents in Malaysia. The values in the table indicate the average proportion for a subsample of respondents based on behavioral biases in each dividend policy decision. All the six behavioral biases self-serving, overconfidence, optimism, anchoring/representative, loss aversion and mental accounting are categorized into two levels ‘high’ and ‘low’ which indicate the intensity of influence. Dividend policy motives are mentioned in the header of the table. Overall, the table explains the pattern of biased respondents in dividend policy motives by the mean level of agreement on each motive of dividend policy.

Table 83: Working Capital Management Policy

Working Capital Management	Mean	S.D.	Highly Conservative	Conservative	Moderate	Aggressive	Highly Aggressive
Policies that Describes Company WCM Policy	3.24	1.1	0.8%	37.6%	10.4%	39.2%	12.0%

The table 83 explains the percentage of respondents indicating the policy concern about working capital management. The mean and standard deviation are also reported. Our statistics show that 0.8% of respondents have an opinion of 'highly conservative WCM policies', 37.6 % of respondents have the opinion of 'conservative WCM policies', 10.4% of respondents have the opinion of 'moderate WCM policies', 39.2% of respondents have the opinion of 'aggressive WCM policies', and 12% of respondents have the opinion of 'highly aggressive WCM policies'. Our results show that Malaysian firms normally use an aggressive approach for working capital management policies.

Table 84: Cash Management Approaches used by Companies

Cash Management Approaches used by Companies	Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
No. of Responses	35	47	24	32	42	38	28	14

The table 84 indicates the number of respondents who have marked their cash management approaches used in their companies. The approaches 'managing cash through leading and lagging' is ranked first and second highest approach is 'meet payment in a timely manner' in Malaysia.

Table 85: Cash Management Approaches Compared with Behavioral Biases

		Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Self-Serving	High	82.9%	68.1%	79.2%	71.9%	78.6%	73.7%	67.9%	78.6%
	Low	17.1%	31.9%	20.8%	28.1%	21.4%	26.3%	32.1%	21.4%
Overconfidence	High	57.1%	57.4%	70.8%	62.5%	73.8%	60.5%	53.6%	50.0%
	Low	42.9%	42.6%	29.2%	37.5%	26.2%	39.5%	46.4%	50.0%
Optimism	High	74.3%	80.9%	75.0%	78.1%	73.8%	76.3%	67.9%	64.3%
	Low	25.7%	19.1%	25.0%	21.9%	26.2%	23.7%	32.1%	35.7%
Anchoring/Representative	High	45.7%	53.2%	58.3%	53.1%	47.6%	55.3%	28.6%	71.4%
	Low	54.3%	46.8%	41.7%	46.9%	52.4%	44.7%	71.4%	28.6%
Loss Aversion	High	54.3%	51.1%	54.2%	50.0%	59.5%	55.3%	64.3%	35.7%
	Low	45.7%	48.9%	45.8%	50.0%	40.5%	44.7%	35.7%	64.3%
Mental Accounting	High	71.4%	61.7%	62.5%	62.5%	64.3%	57.9%	53.6%	71.4%
	Low	28.6%	38.3%	37.5%	37.5%	35.7%	42.1%	46.4%	28.6%

The table 85 describes the cross-tab percentage of cash management approaches versus biases subgroups. The results indicate that respondents are influenced by self-serving, optimism and mental accounting biases while making a decision regarding cash management. Rest of the respondents are moderately or low biased.

Table 86: Approaches of Inventory Management

Approaches for Inventory Management	Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
No. of Responses	24	55	47	33	54	18

The table 86 indicates summary about inventory management approaches used by the respondents for their companies. The approach 'supply chain management' and 'sale forecasting' are pointed out to be the most useable approach and the second highest approach is 'inventory models' in Malaysia. The statistics show that 24 respondents use 'material requirement planning', 55 respondents use 'sales forecasting', 47 respondents use 'inventory models', 33 respondents use 'Just in time', 54 respondents use 'supply chain management' and 18 respondents use 'ERP systems'.

Table 87: Approaches for Inventory Management Compared with Behavioral Biases

		Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
Self-Serving	High	79.2%	70.9%	74.5%	72.7%	74.1%	77.8%
	Low	20.8%	29.1%	25.5%	27.3%	25.9%	22.2%
Overconfidence	High	58.3%	65.5%	57.4%	63.6%	66.7%	55.6%
	Low	41.7%	34.5%	42.6%	36.4%	33.3%	44.4%
Optimism	High	62.5%	72.7%	80.9%	75.8%	72.2%	77.8%
	Low	37.5%	27.3%	19.1%	24.2%	27.8%	22.2%
Anchoring/Representative	High	29.2%	41.8%	51.1%	54.5%	53.7%	61.1%
	Low	70.8%	58.2%	48.9%	45.5%	46.3%	38.9%
Loss Aversion	High	58.3%	52.7%	46.8%	51.5%	51.9%	38.9%
	Low	41.7%	47.3%	53.2%	48.5%	48.1%	61.1%
Mental Accounting	High	54.2%	56.4%	70.2%	60.6%	57.4%	72.2%
	Low	45.8%	43.6%	29.8%	39.4%	42.6%	27.8%

The table 87 describes the cross-tab percentage of inventory management approaches versus biases groups. The highly biased respondents are reported in self-serving and optimism for all inventory management approaches. Rest of the respondent are moderately or low biased for maintaining their inventory management approaches.

Table 88: Account Payable Motives

Account Payable Motives	Mean	S.D.	Not at All Important	Not Important	Neutral	Important	Highly Important
Financial Motives	3.808	0.883	4.8%	0.8%	19.2%	59.2%	16.0%
Operational Motives	3.864	0.685	2.4%	0.8%	14.4%	72.8%	9.6%
Price Motives	3.944	0.611	0.8%	0.8%	14.4%	71.2%	12.8%

Transaction Motives	3.896	0.702	0.8%	2.4%	18.4%	63.2%	15.2%

The table 88 presents the percentage proportion of respondents based on the response rate of each account payable decision by their respective scale of importance. The mean and standard deviation of each motive are also reported. The statistics revealed that 59.2% of respondents consider 'financial motives' as an important factor for accounts payable. It also indicates that 72.8% respondents consider 'operational motives', 71.2% respondents consider 'price motives' and 63.2% respondents consider 'transaction motives' as an important factor for account payable decisions for Malaysian firms.

Table 89: Account Payable Motives Compared with Behavioral Biases

		Financial Motives	**Operational Motives**	**Price Motives**	**Transection Motives**
Self-Serving	High	3.79	3.82	3.92	3.88
	Low	3.87	4.00	4.03	3.93
Overconfidence	High	3.83	3.91	3.92	3.86
	Low	3.77	3.79	3.98	3.96
Optimism	High	3.82	3.87	3.96	3.90
	Low	3.77	3.84	3.90	3.87
Anchoring/Representative	High	3.75	3.76	3.88	3.83
	Low	3.86	3.95	4.00	3.95
Loss Aversion	High	3.81	3.93	4.03	3.94
	Low	3.81	3.79	3.84	3.84
Mental Accounting	High	3.86	3.89	4.01	3.94
	Low	3.71	3.82	3.82	3.82

The table 89 describes the relationship between behavioral biases and accounts payable motives. The values shown in the table indicate the average proportion for a subsample of respondents based on behavioral biases for each account payable motive. All the six behavioral biases are categorized into two levels of 'high' and 'low' which indicates the intensity of biased respondents. Account payable motives are categorized in groups of financial, operational, price, and transaction. They are scaled from 1 to 5. The table indicates the pattern of biased respondents in account payable by the mean values placed in it and shows the importance of each motive.

Table 90: Bad Debt level in Accounts Receivable

Working Capital Management	Mean	S.D.	Less Than 1%	1-3 %	3-6 %	6-9 %	More than 10%
Bad Debt level in your accounts Receivable	2.856	1.413	25.6%	17.6%	16.0%	27.2%	13.6%

The table 90 explains the percentage of respondents indicating the bad debts status of the companies. The mean and standard deviation are also reported. The statistics show that 25.6% of the companies have bad debt 'less than 1%', 17.6% of the companies are having 1-3% of bad debt, 16% of the companies have 3-6% bad debts, 27.2% of the companies are having 6-9% of bad debts and 13.6% of the companies are having 'more than 10%' of bad debts.

Table 91: Bad Debt level in Accounts Receivable Compared with Behavioral Biases

Bad Debts	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Less Than 1%	12	20	12	20	9	23	14	18	14	18	13	19
1 to 3%	3	19	7	15	4	18	11	11	10	12	7	15
3 to 6%	4	16	7	13	5	15	14	6	9	11	9	11
6 to 9%	7	27	12	22	10	24	19	15	18	16	12	22
More than 10%	4	13	9	8	3	14	8	9	7	10	4	13

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 91 presents crosstab analysis of bad debt and behavioral biases. Two groups of biases are generated indicating 'low' and 'high' biased respondents and then data is matched with bad debt percentage of the company. Each cell indicates the number of respondents for each behavioral bias with relation to bad debt level.

Table 92: A Comparison of Family and Non-Family Owned Companies

Family Owned	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
No	18	60	30	48	18	60	41	37	42	36	30	48
Yes	12	35	16	31	13	34	25	22	17	30	15	32

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 92 shows cross-comparison of family owned and non-family owned companies with biasness level of respondents. Each bias is categorized into two subgroups of low and high and its data is matched with the family-owned status of the company. The statistics show that family owned and non-family owned companies subject to low self-serving bias are 12, 18 and high self-serving bias are 35, 60 respectively. Family owned, with low overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 16, 13, 25, 17 and 15 while with high overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 31, 34, 22, 30 and 32 respectively. Non-family owned, with low overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 30, 18, 41, 42 and 30 while non-family owned companies with high overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 48, 60, 37, 36 and 48 respectively.

5.3.1 Summary of Disruptive Analysis

The summary of disruptive analysis explains that the high number of financially literate respondents fall in the high biased column. A large number of respondents with low financial literacy are also influenced by these behavioral biases while the respondents with medium financial literacy are least influenced with them. Financial decision makers are highly biased regardless of their managerial skills level. However, the managers with high managerial skills are slightly less biased. The managers with high risk perception are highly biased.

CFOs are the most in number however highly biased while general managers are less biased as compared to other designations. Male respondents are the most in number and more biased as compare to female. Women are less overconfident as compared to men. The maximum number of Malaysian respondents fall in the age group of 46-55 years and the respondents in the age group of 18-25 years are low biased in self-serving, overconfidence,

optimism anchoring/representative, loss aversion and mental accounting bias. Whereas the respondents in the age group of 46-55 years are highly biased. The experienced managers are showing more optimism. The statistics show the overall trend that the respondents from the industrial organization are highly biased. The respondents from no foreign sales companies and with foreign sales are found biased. Malaysian firms have a moderate levered capital structure. 'Maintaining financial flexibility' and 'maintaining voting control of shareholders' are the most important motives of capital structure whereas 'preferring previously used financing sources' is the least important motive of capital structure decisions in Malaysia.

Our statistics show that 10.4% of respondents have opinion of 'lowest concern for paying dividend', 18.4% respondents have the opinion of 'low concern for paying dividend', 31.2% respondents have the opinion of 'moderate concern for paying dividend', 37.6% respondents have the opinion of 'high concern for paying dividend' and 2.4% respondents have the opinion of 'highest concern for paying dividend'. Our results show that Malaysian firms are normally having moderate and high concern for paying dividend to their shareholders.

The statistics show that 0.8% of respondents have opinion of 'highly conservative WCM policies', 37.6% of respondents have the opinion of 'conservative WCM policies', 10.4% of respondents have the opinion of 'moderate WCM policies', 39.2% of respondents have the opinion of 'aggressive WCM policies', and 12% of respondents have the opinion of 'highly aggressive WCM policies'. Malaysian firms normally use an aggressive approach for working capital management policies. The approach 'managing cash through leading and lagging' is ranked first and the second highest approach is 'meet payment in a timely manner' for Malaysian firms. The highly biased respondents are reported in self-serving, optimism and mental accounting in all cash management approaches as shown by the higher parentage values. Rest of the respondents are moderately biased in overconfidence, anchoring/representative and loss aversion in cash management approaches. The approach

‘supply chain management’ and ‘sale forecasting’ are pointed out to be the most useable approach and the second highest approach is ‘inventory models’ for Malaysian organizations. The highly biased respondents are reported in self-serving and optimism in all inventory management approaches as shown by the higher parentage values. Rest of the respondents are moderately biased in overconfidence, anchoring/representative, mental accounting and loss aversion in inventory management approaches.

The statistics conclude that about 59.2 %, 72.8%, 71.2% and 63.2% of the respondents in Malaysian firms pay importance to financial, operational, price and transaction motives in account payable decisions respectively. About 25.6% of the companies have bad debt less than 1%, 17.6% of the companies have 1-3 % of bad debt, 16% of companies have 3-6 % bad debts, 27.2% of companies have 6-9 % of bad debts and 13.6 % of companies have more than 10 % of bad debts.

5.4 Assessment of Measurement Model – Malaysia

After the descriptive and disruptive analysis of variables, we are going to explain the PLS-SEM analysis results which consist of two step model assessment. Fist measurement model assessment and second is a structural model assessment. The measurement model assesses the validity of constructs by evaluating two validities (1) convergent validity, (2) discriminant validity. The model is assessed separately for these validities and explained next in details.

5.4.1 Individual Indicator Reliability – Malaysia

The estimation of factor loading was carried out through smart PLS software for Malaysia dataset and loadings remain more than 0.7 and statistically significant. This model is measured by with more than 100 samples; therefore, loading values can be accepted by keeping

in view the threshold value of CR=0.7 and AVE=0.5, which are found at the acceptable level. The table 93 shows the values of factor loading of Malaysia along with respective construct details.

5.4.2 Convergent Validity – Malaysia

The assessment of convergent validity for Malaysian model is based on average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha (α) of each construct.

5.4.2.1 Composite Reliability (CR) and Cronbach's Alpha

The values of composite reliability (CR) and Cronbach's alpha (α) are calculated by Smart PLS 3.2 software and results are summarized in the table 93 for Malaysia. The threshold values of CR=0.7 and Cronbach's alpha=0.6, are based on Churchill, (1979) and Nunnally, (1967b). The results indicate that CR and alpha value of these constructs are above than the threshold value. Hence, the internal consistency and reliability of measurement indicators are appropriate for their relevant constructs. It is important to note that CR and alpha values for the constructs with a single item (such as constructs of behavioral biases, working capital management and dividend policy) are 1.00 and it cannot be interpreted as evidence that these constructs have perfect reliability (Hair et al., 2014). The figure 7 depicts the CR values of the constructs of the Malaysian model.

5.4.2.2 Average Variance Extracted (AVE)

Convergent validity at the construct level is commonly measured using average variance extracted (AVE) (Hair et al., 2014). The values of AVE are also generated by software Smart PLS 3.2, and all AVE values are well above the minimum level of 0.5 (please refer tables 93). Hence, the measures of reflective constructs for Malaysian model have high levels of convergent validity. It is also notable that single item constructs (like behavioral biases

constructs, working capital management and dividend policy) AVE are not an appropriate measure because their outer loading is fixed at 1.00 (Hair et al., 2014).

The results of convergent validity have been indicated in the table 93 for Malaysia. It implies good convergent validity and internal consistency, which infer that items of each latent variable are measuring well on its construct than other. It is notable that the constructs with single-items (self-serving, overconfidence, optimism, anchoring/representative, loss aversion, mental accounting, dividend policy, working capital management) are not shown in the table because convergent validity and internal consistency reliability are not applicable to single-item constructs (Hair et al., 2014). However, blindfolding algorithm of Smart PLS is used to estimate the validity of single-item constructs for this study. The figure 8 depicts the AVE values of constructs in Smart PLS for the Malaysian model.

The convergent validity of the Malaysian model is measured by prescribed criteria mentioned above. All the constructs are representing composite reliability (CR) and average variance extracted (AVE) more than 0.7 and 0.5. The loading factors are also having a value of 0.7 to justify estimates. The model of Malaysia also represents acceptable convergent validity. The values of loading factor, CR and AVE are at more than thresh hold value.

Table 93: Factor Analysis of Measurement Model along with Composite Reliability (CR) and Average Variance Extracted (AVE) – Malaysia

Variable Name	Item Code	Cronbach's alpha	Loadings	(CR)	(AVE)
Risk Perception	RP6	0.688	0.804	0.828	0.618
	RP7		0.854		
	RP8		0.700		
Capital Structure	CS1_1	0.922	0.964	0.962	0.927
	CS1_2		0.963		
Corporate Performance	OP4_1	0.911	0.922	0.934	0.739
	OP4_2		0.700		
	OP4_3		0.852		
	OP4_5		0.918		
	OP4_6		0.888		
Financial Literacy	FL1	0.800	0.901	0.872	0.696
	FL2		0.753		
	FL4		0.842		
Managerial Skills	MS	0.875	0.959	0.923	0.800

	MS12		0.932		
	MS9		0.783		

Notes: *AVE=Average Variance Extracted, CR=Composite Reliability*

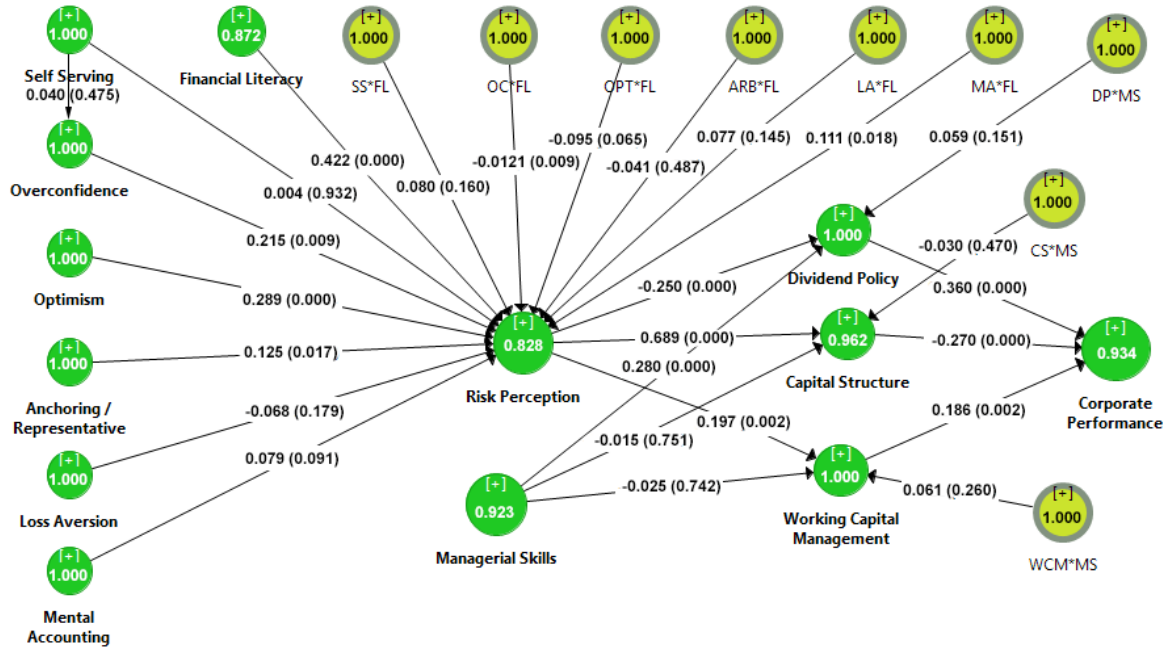

Figure 7: Composite Reliability of Constructs – Malaysia

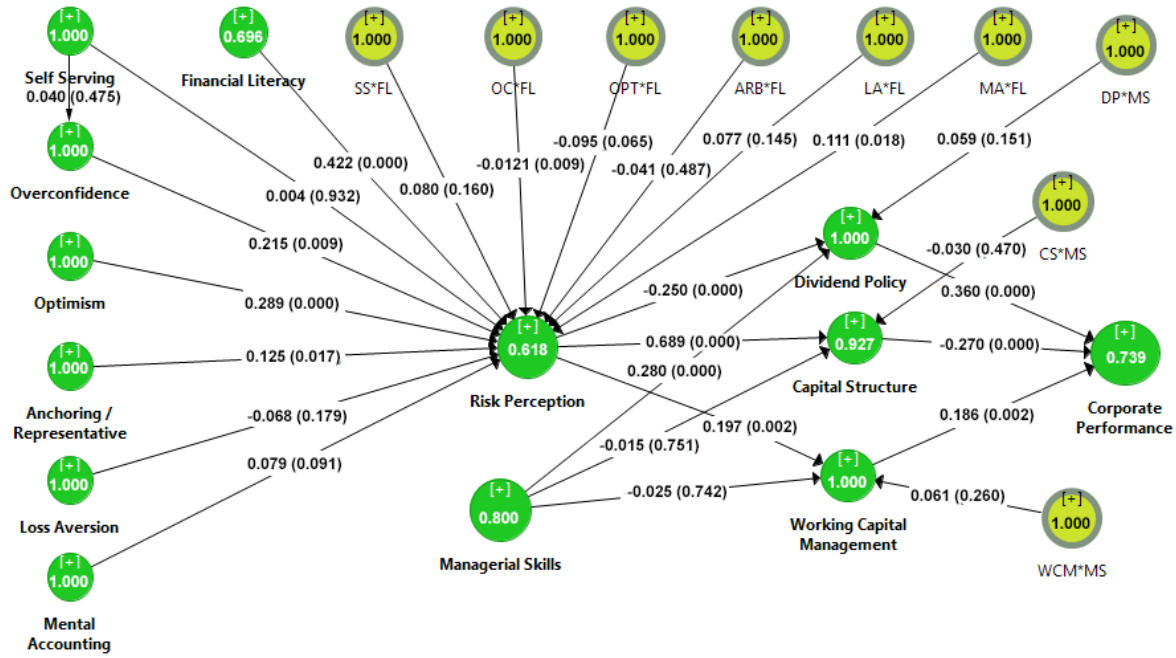

Figure 8: Average Variance Extracted (AVE) of Constructs – Malaysia

5.4.3 Discriminant Validity – Malaysia

The table 94 displays the correlation matrix for each construct, no correlation value is identified between constructs, which are greater than or equal to the AVE square root. Hence, the condition of discriminant validity is satisfied at the construct level under the Fornell-Larcker's (1981) criterion.

The results of discriminant validity for Malaysian model present acceptable convergent validity, discriminant validity and indicator reliability. The results have indicated that all constructs are lying within an acceptable level of error. Hence, all the measurement models demonstrate the ample robustness needed to assess the structural models (relationships among constructs).

Table 94: Discriminant Validity by (Fornell & Larcker, 1981) Criterion - Malaysia

	Mean	Standard Deviation	ARB*FL	Anchoring/Representative	CS*MS	Capital Structure	Corporate Performance	DP*MS	Dividend Policy	Financial Literacy	LA*FL	Loss Aversion	MA*FL
ARB*FL	---	---	1.000										
Anchoring/Representative	2.40	1.497	0.442	1.000									
CS*MS	---	---	-0.075	-0.047	0.963								
Capital Structure	2.44	0.98	-0.032	-0.139	-0.052	1.000							
Corporate Performance	4.10	0.877	-0.157	-0.029	-0.105	0.031	1.000						
DP*MS	---	---	-0.032	-0.139	-0.052	1.000	0.031	1.000					
Dividend Policy	2.84	0.9666	-0.305	-0.039	0.190	0.203	0.004	0.203	0.834				
Financial Literacy	4.08	0.744	-0.042	0.076	-0.019	0.094	0.197	0.094	0.062	1.000			
LA*FL	---	---	0.060	-0.071	-0.006	0.096	-0.008	0.096	-0.183	-0.016	1.000		
Loss Aversion	3.40	2.135	0.107	0.019	0.120	0.223	0.065	0.223	0.180	0.054	-0.041	1.000	
MA*FL	---	---	0.018	0.030	0.006	0.256	0.072	0.256	-0.120	-0.049	0.103	0.138	1.000
Managerial Skills	3.84	0.833	-0.300	-0.177	0.140	0.210	0.138	0.210	0.680	0.007	-0.060	0.124	0.038
Mental Accounting	1.12	0.325	0.310	0.039	-0.092	-0.185	0.014	-0.185	-0.731	0.049	0.098	-0.141	0.018
OC*FL	---	---	0.029	0.310	-0.004	-0.216	-0.007	-0.216	0.108	0.092	-0.078	0.014	-0.274
OPT*FL	---	---	-0.070	0.003	-0.283	0.029	0.405	0.029	0.080	0.040	-0.003	-0.082	0.025
Optimism	1.52	0.699	-0.182	-0.012	0.292	-0.071	0.570	-0.071	0.084	0.307	-0.073	0.115	-0.029
Overconfidence	1.60	0.632	-0.010	-0.282	-0.045	0.291	0.026	0.291	-0.174	-0.078	0.510	-0.025	0.276
Risk Perception	3.32	0.88	0.022	-0.014	0.714	0.005	-0.062	0.005	0.238	0.037	0.017	0.178	0.093
SS*FL	---	---	0.234	0.157	0.091	-0.015	-0.025	-0.015	0.020	0.140	-0.035	0.098	-0.025
Self-Serving	1.76	0.991	0.163	0.092	0.033	-0.017	0.000	-0.017	0.056	-0.046	0.299	-0.028	-0.060
WCM*MS	---	---	0.007	-0.003	0.134	0.014	0.088	0.014	-0.050	0.047	0.102	-0.006	0.043
Working Capital Management	2.80	1.095	-0.032	-0.139	-0.052	1.000	0.031	1.000	0.203	0.094	0.096	0.223	0.256

***Note**: Square root of average variance extracted is represented in the bold diagonal text and the remaining of the entries are correlation values. Fornell & Larcker's(1981).*

(Cont.): Discriminant Validity by (Fornell & Larcker, 1981) Criterion – Malaysia

	Mean	Standard Deviation	Managerial Skills	Mental Accounting	OC*FL	OPT*FL	Optimism	Overconfidence	Risk Perception	SS*FL	Self-Serving	WCM*MS	Working Capital Management
ARB*FL	---	---											
Anchoring/Representative	2.40	1.497											
CS*MS	---	---											
Capital Structure	2.44	0.98											
Corporate Performance	4.10	0.877											
DP*MS	---	---											
Dividend Policy	2.84	0.9666											
Financial Literacy	4.08	0.744											
LA*FL	---	---											
Loss Aversion	3.40	2.135											
MA*FL	---	---											
Managerial Skills	3.84	0.833	0.894										
Mental Accounting	1.12	0.325	-0.607	1.000									
OC*FL	---	---	-0.089	0.036	1.000								
OPT*FL	---	---	0.097	-0.104	-0.025	0.860							
Optimism	1.52	0.699	0.075	-0.140	0.034	0.175	1.000						
Overconfidence	1.60	0.632	0.054	0.038	-0.266	-0.035	-0.125	1.000					
Risk Perception	3.32	0.88	0.207	-0.121	-0.097	-0.157	0.247	-0.073	0.786				
SS*FL	---	---	-0.047	0.040	0.042	-0.045	0.053	-0.123	0.054	1.000			
Self-Serving	1.76	0.991	0.014	0.059	0.024	0.026	-0.153	0.041	0.098	-0.068	1.000		
WCM*MS	---	---	-0.042	0.092	-0.019	0.181	0.171	-0.014	0.204	0.000	0.091	1.000	
Working Capital Management	2.80	1.095	0.210	-0.185	-0.216	0.029	-0.071	0.291	0.005	-0.015	-0.017	0.014	1.000

Note: *Square root of average variance extracted is represented in the bold diagonal text and the remaining of the entries are correlation values. Fornell & Larcker's(1981).*

5.5 Evaluation of Structural Model – Malaysia

In this section, the results of the structural model are presented.

5.5.1 Structural Model Path Coefficients – Malaysia

We executed bootstrap algorithm with 500 randomly drawn samples with replacement to get path coefficients and their significance level. The figure 9 shows the path coefficients and their R^2 values for the Malaysian model. The results of path coefficients and their significance have been presented in the table 95 for Malaysia.

In the hypotheses H_1 and H_{1a}, the relationship of self-serving bias is proposed with risk perception and overconfidence (H_1: self-serving bias has a significant relationship with risk perception of corporate finance managers & H_{1a}: self-serving bias has a significant relationship with overconfidence of corporate finance managers). The test results of the Malaysian model for these hypotheses H_1 and H_{1a} are not supported significantly. The values of hypotheses H_1 and H_{1a} for Malaysia model are $\beta = 0.004, p = 0.932$ and $\beta = 0.040, p = 0.475$.

The relationship between overconfidence and Risk perception is hypothesized in H_2 that corporate finance managers with high overconfidence bias have high-risk perception. The test results support the relationship between overconfidence and risk perception with $\beta = 0.215, p = 0.009$. It supports hypothesis 2 reasonably (H_2: overconfidence bias has a significant relationship with risk perception of corporate finance managers). The findings indicate that a financial manager or a chief financial officer with more overconfidence bias will be more likely to have more risk perception in Malaysia.

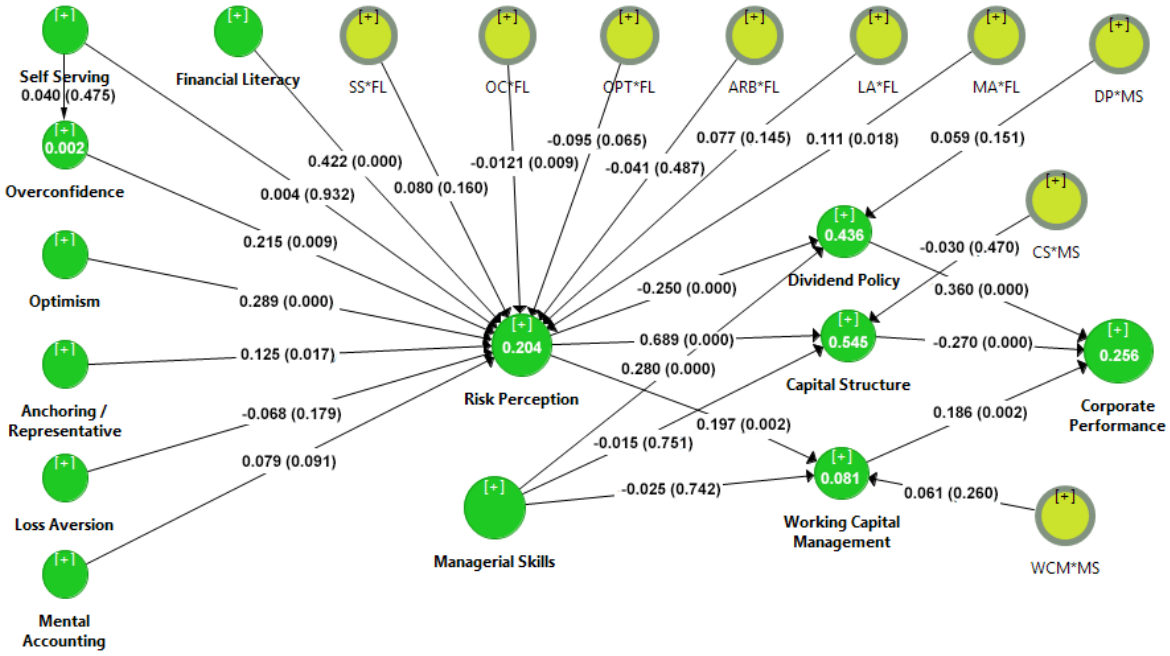

Figure 9: Path Coefficients (β) and R^2 values of constructs – Malaysia

Table 95: Direct Relationship Path Coefficients – Malaysia

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
H_1	Self-Serving → Risk Perception	0.004	0.051	0.085	0.932	Not Supported
H_{1a}	Self-Serving → Overconfidence	0.040	0.057	0.715	0.475	Not Supported
H_2	Overconfidence → Risk Perception	0.215	0.082	2.630	0.009	Supported
H_3	Optimism → Risk Perception	0.289	0.057	5.092	0.000	Supported
H_4	Anchoring/Representative → Risk Perception	0.125	0.052	2.395	0.017	Supported
H_5	Loss Aversion → Risk Perception	-0.068	0.050	1.346	0.179	Not Supported
H_6	Mental Accounting → Risk Perception	0.079	0.047	1.693	0.091	Supported
H_7	Risk Perception → Dividend Policy	-0.250	0.045	5.615	0.000	Supported
H_8	Risk Perception → Capital Structure	0.689	0.031	22.152	0.000	Supported
H_9	Risk Perception → Working Capital Management	0.197	0.064	3.069	0.002	Supported
H_{10}	Dividend Policy → Corporate Performance	0.360	0.065	5.549	0.000	Supported
H_{11}	Capital Structure → Corporate Performance	-0.270	0.042	6.395	0.000	Supported
H_{12}	Working Capital Management → Corporate Performance	0.186	0.059	3.125	0.002	Supported

Note: *Significance Level < 0.100 (two tailed)*

The findings of hypothesis 3 (H_3: optimism bias has a significant relationship with risk perception of corporate finance managers) show that increas in optimism bias resulted in higher risk perception for corporate finance managers with significant value $\beta = 0.289, p = 0.000$.

The hypothesis H_4 is hypothesized that anchoring/representative bias has a significant impact on risk perception which is also significant with $\beta = 0.125, p = 0.017$. Hence, the hypothesis H_4 is supported significantly. The findings indicate for the both biases (optimism and anchoring/representative) that corporate finance managers with a higher degree of these biases will be more likely to have more risk perception.

The relationship between loss aversion bias and risk perception is hypothesized in H_5 that corporate finance managers with high loss aversion bias have low risk perception. (H_5: loss aversion bias has a significant relationship with risk perception of corporate finance managers). The findings indicate no support for this hypothesis for Malaysia. The estimated path coefficient for Malaysia is $\beta = -0.068, p = 0.179$.

The last relation between biases and risk perception is hypothesized in H_6 as mental accounting has a significant impact on risk perception (H_6: mental accounting bias has a significant relationship with risk perception of corporate finance managers). The results indicate that mental accounting bias is significantly impacting risk perception for Malaysia with $\beta = 0.079, p = 0.091$.

The relationship between risk perception and dividend policy is hypothesized in H_7 (risk perception of corporate finance managers has a significant relationship with dividend policy decisions of corporate firms). The statistical test results indicate this relationship is significant with $\beta = -0.250, p = 0.00$ for Malaysia, however, it is negative.

The next relationship between risk perception and corporate financial decisions is hypothesized in H_8 as risk perception of corporate finance managers has a significant relationship with capital structure decisions of corporate firms. Our analysis results show that risk perception is positively affecting capital structure for Malaysia. The significant values remain, $\beta = 0.689, p = 0.000$.

The last relation of risk perception and corporate financial decisions is hypothesized in H_9 as (risk perception of corporate finance managers has a significant relationship with working capital management decisions of corporate firms). Our study results show that this relation is significant with $\beta = 0.197, p = 0.002$. It explains that the high-risk perception of corporate finance managers will result in aggressive working capital management decisions.

The H_{10} is hypothesized as dividend policy decisions of firms have a significant relationship with corporate performance of firms. Our statistical estimation specifies that dividend policy decisions are significantly affecting corporate performance. The model of Malaysia indicates the results with $\beta = 0.360, p = 0.000$. It specifies that dividend policy decisions are affecting positively on the firm performance of Malaysian firms.

The next hypothesis H_{11} is about the relationship between Capital Structure decisions and corporate performance. It is concluded that capital structure decisions have a negative relation with corporate performance with $\beta = -0.270$, $p = 0.000$ in Malaysia. It can be explained that aggressive capital structure reduces the performance of Malaysian firms.

The last hypothesis H_{12} of direct relationships is hypothesized as working capital management decisions of firms have a significant relationship on corporate performance of firms. This relationship is also statistically significant for Malaysia with beta and p value

$\beta = 0.186, p = 0.002$. It shows that aggressive working capital management decisions have a positive impact on corporate performance, but the ratio of impact is low.

5.5.2 Analysis for Mediating Effects – Malaysia

To examine the mediation effects of risk perception on the relationship of behavioral biases and corporate financial decisions, the bootstrapping algorithm in Smart PLS is executed to get the values of the direct and indirect path coefficients with 500 resamples as recommended by Preacher & Hayes, (2004). The size of the indirect effects of mediating variables risk perception is assessed using the variance accounted for (VAF).

The mediation results are summarized in the table 96 for Malaysia. The hypothesis decisions are segregated in four types, which include, (1) not significant, (2) partial mediation, and (3) full mediation and (4) no mediation.

Table 96: Mediation Path Coefficients with Significance – Malaysia

Hypothesis	Direct Relation	Direct Impact	Indirect Impact	Total Impact	VAF	Mediation
H_{22a}	SS → DP	-0.038	0.008	-0.03	---	Not Significant
		(0.472)	(0.642)	(0.591)		
H_{22b}	SS → CS	0.083 **	0.01	0.094 *	0%	No Mediation
		(0.034)	(0.789)	(0.077)		
H_{22c}	SS → WCM	-0.016	0.008	-0.008	---	Not Significant
		(0.773)	(0.638)	(0.883)		
H_{23a}	OC → DP	0.271 ***	-0.054 **	0.217 ***	25%	Partial Mediation
		(0.000)	(0.019)	(0.004)		
H_{23b}	OC → CS	0.03	0.148 ***	0.178 **	100%	Full Mediation
		(0.545)	(0.009)	(0.021)		
H_{23c}	OC → WCM	0.131 *	0.042 *	0.173 **	24%	Partial Mediation
		(0.066)	(0.065)	(0.013)		
H_{24a}	OPT → DP	0.651 ***	-0.072 ***	0.579 ***	12%	Partial Mediation
		(0.000)	(0.000)	(0.000)		
H_{24b}	OPT → CS	0.132 ***	0.199 ***	0.331 ***	60%	Partial Mediation
		(0.001)	(0.000)	(0.000)		
H_{24c}	OPT → WCM	0.157 **	0.057 **	0.214 ***	27%	Partial Mediation
		(0.015)	(0.013)	(0.000)		
H_{25a}	ARB → DP	-0.026	-0.031 **	-0.057	100%	Full Mediation
		(0.620)	(0.039)	(0.294)		
H_{25b}	ARB → CS	-0.106 ***	0.086 **	-0.019	22%	Partial Mediation
		(0.009)	(0.019)	(0.724)		
H_{25c}	ARB → WCM	-0.007	0.025 *	0.018	100%	Full Mediation
		(0.917)	(0.065)	(0.767)		
H_{26a}	LA → DP	-0.012	0.017	0.005	---	Not Significant
		(0.803)	(0.177)	(0.921)		

H_{26b}	LA → CS	-0.101 **	-0.047	-0.147 **	0%	No Mediation
		(0.028)	(0.175)	(0.019)		
H_{26c}	LA → WCM	-0.016	-0.013	-0.029	---	Not Significant
		(0.791)	(0.257)	(0.632)		
H_{27a}	MA → DP	0.031	-0.02	0.011	---	Not Significant
		(0.490)	(0.117)	(0.813)		
H_{27b}	MA → CS	0.004	0.055 *	0.058	100%	Full Mediation
		(0.927)	(0.097)	(0.256)		
H_{27c}	MA → WCM	-0.049	0.016	-0.033	---	Not Significant
		(0.403)	(0.153)	(0.571)		

***Notes**: SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. P values are shown in brackets, VAF=Variance Accounted For. * p < 0.10, ** p < 0.05, *** p < 0.01 (two tailed)*

The mediation hypotheses H_{22a}, H_{22b} and H_{22c} are on the mediation impact of risk perception between self-serving bias and three financial decision-making variables, dividend policy, capital structure, and working capital management respectively. These three hypotheses are not statistically supported in Malaysia data set except the relationship of self-serving bias and capital structure decision. The direct path for this relation is significant with $\beta = 0.083, p = 0.034$ while the indirect path SS→RP→CS is not significant with $\beta = 0.010, p = 0.789$. Hence, no mediation effect is found.

The mediation hypotheses H_{23a}, H_{23b} and H_{23c} proposed the relationship of overconfidence bias with dividend policy, capital structure and working capital management respectively by mediating role of risk perception. the results indicate that direct paths OC→DP and OC→WCM are statistically significant in the data set of Malaysia. The path coefficients for Malaysia are $\beta = 0.271, (p = 0.000)$ for DP and $\beta = 0.131, (p = 0.066)$ for WCM. After adding the mediating variable in the model, the indirect paths OC→RP→DP and OC→RP →WCM are also significant, in Malaysia with beta value $\beta = -0.054, p = 0.019$ and $\beta = 0.042, p = 0.065$. Hence, the partial mediation is supported for H_{23a} and H_{23c} hypotheses in Malaysia. The value of VAF indicates 25% and 24% of total effect of the overconfidence bias on dividend policy and

working capital management decisions are explained by the indirect effect of risk perception of corporate finance managers of Malaysian firms. For testing the mediation effect for Hypothesis H_{23b}, direct path relation OC→CS is tested and found that it is not statistically significant in the data set of Malaysia. The value of direct relation remains $\beta = 0.030, p = 0.545$ for Malaysia and by adding the mediating variable risk perception, the indirect relation OC→RP→CS is tested and found to be significant with beta and p value for Malaysia $\beta = 0.148, p = 0.009$. Hence, full mediation is supported for hypothesis H_{23b}.

The next mediation hypotheses H_{24a}, H_{24b} and H_{24c} hypothesized as the relationship of optimism bias with dividend policy, capital structure and working capital management respectively is mediated by the risk perception. The statistical results for Malaysia show that direct paths OPT→DP, OPT→CS and OPT→WCM are statistically significant with path coefficients $\beta = 0.651, (p = 0.000)$, $\beta = 0.132, (p = 0.001)$ and $\beta = 0.157, p = 0.015$ respectively. After analyzing the mediation in the model of Malaysia, the indirect paths OPT→RP→DP, OPT→RP→CS and OPT→RP→WCM are also significant with beta value $\beta = -0.072, p = 0.000$, $\beta = 0.199, p = 0.000$ and $\beta = 0.057, p = 0.013$ which indicate that pasrtial mediation is supported for hypothesis H_{24a}, H_{24b} and H_{24c} in Malaysia. The VAF values for Malaysia indicate 12%, 60% and 27% of the total effect of optimism bias on dividend policy, capital structure and working capital management decisions is explained by the indirect effect of risk perception of corporate finance managers.

The Hypotheses H_{25a}, H_{25b} and H_{25c} are proposed for the mediating role of risk perception on the relationship of anchoring/representative bias with dividend policy, capital structure and working capital management respectively. In the Malaysian model, direct

paths ARB→DP and ARB→WCM are not significant with path coefficients $\beta = -0.026, (p = 0.620)$ and $\beta = -0.007, (p = 0.917)$ while the path ARB→CS is significant with $\beta = -0.106, (p = 0.009)$. when the mediating variable is added in the model and tested, the indirect paths ARB→RP→DP, ARB→RP→CS and ARB→RP→WCM are significant with beta value $\beta = -0.031, p = 0.039, \beta = 0.086, p = 0.019$ and $\beta = 0.025, p = 0.065$. Hence, the full mediation is supported for H_{25a} and H_{25c} in the Malaysian model while partial mediation is supported for hypothesis H_{25b} with VAF value 22% which indicates that the total effect of anchoring and representative bias on capital structure decisions is explained by the total effect of risk perception of corporate finance managers.

The mediation hypotheses H_{26a}, H_{26b} and H_{26c} proposed the relationship of loss aversion bias with financial decision making variables, dividend policy, capital structure and working capital management respectively by investigating the mediating role of risk perception. The results show that direct paths LA→DP, and LA→WCM are not significant and having path coefficients $\beta = -0.012, (p = 0.803)$ and $\beta = -0.016, (p = 0.791)$ respectively while the direct path of LA→CS is significant with $\beta = -0.101, (p = 0.028)$. After adding the mediating variable in the model, all the indirect paths LA→RP→DP, LA→RP→CS and LA→RP →WCM are not significant. The beta and p values remain $\beta = 0.017, (p = 0.177)$, $\beta = -0.047, p = .175$ and $\beta = -0.013, p = 0.257$ respectively. Hence, no mediation is supported for H_{26b} while the other hypotheses H_{26a} and H_{26c} are not significant in Malaysian Model.

The Last three mediation hypotheses H_{27a}, H_{27b} and H_{27c} are hypothesized as the relationship of mental accounting bias with dividend policy, capital structure and working capital management respectively by mediating role of risk perception. Our statistical results

of Malaysian data reveal that direct paths MA→DP, MA→CS and MA→WCM are not significant with beta and values $\beta = 0.031, (p = 0.490)$, $\beta = 0.004, p = 0.927$ and $\beta = -0.049, p = 0.403$ respectively. While adding mediation of risk perception the indirect paths MA→RP→DP and MA→RP→WCM are also not significant with $\beta = -0.020, p = 0.117$ and $\beta = 0.016, p = 0.153$. Hence, the hypothesis H_{27a} and H_{27c} are not supported for mediation of risk perception. The indirect path of MA→RP→CS is found significant for full mediation of risk perception between mental accounting and capital structure decisions of Malaysian firms. The beta and p value remain $\beta = 0.055, p = 0.097$.

5.5.3 Analysis for Moderation Effects – Malaysia

To test the moderation hypothesis, we generated interaction variables in Smart PLS 3.2.6, which automatically generate standardized values for independent variables or constructs. It generates product indicators for interaction construct. The bootstrap process started with 500 resamples in Smart PLS as recommended by Chin, (2010). The results for interaction terms are summarized in the table 97 for Malaysia, which include path coefficients of interaction term and their significance level. The six hypotheses (hypothesis 13 to 18) are proposed for the moderation of financial literacy between six behavioral biases (self-serving bias, overconfidence bias, anchoring/representative bias, optimism bias, loss aversion and mental accounting) and risk perception. Whereas, three hypotheses (hypothesis 19 to 21) are proposed for the moderation impact of managerial skills between risk perception and corporate financial decisions (e.g., dividend policy, capital structure and working capital management). The direct impact of financial literacy on risk perception is statistically significant for Malaysia with path coefficient $\beta = 0.422, p = 0.000$. Similarly, the direct impact of managerial skills is tested with three financial decisions (dividend policy, capital structure and working capital management). The Malaysia exposed that managerial skills is significantly impacting only on divided policy with path

coefficients $(\beta = 0.280, p = 0.000)$ while the relationships with capital structure and working capital management are not significant at $(p = 0.751)$ and $(p = 0.742)$.

The hypothesis H_{13} is hypothesized as financial literacy has a significant relationship between self-serving bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested empirically and results reveals that the interaction path of this construct (self-serving × financial literacy) is not significant in the Malaysian model with p value 0.160. Similarity, the hypothesis H_{16} is hypothesized as financial literacy has a significant impact on the relationship of anchoring/representative bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested and the results show that the interaction path of these constructs (anchoring/representative × financial literacy) is not significant at p value 0.487.

The hypothesis H_{14} is hypothesized as financial literacy has a significant relationship between overconfidence bias and risk perception of corporate finance managers. The interaction effect of this hypothesis is tested and results indicate that the interaction path of product construct (overconfidence × financial literacy) is significant on risk perception with path coefficient $\beta = -0.121, p = 0.009$. Hence, the H_{14} is supported statistically.

The hypothesis H_{15} is that financial literacy has a significant relationship between optimisms bias and risk perception of corporate finance managers. The results indicate that the interaction path of product construct (optimism × financial literacy) is significant on risk perception with path coefficient $\beta = -0.095, p = 0.065$. The H_{15} is supported for Malaysia.

The hypothesis H_{17} is hypothesized as financial literacy has a significant impact between loss aversion bias and risk perception of corporate finance managers. The results

indicate that the interaction path of product construct (loss aversion × financial literacy) is not significant with $\beta = 0.077$ and $p = 0.145$.

Table 97: Moderation Path Coefficients and Their Significance – Malaysia

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
	Financial Literacy → Risk Perception	0.422	0.082	5.167	0.000	Supported
	Managerial Skills → Dividend Policy	0.280	0.062	4.482	0.000	Supported
	Managerial Skills → Capital Structure	-0.015	0.049	0.317	0.751	Not Supported
	Managerial Skills → Working Capital Management	-0.025	0.077	0.330	0.742	Not Supported
H_{13}	SS*FL → Risk Perception	0.080	0.057	1.407	0.160	Not Supported
H_{14}	OC*FL → Risk Perception	-0.121	0.046	2.615	0.009	Supported
H_{15}	OPT*FL → Risk Perception	-0.095	0.051	1.850	0.065	Supported
H_{16}	ARB*FL → Risk Perception	-0.041	0.058	0.696	0.487	Not Supported
H_{17}	LA*FL → Risk Perception	0.077	0.053	1.458	0.145	Not Supported
H_{18}	MA*FL → Risk Perception	0.111	0.047	2.364	0.018	Supported
H_{19}	DP*MS → Dividend Policy	0.059	0.041	1.439	0.151	Not Supported
H_{20}	CS*MS → Capital Structure	-0.030	0.041	0.723	0.470	Not Supported
H_{21}	WCM*MS → Working Capital Management	0.061	0.05	1.127	0.260	Not Supported

***Notes**: SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. Significance Level < 0.100 (two tailed)*

The hypothesis H_{18} is hypothesized as financial literacy has a significant relationship between mental accounting bias and risk perception of corporate finance managers. The moderation effect of this hypothesis is tested empirically. The results show that the interaction path of product construct (mental accounting × financial literacy) is significant on risk perception where the path coefficients are $\beta = 0.111, p = 0.018$. Therefore, the H_{18} is supported.

The moderating impact of managerial skills is hypothesized in H_{19}, H_{20} and H_{21} between risk perception and three corporate financial decisions (dividend policy, capital structure and working capital management). Out of three, no interaction path of product construct is significant. The p values are measured as $p = 0.151$ (risk perception × managerial skills → dividend policy), $p = 0.470$ (risk perception × managerial skills → capital structure) and $p = 0.260$ (risk perception × managerial skills → working capital management) respectively.

5.5.4 Coefficient of Determination (R^2)Value – Malaysia

The value of R^2 and its significance is obtained by bootstrap process for all endogenous variables (capital structure, corporate performance, dividend policy, overconfidence, risk perception and working capital management) and are summarized in table 98. All the values of R^2 are significant at level $p < 0.01$ except overconfidence. The R^2 value of overconfidence is not significant because it is predicted by only one independent construct self-serving and the path coefficient for this relation is also not significant.

Table 98: Table of Coefficient of Determination (R^2) – Malaysia

Target Construct	R^2	T Statistic	P Value	Predictive accuracy
Dividend Policy	0.436	10.614	0.000	Moderate
Capital Structure	0.545	14.527	0.000	Moderate
Corporate Performance	0.256	4.552	0.000	Feasible
Working Capital management	0.081	2.512	0.012	Weak
Risk Perception	0.204	5.605	0.000	Feasible
Overconfidence	0.002	0.255	0.799	Not-Significant

***Note**:R^2 predictive accuracy levels 0.00 ≥ Weak, 0.25 ≥ Feasible, 0.50 ≥ Moderate, 0.75 ≥ Substantial*

The Malaysian model explained 43.6% $(R^2 = 0.436)$ variance in dividend policy, 54.5% $(R^2 = 0.545)$ of variance in capital structure, 25.6% $(R^2 = 0.256)$ of variance in corporate performance, 8.1% $(R^2 = 0.081)$ of variance in working capital management and 20.4% $(R^2 = 0.204)$ of variation in risk perception by their respective exogenous variables. All the values or R^2 with significance and level of predictive accuracy are summarized in the table 98 for the Malaysian model.

Predicting the model fitness on the value of R^2 is not a safe approach because adding or omitting non-significant variable in structural model fluctuate the R^2 value. Therefore, the next step for the assessment of the structural model is by exploring the change in R^2 value to see either the exogenous construct has a large impact on endogenous construct (Chin, 1998).

5.5.5 Effect Size (f^2) Value – Malaysia

The f^2 estimates for each relationship of Malaysian model are estimated by bootstrap process of Smart PLS. The results of f^2 are summarized in the table 99 below. The f^2 estimates for each relationship of Malaysian model indicate that predictor variables of risk perception have all small effects by its predictands. The f^2 values remains for self-serving $(f^2 = 0.000)$, overconfidence $(f^2 = 0.021)$, optimism $(f^2 = 0.086)$, anchoring/representative $(f^2 = 0.012)$, loss aversion $(f^2 = 0.080)$ and mental accounting $(f^2 = 0.007)$. The predictor self-serving of overconfidence is also having small effect with value $(f^2 = 0.002)$. The constructs dividend policy, capital structure and working capital management are predicted by risk perception. The large effect size calculated for capital structure with $(f^2 = 0.910)$ while small effect size measured for dividend policy and working capital management with f^2 values 0.097 and 0.037 respectively. The last construct of corporate performance is predicted by dividend policy, capital structure and working capital management. The effect size of working capital

management and capital structure are small with f^2 values 0.037 and 0.095 while dividend policy ($f^2 = 0.103$) remains medium.

Table 99: Effect size of Path Coefficient (f^2) – Malaysia

Depended Construct	Independence Construct	f^2	Effect Size
Risk Perception	Self-Serving	0.000	Small
	Overconfidence	0.021	Small
	Optimism	0.086	Small
	Anchoring/Representative	0.012	Small
	Loss Aversion	0.080	Small
	Mental Accounting	0.007	Small
Overconfidence	Self-Serving	0.002	No Effect
Dividend Policy	Risk Perception	0.097	Small
Capital Structure	Risk Perception	0.910	Large
Working Capital Management	Risk Perception	0.037	Small
Corporate Performance	Capital Structure	0.095	Small
	Dividend Policy	0.171	Medium
	Working Capital Management	0.037	Small

***Notes**: Value of f^2 0.02 ≤ Small Effect, 0.15 ≤ Medium effect and 0.35 ≤ Large Effect*

5.5.6 Predictive Relevance (Q^2) Value by Blindfolding Technique – Malaysia

The Q^2 is measured to check the predictive relevance of assessing the structural (or inner) model. The Q^2 values of the Malaysian model show in the table 100. The Q^2 values of constructs in path model e.g., capital structure, corporate performance, dividend policy, overconfidence, risk perception and working capital management are estimated 0.472, 0.169, 0.383, -0.002, 0.096 and 0.036 respectively. All the Q^2 values of endogenous variables of the Malaysian model are greater than zero, which indicate predictive relevance of constructs except for overconfidence. There is no issue associated with a single-indicator construct as a predictor construct in Malaysian model study.

Table 100: Predictive Relevance (Q^2) Table – Malaysia

Endogenous Construct	Q^2	Predictive Relevance
Capital Structure	0.472	Yes
Corporate Performance	0.169	Yes
Dividend Policy	0.383	Yes
Overconfidence	-0.002	No
Risk Perception	0.096	Yes
Working Capital Management	0.036	Yes

***Note**: Predictive relevance of Construct > 0*

5.6 Summary of the Chapter

This chapter explains the statistical results of Malaysian respondents. In the first phase, descriptive and disruptive analysis are explained. The next phase describes the process of PLS-SEM model estimation. The statistics about measurement and structural model are discussed extensively. The information about Smart PLS and its calculation methods are also described. Next chapter discusses the analysis and results of Turkey and will give the detailed explanation of results.

CHAPTER 6:

RESULTS AND DISCUSSION FOR TURKEY

6.1 Introduction

This chapter presents the analysis and results of Turkey dataset. At the first stage, the statistics about descriptive & disruptive analysis are presented which could be easily understandable for the audience. The next stage describes comprehensive PLS-SEM results of model which include variables of six behavioral biases, (self-serving, overconfidence, optimism, loss aversion, mental accounting and anchoring/representative), three financial decision making (i.e. dividend policy, capital structure and working capital management decisions), two moderators (i.e. financial literacy and managerial skills), risk perception and corporate performance of the firm. All the relationships of the model, including, mediations and moderations are explained in the light of research objectives and proposed hypothesis. Let's move to the first section of the chapters which elaborates the descriptive analysis of Turkey.

6.2 Descriptive Analysis – Turkey

Following are the tables which summarize descriptive statistics for the samples collected from Turkey. The table 101 shows the statistics about gender, age, and designation of respondents from Turkey. The sample composition shows that 88.8% $(n = 72)$ of respondents are male and 9.2% $(n = 9)$ are female from Turkey. While the age of overall respondents from Turkey which explains that 1.3% $(n = 1)$ respondents are between 18-25

years of age, 6.3% ($n = 5$) are 26-35, 22.5% ($n = 18$) are 36-45, and 43.8% ($n = 36$) are 46-55, and 12.5% ($n = 10$) are 56-60 and above 60 are 13.8% ($n = 11$) years of age.

Table 101: Gender/Age/Designation Wise Respondent Distribution – Turkey

Category		Frequency	Percent
Gender	Male	72	88.8
	Female	9	11.2
	Total	81	100
Age	18-25	1	1.3
	26-35	5	6.3
	36-45	18	22.5
	46-55	36	43.8
	56-60	10	12.5
	60-Above	11	13.8
	Total	81	100
Designation	CFO	19	23.8
	CEO	0	0
	General Manager	16	20
	Director Finance	12	15
	General Manager Finance	9	11.3
	Manager Finance	21	25
	Managing Director	4	5
	Total	81	100.0

The information about designation of the respondents indicate that chief financial officer are 23.8% ($n = 19$) in the sample, general manager are 20% ($n = 16$), director finance are 15% ($n = 12$), general manager finance are 11.3% ($n = 9$), manager finance are 21% ($n = 25$) and managing director are 5% ($n = 4$) reported by sample data.

Table 102: Education/Work Experience wise Respondent Distribution – Turkey

Turkey		Frequency	Percent
Education	Graduation	9	11.3
	Master	12	15
	MS/M.Phil.	7	8.8
	Ph.D.	2	2.5
	CFA	18	22.5
	ACMA/CFP/CPA	17	21.3
	ACCA	10	12.5
	CA/CIMA	6	6.3
	Total	81	100
Work Experience in years	1-5	2	1-5
	6-10	3	6-10
	11-15	8	11-15
	16-20	25	16-20
	21-25	24	21-25

	25-30	12	25-30
	Above 30	7	Above 30
	Total	81	Total

The table 102 shows the details of education and work experience of respondents. The statistics explain that 11.3% $(n = 9)$ respondents are holding graduation degree, 15% $(n = 12)$ are holding master's degree, 8.8% $(n = 7)$ are holding post-graduation degree, and 2.5% $(n = 2)$ are holding Ph.D. degree. The statistics also indicate that 22.5% $(n = 18)$ are certified financial analyst, holding CFA certification, 21.3% $(n = 17)$ respondents are entitled by CPA (certified public accountant), 12.5% $(n = 10)$ respondents are holding ACCA certification, respondents entitled with CIMA are 6.3%$(n = 6)$. It shows clearly the orientation of education level of corporate financial decision makers are diverse and professional.

Statistics show that 2.5% $(n = 2)$ of respondents have job experience of 1-5 years, 3.8% $(n = 3)$ respondents have 6-10 years of job experience, 10.2% $(n = 8)$ respondents have 11-15 years job experience, 30.8% $(n = 25)$ respondents have 16-20 years of job experience, 29% $(n = 24)$ respondent have 21-25 years of job experience, 15% $(n = 12)$ respondents have 25-30 years of job experience and 8.8 % $(n = 7)$ respondents have job experience of more than 30 years.

Table 103: Industry Wise Distribution of Respondents – Turkey

Industry Type	**Turkey**	
	Frequency	Percent
Agriculture, forestry and fishing	3	3.8
Wood products including furniture	3	3.8
Paper and paper products	4	5
Printing and publishing	1	1.3
Various variant of oil and coal	6	7.5
Rubber products	3	3.8
Non-metallic mineral products	7	8.8
Iron and steel	3	3.8
Electrical machines and devices	3	3.8
Vehicles	8	10
Textile, wearing apparel and leather	10	12.5
Food beverages and tobacco	2	2.5
Automotive	1	1.3

Energy	2	2.5
Transportation	6	7.5
Restaurants and hotels	2	2.5
Chemicals, petroleum, rubber and plastic products	3	3.7
Consumer trade and wholesale trade	6	7.5
Technology	3	3.8
Cement industry	5	6.3
Total	**81**	**100.0**

The table 103 reveals industry wise distribution of sample from Turkey. Around 3.8% $(n = 3)$ corporate executive respondents are from agriculture forestry, and fishing sector. Similarly, about 3.8% $(n = 3)$ respondents are from wood product including furniture sector, 5% $(n = 4)$ respondents are from paper and paper products sector, 1.3% $(n = 1)$ respondents are from printing and polishing sector, 7.5% $(n = 6)$ respondents are from oil and coal sector, and 3.8% $(n = 3)$ respondents are from rubber products sector. The statistics indicate that 8.8% $(n = 7)$ respondents are from non-metallic mineral products sector, whereas 3.8% $(n = 3)$ respondents are from iron and steel sector, similarly, 3.8% $(n = 3)$ respondents are from electrical machine and devices sector. About 10% $(n = 8)$ respondents are from vehicles sector, 12.5% $(n = 10)$ respondents are from textile wearing apparel and leather sector. 2.5% $(n = 2)$ respondents are from food beverages and tobacco sector, whereas 1.3% $(n = 1)$ respondents are from automotive sector. About 2.5% $(n = 2)$ respondents are from energy sector, 7.5% $(n = 6)$ respondents are from transportation sector, 2.5% $(n = 2)$ respondents are from restaurants and hotels sector, 3.7% $(n = 3)$ respondents are from chemical, petroleum, rubber and plastic products sector, 7.5% $(n = 6)$ respondents are from consumer trade and whole sale trade sector, 3.8% $(n = 3)$ are from technology sector and 6.3% $(n = 5)$ respondents are from cement industry. The most dominant sector of turkey is textile, wearing apparel.

Table 104: Credit Rating/No. of employee/Family own Status Distribution of Companies – Turkey

	Credit Rating	Frequency	Percent
Credit Rating	AAA	5	6.3
	AA	3	3.8
	A	15	18.8
	BBB	8	10
	-BBB	5	6
	BB	2	2.5
	B	9	11.3
	CCC	1	1.3
	N/A	33	40.3
	Total	81	100
No. of Employees	1-999	6	7.5
	1000-1999	10	12.5
	2000-2999	6	6.5
	3000-3999	17	21.3
	4000-4999	23	28.8
	Above 5000	19	23.8
	Total	81	100.0
Family Owned	Yes	27	32
	No	54	68
	Total	**81**	**100**

The table 104 shows statistics about credit rating, firm size family owned status of Turkish firms. The analysis indicates that maximum percentage of companies fall in 'A' category with 18.8% $(n = 15)$. Companies with credit rating 'AAA' are 6.3%$(n = 5)$. Companies with credit rating 'AA' are 3.8% $(n = 3)$, 'BBB' credit rating companies are 10% $(n = 8)$, and '-BBB' credit rating companies are 6% $(n = 5)$. The percentage of companies having a credit rating of 'BB' 'B' and 'CCC' are 1.2% $(n = 2)$, 11.3%$(n = 9)$, and 1.3% $(n = 1)$ respectively. The companies having no credit rating are 40.3% $(n = 33)$.

The statistics about company size indicate that firms having employees from the range of 1-999 are 7.5% $(n = 6)$, range of employees from 1000-1999 are 12.5 % $(n = 10)$, range of employees from 2000-2999 are 6.5% $(n = 6)$, range of employees from 3000-3999 are 21.3% $(n = 17)$, range of employees from 4000-4999 are 28.8 % $(n = 23)$ and range of employees above than 5000 are 23.8% $(n = 19)$. The statistics about family owned and non-

family owned companies show that 32% $(n = 32)$ of companies are ‘family owned' while 68% $(n = 54)$ companies are having the status of ‘non-family owned’.

Table 105: Annual Revenue/Foreign Sales Distribution of Companies – Turkey

Turkey		Frequency	Percent
Annual Revenue in US$	30 Million or Less	10	12.5
	30-99 Million	13	16.3
	100-499 Million	33	41.1
	500-999 Million	13	15.2
	1000 -1999 Million	11	13.8
	1999 Million and Above	1	1.3
	Total	81	100.0
Foreign Sales	0%	5	6.2
	1-24%	18	21.5
	25-49%	27	33.8
	50 % Above	31	33.5
	Total	81	100.0

The data collected from Turkey respondents is shown in table 105 which indicates statistics about annual revenues and foreign sales of the companies. The statistics show that the corporate firms having annual revenue up to 30 million US$ are 12.5% $(n = 10)$, similarly, the revenue in the range of 30-99 million US $ are 16.3% $(n = 13)$, annual revenue in the range of 100-499 million US $ are 41.1% $(n = 33)$, the companies with annual revenue of 500-999 million US$ are 15.2% $(n = 13)$ and companies having annual revenue in the range of 1000-1999 million and above 1999 million US $ are 13.8% $(n = 11)$ and 1.3% $(n = 1)$ respectively.

The statistics about the company exports with respect to its total sales volume show that 6.3% $(n = 5)$ have no foreign sale, 21.5% $(n = 18)$ firms have 25% of foreign sales , 33.8% $(n = 27)$ companies have about 50% of foreign sales while the firms having foreign sales above than 50% of total sales are 33.5%$(n = 31)$.

6.3 Disruptive Analysis of Biases with Other Variables of Study – Turkey

This section shows the descriptive tables of behavioral biases compared with other variables in this study.

Table 106: Financial Literacy Compared with Behavioral Biases

Financial Literacy	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	7	15	10	12	5	17	16	6	10	12	7	15
Medium	3	14	7	10	5	12	9	8	11	6	7	10
High	9	33	14	28	8	34	16	26	21	21	16	26

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 106 indicates the relationship of behavioral biases with financial literacy in Turkey dataset. The respondents with low self-serving bias group with crosstab relation of financial literacy groups of low, medium and high literacy rate are 7, 3, 9 and high self-serving bias group with crosstab relation of low, medium and high literacy rate are 15, 14 and 33 respectively. The respondents with low over-confidence bias group with crosstab relation low, medium and high literacy rate are 10, 7, 14 and group with crosstab relation of high overconfidence with low, medium and high literacy rate are 12, 10, 28 respectively. The respondents with low optimism bias with the effect of financial literacy in low, medium and high literacy rate are 5, 5, 8 and with high optimism in low, medium and high literacy rate are 17, 12 and 34 respectively. The respondents with low anchoring/representative bias with the effect of financial literacy in low, medium and high literacy rate are 16, 09, 16 and with high anchoring/representative in low, medium and high literacy rate are 6, 8 and 26 respectively. The respondents with low loss aversion bias with the effect of financial literacy in low, medium and high literacy rate are 10, 11, 21 and with high loss aversion in low, medium and high literacy rate are 12, 6 and 21 respectively. The respondents with low mental accounting bias

with the effect of financial literacy in low, medium and high literacy rate are 7, 7, 16 and with high loss aversion in low, medium and high literacy rate are 15, 10 and 26 respectively. In general, the high number of financially literate respondents fall in the high biased column.

Table 107: Managerial Skills Compared with Behavioral Biases

Managerial Skills	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	4	15	9	10	3	16	14	5	10	9	5	14
Medium	4	19	9	14	5	18	14	9	14	9	9	14
High	11	28	13	26	10	29	13	26	18	21	16	23

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 107 indicates the crosstab relationship of behavioral biases with managerial skills in Turkey. The respondents with low self-serving bias with managerial skills in low, medium and high level are 4, 4, 11 and with high self-serving bias in low, medium and high set of managerial skills are 15, 19 and 28 respectively. The respondents with low overconfidence bias with the effect of managerial skills in low, medium and high are 9, 9, 13 and with high overconfidence in low, medium and high managerial skills are 10, 14 and 26 respectively. The respondents with low optimism bias with the effect of managerial skills in low, medium and high are 3, 5, 10 and with high optimism in low, medium and managerial skills are 16, 18 and 29 respectively. The respondents with low anchoring/representative bias with the effect of managerial skills in low, medium and high are 14, 14, 13 and with high anchoring/representative in low, medium and high set of managerial skills are 5, 9 and 26 respectively. The respondents with low loss aversion bias with a set of managerial skills in low, medium and high are 10, 14, 18 and with high loss aversion in low, medium and high set of managerial skills are 9, 9 and 21 respectively. The respondents with low mental accounting bias with the effect of managerial skills in low, medium and high skills are 5, 9, 16 and with high mental accounting in low, medium and high set of managerial skills is 14, 14 and 23

respectively. In general, the respondents with medium managerial skills are less biased as compared to other groups.

Table 108: Organizational Performance Compared with Behavioral Biases

Organizational Performance	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	2	1	1	2	1	2	2	1	2	1	0	3
Medium	2	5	4	3	2	5	5	2	2	5	4	3
High	15	56	26	45	15	56	34	37	38	33	26	45

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 108 indicates the crosstab relationship of behavioral biases and organizational performance for the dataset of Turkey. The respondents with low self-serving bias in low, medium and high organizational performance are 2, 2, 15 and with high self-serving bias in low, medium and high organizational performance are 1, 5 and 56 respectively. The respondents with low overconfidence bias in low, medium and high organizational performance are 1, 4, 26 and with high overconfidence bias in low, medium and high organizational performance are 2, 3 and 45 respectively. The respondents with low optimism bias in low, medium and high organizational performance are 1, 2, 15 and with high optimism bias in low, medium and high organizational performance are 2, 5 and 56 respectively. The respondent with low anchoring/representative bias in low, medium and high organizational performance are 2, 5, 34 and with high anchoring/representative bias in low, medium and high organizational performance are 1, 2 and 37 respectively. The respondent with low loss aversion bias in low, medium and high organizational performance are 2, 2, 38 and with high loss aversion bias in low, medium and high organizational performance are 1, 5 and 33 respectively. The respondent with low mental accounting bias in low, medium and high organizational performance are 0, 4, 26 and with high mental accounting bias in low, medium and high

organizational performance are 3, 3 and 45 respectively. Interestingly the firms with high performance have highly biased managers appointed.

Table 109: Risk Perception Compared with Behavioral Biases

Risk Perception	SS		OC		opt		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Low	5	11	7	9	6	10	7	9	10	6	8	8
Medium	3	9	5	7	2	10	6	6	6	6	4	8
High	11	42	19	34	10	43	28	25	26	27	18	35

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 109 indicates the relationship of behavioral biases with risk perception in Turkey. The respondent with low self-serving bias in low, medium and high level of risk perception are 5, 3, 11 and with high self-serving bias in low, medium and high-risk perception are 11, 9 and 45 respectively. The respondents with low overconfidence bias with low, medium and high-risk perception are 7, 5, 19 and with high overconfidence in low, medium and high level of risk perception are 9, 7 and 34 respectively. The respondents with low optimism bias with low, medium and high-risk perception are 6, 2, 10 and with high optimism in low, medium and high-risk perception level are 10, 10 and 43 respectively. The respondents with low anchoring/representative bias with low, medium and high-risk perception are 7, 6, 28 and with high anchoring/representative in low, medium and high-risk perception are 9, 6 and 25 respectively. The respondents with low loss aversion bias within low, medium and high-risk perception are 10, 6, 26 and with high loss aversion in low, medium and high-risk perception are 6, 6, 27 respectively. The respondents with low mental accounting bias within low, medium and high-risk perception level are 8, 4, 18 and with high Mental Accounting in low, medium and high-risk perception are 8, 8 and 35 respectively. In general, the managers with high risk perception are highly biased.

Table 110: Gender/Age/Designation Compared with Behavioral Biases

		SS	OC	OPT	ARB	LA	MA

		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Gender	Male	18	54	26	46	18	54	34	38	36	36	29	43
	Female	1	8	5	4	0	9	7	2	6	3	1	8
Age	18-25	0	2	1	1	0	2	1	1	1	1	0	2
	26-35	2	9	5	6	2	9	7	4	7	4	4	7
	36-45	6	20	10	16	6	20	15	11	12	14	11	15
	46-55	6	23	11	18	6	23	10	19	16	13	11	18
	56-60	5	8	4	9	4	9	8	5	6	7	4	9
	60-Above	0	0	0	0	0	0	0	0	0	0	0	0
Designations	CFO	4	15	8	11	5	14	11	8	10	9	5	14
	Manager Finance	5	16	10	11	5	16	8	13	9	12	9	12
	General Manager Finance	1	8	3	6	2	7	4	5	7	2	4	5
	Director Finance	5	7	2	10	3	9	7	5	5	7	4	8
	General Manager	2	14	7	9	2	14	9	7	9	7	4	12
	Managing Director	2	2	1	3	1	3	2	2	2	2	4	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 110 shows the crosstab statistics about six behavioral biases, gender, age and designation of the respondents. The biases are divided into two subsamples of high and low. Each cell reports the count of respondents in crosstab relation with gender, age and designation of the respondent. The results indicate that male respondents are dominant. Results also indicate that manager finance are the most in number among all designations. However, they are highly biased. Similarly, most of the respondants fall in the age group of 46 to 55 and found biased with different behavioral biases.

Table 111: Education/Work Experience Compared with Behavioral Biases

		SS		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Education	Graduation	1	6	4	3	1	6	4	3	2	5	3	4
	Master	5	11	5	11	1	15	3	13	8	8	6	10
	MS/M.Phil.	2	17	9	10	3	16	10	9	11	8	9	10
	PhD.	1	1	1	1	1	1	1	1	1	1	1	1
	CFA	6	8	3	11	2	12	9	5	9	5	3	11
	ACMA	0	0	0	0	0	0	0	0	0	0	0	0
	ACCA	1	12	4	9	5	8	7	6	6	7	4	9
	CA	1	0	0	1	1	0	1	0	0	1	0	1
	CPA	2	7	5	4	4	5	6	3	5	4	4	5
Work Experience	1-5 Years	0	2	1	1	0	2	1	1	0	2	1	1
	6-10 Years	1	4	1	4	1	4	1	4	1	4	2	3
	11-15 Years	2	5	3	4	1	6	4	3	4	3	4	3
	16-20 Years	5	14	9	10	4	15	11	8	11	8	8	11

	21-25 Years	8	20	11	17	7	21	13	15	14	14	9	19
	25-30 Years	1	12	3	10	1	12	7	6	9	4	5	8
	Above 30 Years	2	5	3	4	4	3	4	3	3	4	1	6

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 111 explains the relationship of respondents' education level, work experience and behavioral biases. Each cell represents the number of respondents for each crosstab relation. The biases are sub-grouped in low and high biased respondents. Each bias subgroup is matched with seven education degrees and work experience groups. The results indicate that most of the respondents having work experience of 16-25 years and with education level of MS/MPhil. Although respondents with ACCA and CFA qualification are working in Turkish firms, but MS/MPhil qualified respondents are dominant.

Table 112: Industry Compared with Behavioral Biases

Industry	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Agriculture, Forestry and Fishing	3	6	4	5	2	7	4	5	2	7	2	7
Wood Products including Furniture	0	3	1	2	0	3	2	1	0	3	0	3
Paper and Paper Products	1	2	1	2	0	3	3	0	1	2	2	1
Printing and Publishing	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Coal	2	3	2	3	2	3	3	2	1	4	2	3
Rubber Industry	0	2	1	1	0	2	2	0	2	0	0	2
Non-Metallic Mineral Products	3	4	4	3	2	5	3	4	4	3	5	2
Food and Personal Care Products	0	0	0	0	0	0	0	0	0	0	0	0
Iron and Steel	1	2	1	2	1	2	2	1	2	1	1	2
Electrical Machines and Devices	0	3	1	2	3	0	2	1	3	0	1	2
Vehicles	0	7	3	4	1	6	3	4	3	4	2	5
Textile, wearing apparel and leather	1	9	2	8	2	8	6	4	8	2	2	8
Chemical and other chemical products	0	0	0	0	0	0	0	0	0	0	0	0
Food beverages and products	1	1	2	0	0	2	1	1	2	0	0	2
Automotive	0	1	0	1	0	1	1	0	0	1	0	1
Energy	1	1	1	1	1	1	1	1	1	1	1	1
Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Gas and water	1	5	1	5	0	6	2	4	5	1	2	4
Transportation	2	0	1	1	1	1	1	1	1	1	2	0
Restaurants and hotels	0	0	0	0	0	0	0	0	0	0	0	0
Metal Products, Machinery and equipment production	0	2	1	1	0	2	1	1	1	1	1	1
Chemical, Petroleum, Rubber and Plastic Products	2	4	2	4	0	6	1	5	1	5	3	3
Consumer Trade and Wholesale trade	0	3	0	3	0	3	1	2	2	1	3	0
Technology	1	4	3	2	3	2	2	3	3	2	1	4
Cement	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 112 shows statistics about six behavioral biases with crosstab analysis of twenty-six industry types. The respondents from agriculture, forestry, fishing, textile, wearing apparel and leather sector are found dominant for Turkey.

Table 113: Credit Rating/No. of employee Compared with Behavioral Biases

		SS		OC		opt		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Credit Rating	AAA	4	5	4	5	1	8	5	4	4	5	3	6
	AA	1	2	1	2	1	2	2	1	2	1	1	2
	A	5	24	8	21	8	21	13	16	15	14	11	18
	BBB	1	3	2	2	1	3	2	2	4	0	2	2
	BB	2	0	1	1	1	1	1	1	1	1	2	0
	B	1	8	7	2	3	6	5	4	4	5	4	5
	CCC	0	1	1	0	1	0	1	0	0	1	0	1
	CC	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
	N/A	5	19	7	17	2	22	12	12	12	12	7	17
No. of Employees	1-999	4	23	7	20	2	25	13	14	14	13	10	17
	1000-1999	6	15	10	11	9	12	10	11	8	13	9	12
	2000-2999	0	11	5	6	2	9	4	7	8	3	1	10
	3000-3999	5	7	4	8	3	9	8	4	7	5	6	6
	4000-4999	2	2	3	1	2	2	3	1	2	2	2	2
	5000-5999	2	4	2	4	0	6	3	3	3	3	2	4
	6000-Above	0	0	0	0	0	0	0	0	0	0	0	0

Note: SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting

The table 113 shows crosstab statistics about credit rating of the firms, company size and biases group. Our sample size shows that most of the respondents are working in firms which have a credit rating of 'AAA' and 'A'. Most of the respondents are also working in those companies which are not registered with credit rating authorizes of Turkey. The crosstab statistics about company size and biases group indicate that most of the respondents are working in the companies having employees from 1 to 1999.

Table 114: Annual Revenue/Foreign sales Compared with Behavioral Biases

		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Annual Revenue	30 Million or Less	6	10	6	10	2	14	9	7	5	11	4	12
	30-99 Million	2	17	5	14	3	16	8	11	11	8	7	12
	100-499 Million	3	23	9	17	8	18	14	12	15	11	9	17
	500-999 Million	6	8	8	6	4	10	8	6	8	6	8	6
	1000 -1999 Million	2	4	3	3	1	5	2	4	3	3	2	4
	1999 Million and Above	0	0	0	0	0	0	0	0	0	0	0	0
Foreign Sales	0%	4	13	6	11	2	15	10	7	9	8	5	12
	1-24%	3	14	7	10	4	13	6	11	7	10	9	8
	25-49%	8	16	6	18	5	19	13	11	14	10	10	14
	50% and Above	4	19	12	11	7	16	12	11	12	11	6	17

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 114 shows the tabular relationship between annual revenue of companies and behavioral biases of respondents. The statistics show that most of the respondents are working in organizations which have annual revenue of $30-99 million and $100-499 million. It also reveals that the respondents working in companies with annual revenue of '30 million or less' and '500-999 million' are less influenced by behavioral biases. The tabular relationship between foreign sales of companies and behavioral biases of respondents show that the respondents are overall highly biased in the organizations with foreign sale. Statistics indicate that each of respondent is assessed to collect the data, therefore, respondents are distributed well in the categories of foreign sales ranging from 0% to 50%.

Table 115: Capital Structure Policy Decisions

Capital Structure Decisions	Mean	S.D.	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
Capital Structure Policies	2.96	1.29	19.8%	11.1%	37.0%	17.3%	14.8%
Capital Structure Target Ratio	2.85	1.11	14.8%	18.5%	40.7%	18.5%	7.4%

The table 115 explains respondents view about how levered capital structure they have in their firms. Results in percentage indicate the capital structure policies of their respective

firms. The mean and standard deviation are also reported. Our statistical results show that 37% respondents (maximum) have the opinion of 'moderate' capital structure policies while the statistics about capital structure target ratio indicate that 40.7% of respondents have a moderate opinion. The results concluded that Turkish firms are neither high levered nor low levered in their capital structure policies.

Table 116: Capital Structure Policy Motives

Capital Structure Decisions	Mean	S.D.	Not at all Important	Low Importance	Neutral	High Importance	Extremely Important
Maintaining Financial Flexibility	3.87	0.79	1.2%	1.2%	27.2%	49.4%	21.0%
Ensuring Long-term Survivability	3.63	1.26	7.4%	13.6%	19.8%	27.2%	32.1%
Considering Financial Decisions of Competitors	3.28	1.23	9.9%	19.8%	18.5%	35.8%	16.0%
Considering Market Response	3.49	1.10	6.2%	11.1%	28.4%	35.8%	18.5%
Maintaining a Stable Dividend Policy	3.09	1.11	12.3%	16.0%	25.9%	40.7%	4.9%
Maximizing Profitability	3.59	1.09	7.4%	7.4%	22.2%	44.4%	18.5%
Maintaining Voting Control of Shareholders	3.43	1.41	18.5%	8.6%	7.4%	42.0%	23.5%
Preferring Previously Used Financing Sources	3.21	0.85	4.9%	9.9%	48.1%	33.3%	3.7%

The table 116 presents respondents' opinion for each capital structure decision by their relative scale of importance. The mean and standard deviation of each factor are also estimated. The statistics conclude the most important capital structure policy motives 'maintaining financial flexibility' and 'maximizing profitability' while the least important motive is 'preferring previously used financing sources'.

Table 117: Capital Structure Policy Motives Compared with Behavioral Biases

		Maintaining Financial Flexibility	Ensuring Long-term Survivability	Considering Financial Decisions of Competitors	Considering Market Response	Maintaining a Stable Dividend Policy	Maximizing Profitability	Maintaining Voting Control of Shareholders	Preferring Previously Used Financing Sources
Self-Serving	High	3.98	3.56	3.31	3.52	3.26	3.60	3.42	3.18
	Low	3.53	3.74	3.53	3.42	3.00	3.58	3.47	3.32
Overconfidence	High	3.86	3.74	3.46	3.44	3.08	3.64	3.56	3.14

	Low	3.90	3.39	3.19	3.58	3.39	3.52	3.23	3.32
Optimism	High	3.85	3.61	3.42	3.44	3.17	3.58	3.34	3.19
	Low	3.95	3.59	3.18	3.64	3.27	3.64	3.68	3.27
Anchoring/Representative	High	3.83	3.63	3.40	3.40	3.28	3.50	3.13	3.28
	Low	3.93	3.59	3.32	3.59	3.12	3.68	3.73	3.15
Loss Aversion	High	3.79	3.87	3.54	3.49	3.26	3.33	3.36	3.15
	Low	3.95	4.14	3.48	3.83	3.14	4.10	4.29	3.26
Mental Accounting	High	3.96	4.18	3.59	3.73	3.12	3.96	4.10	3.14
	Low	3.73	4.30	3.70	3.93	3.33	3.97	4.37	3.33

The table 117 depicts the relationship between behavioral biases and capital structure decisions of Turkish respondents. The values in the table indicate average proportion for a subsample of respondents based on behavioral biases in each capital structure motive. The six behavioral biases are categorized into two subgroups of ‘high’ and ‘low’ which indicate the intensity of biased respondent. Motives of capital structure decisions, maintaining financial flexibility, ensuring long-term survivability, financial decisions of competitors, market response, maintaining stable dividend policy, maximizing profitability, maintaining voting control of shareholders and previously used financing sources are measured on Likert scale of 1 to 5 (from least important to most important). The table explains the pattern of biased respondents for capital structure decisions by the estimating mean value in term of the importance of each motive and expresses mixed results.

Table 118: Dividend Policy Decisions

Dividend Policy	Mean	S.D.	Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend
Policies that Describes	3.025	1.23	14.8%	21.0%	21.0%	33.3%	9.9%

The table 118 explains the percentage of respondents indicating the policy concern about the dividend payment. The mean and standard deviation are also reported. Our statistics show that 14.8% respondents have the opinion of ‘lowest concern for paying dividend’, 21% respondents have the opinion ‘low concern for paying dividend’, 21% respondents have the

opinion, ‘moderate concern for paying dividend’, 33.3% respondents have the opinion ‘high concern for paying dividend’, and 9.9% of respondents have the opinion ‘highest concern for paying dividend’. It concludes that Turkish firms are normally having moderate and high concern for paying dividend to their shareholders.

Table 119: Dividend Policy Motives

Dividend Policy	Mean	S.D.	Strongly Disagree	Disagree	Un-Decided	Agree	Strongly Agree
Paying Dividends rather than Risky Investments	3.074	1.225	9.9%	28.4%	19.8%	29.0%	13.6%
Paying Dividends rather than Availability of Cash	2.914	1.178	7.4%	39.5%	19.8%	21.0%	12.3%
Shareholder's Value Maximization by Paying Dividends	3.321	1.294	11.1%	21.0%	11.1%	38.3%	18.5%
Firm Value Maximization by Paying Dividends	3.210	1.074	6.2%	22.2%	24.7%	38.5%	8.4%

The table 119 shows the respondents opinion by estimating percentage proportion of each dividend policy motive by their respective scale. The mean and standard deviation of each decision are also reported. The columns indicate the percentage response of each dividend policy motive. It concludes that about 29% of the respondents in Turkish firms agree to pay dividend rather than risky investments, 39.5% respondents disagree to pay dividend rather than availability of cash, about 38.3% of respondents agree to maximize the shareholders’ wealth by paying dividend and 38.5% of respondents focus on firms’ value maximization by paying dividends.

Table 120: Dividend Policy Motives with Behavioral Biases

		Paying Dividends rather than risky investments	Paying Dividends rather than availability of Cash	Maximizing Shareholder value by paying Dividends	Increasing the Firm Value by Paying Dividends
Self-Serving	High	2.87	3.11	2.98	3.34
	Low	3.53	2.95	2.68	3.26
Overconfidence	High	2.94	3.24	2.88	3.36
	Low	3.16	2.81	2.97	3.26
Optimism	High	3.00	2.97	2.97	3.08
	Low	3.09	3.36	2.77	3.95

Anchoring/Representative	High	2.88	3.15	3.03	3.28
	Low	3.17	3.00	2.80	3.37
Loss Aversion	High	2.97	2.97	2.95	3.49
	Low	3.07	3.17	2.88	3.17
Mental Accounting	High	2.90	3.12	3.00	3.20
	Low	3.23	3.00	2.77	3.53

The table 120 describes the relationship between behavioral biases and dividend policy motives of the respondents from Turkey. The values in the table indicate the average proportion for a subsample of respondents based on biasness. All the biases are categorized into two levels of 'high' and 'low' which indicate the intensity of biased respondents. The table explains the pattern of biased respondents in dividend policy motives by the mean level of agreement on each motive.

Table 121: Working Capital Management Policy

Working Capital Management	**Mean**	**S.D.**	**Highly Conservative**	**Conservative**	**Moderate**	**Aggressive**	**Highly Aggressive**
Policies that Describes Company WCM Policy	2.96	1.3	14.8%	30.9%	11.1%	29.6%	13.6%

The table 121 explains the percentage of respondents who describe WCM policy of organizations. The mean and standard deviation are also reported. Our statistics show that 14.8% respondents reported that their companies are highly conservative about WCM policies, 30.9% respondents reported that their company is conservative for WCM policy, 11.1% respondents reported moderate WCM policy. 29.6% of respondents have the opinion for aggressive WCM policy, and 13.6% of respondents have the opinion that they are highly aggressive in their WCM policies. Mix trend of conservative and aggressive regarding WCM policies are analyzed for Turkish firms.

Table 122: Cash Management Approaches used by Companies

Cash Management Approaches used by Companies	Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
No. of Responses	28	30	17	20	29	32	17	16

The table 122 indicates the count of respondents who have marked their cash management approach. The approaches 'meet payment in a timely manner' and 'streamline bank relations' are used most by the managers of Turkish firms.

Table 123: Cash Management Approaches Compared with Behavioral Biases

Behavioral Biases		Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Self-Serving	High	82.1%	90.0%	70.6%	80.0%	86.2%	87.5%	94.1%	62.5%
	Low	17.9%	10.0%	29.4%	20.0%	13.8%	12.5%	5.9%	37.5%
Overconfidence	High	64.3%	66.7%	58.8%	50.0%	72.4%	65.6%	70.6%	56.3%
	Low	35.7%	33.3%	41.2%	50.0%	27.6%	34.4%	29.4%	43.8%
Optimism	High	67.9%	80.0%	70.6%	80.0%	72.4%	59.4%	76.5%	56.3%
	Low	32.1%	20.0%	29.4%	20.0%	27.6%	40.6%	23.5%	43.8%
Anchoring/Representative	High	50.0%	63.3%	47.1%	50.0%	62.1%	53.1%	35.3%	37.5%
	Low	50.0%	36.7%	52.9%	50.0%	37.9%	46.9%	64.7%	62.5%
Loss Aversion	High	39.3%	30.0%	41.2%	65.0%	41.4%	43.8%	41.2%	68.8%
	Low	60.7%	70.0%	58.8%	35.0%	58.6%	56.3%	58.8%	31.3%
Mental Accounting	High	64.3%	70.0%	64.7%	60.0%	65.5%	65.6%	82.4%	75.0%
	Low	35.7%	30.0%	35.3%	40.0%	34.5%	34.4%	17.6%	25.0%

The table 123 describes the crosstab percentage of cash management approaches versus behavioral biases. Each cell presents the percentage of cash management approaches with relation to behavioral biases. The highly biased respondents are reported in self-serving,

overconfidence, optimism and mental accounting. Rest of the respondent are moderately biased in anchoring/representative and loss aversion for cash management approaches.

Table 124: Approaches of Inventory Management

Approaches of Inventory Management	Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
No. of Responses	13	44	33	20	40	19

The table 124 indicates the number of respondents who have marked their inventory management approaches used in their companies. The approaches 'supply chain management', and 'Sale Forecasting' are pointed out to be the most used approach with values 40 and 44 while the third highest approach is 'inventory models' with value 33 in Turkey dataset.

Table 125: Approaches for Inventory Management Compared with Behavioral Biases

		Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
Self-Serving	High	84.6%	68.2%	97.0%	84.5%	77.5%	89.5%
	Low	15.4%	31.8%	3.0%	15.5%	22.5%	10.5%
Overconfidence	High	38.5%	54.5%	69.7%	60.0%	72.5%	78.9%
	Low	61.5%	45.5%	30.3%	40.0%	27.5%	21.1%
Optimism	High	76.9%	65.9%	69.7%	75.3%	75.0%	63.2%
	Low	23.1%	34.1%	30.3%	24.7%	25.0%	36.8%
Anchoring/Representative	High	69.2%	38.6%	57.6%	40.7%	55.0%	47.4%
	Low	30.8%	61.4%	42.4%	59.3%	45.0%	52.6%
Loss Aversion	High	46.2%	52.3%	33.3%	44.8%	32.5%	36.8%
	Low	53.8%	47.7%	66.7%	55.2%	67.5%	63.2%
Mental Accounting	High	92.3%	61.4%	60.6%	65.4%	72.5%	73.7%
	Low	7.7%	38.6%	39.4%	34.6%	27.5%	26.3%

The table 125 describes crosstab percentage of inventory management approaches with a comparison to behavioral biases subgroups. Each cell presents the percentage value of inventory management approach. The highly biased respondents are reported in self-serving and optimism. Rest of the respondent are moderately biased in overconfidence,

anchoring/representative, mental accounting and loss aversion in inventory management approaches.

Table 126: Account Payable Motives

	Mean	S.D.	Not at All Important	Not Important	Neutral	Important	Highly Important
Financial Motives	3.531	1.145	8.6%	11.1%	14.8%	49.4%	16.0%
Operational Motives	3.704	0.962	6.2%	8.6%	2.5%	74.1%	8.6%
Price Motives	3.778	0.889	4.9%	4.9%	8.6%	70.4%	11.1%
Transaction Motives	3.827	0.872	3.7%	2.5%	18.5%	58.0%	17.3%

The table 126 presents the percentage proportion of the respondents based on a response rate of each account payable motive by their respective scale of importance. The mean and standard deviation of each motive are also reported. The columns indicate the percentage response of account payable motives. The statistics conclude that about 49.4%, 74.1%, 70.4% and 58% of the respondents in Turkish firms are paying importance to Financial Motives, Operational Price and Transaction Motives respectively to taking decision about account payable.

Table 127: Account Payable Motives Compared with Behavioral Biases

		Financial Motives	Operational Motives	Price Motives	Transection Motives
Self-Serving	High	3.48	3.73	3.87	3.84
	Low	3.68	3.63	3.47	3.79
Overconfidence	High	3.58	3.66	3.82	3.90
	Low	3.45	3.77	3.71	3.71
Optimism	High	3.49	3.68	3.88	3.81
	Low	3.64	3.77	3.50	3.86
Anchoring/Representative	High	3.60	3.58	3.95	3.80
	Low	3.46	3.83	3.61	3.85
Loss Aversion	High	3.44	3.59	3.62	3.79
	Low	3.62	3.81	3.93	3.86
Mental Accounting	High	3.41	3.65	3.80	3.71
	Low	3.73	3.80	3.73	4.03

The table 127 exhibits the relationship between behavioral biases and account payable motives of Turkish respondents. The values in the table indicate average proportion for a subsample of respondents based on behavioral biases in each account payable motive. All the

behavioral biases are categorized into two levels of 'high' and 'low' which indicate the intensity of biasness. The motives of account payable decisions are scaled from 1 to 5 for their relative importance. The table explains the pattern of biased respondents in account payable decisions by estimating mean value and placed in the respective cell of the table.

Table 128: Bad Debt level in Accounts Receivable

Working Capital Management	Mean	S.D.	Less Than 1%	1-3 %	3-6 %	6-9 %	More than 10%
Bad Debt level in your accounts Receivable	2.543	1.458	33.3%	24.7%	11.1%	16.0%	14.8%

The table 128 explains the percentage of respondents indicating the bad debts status of the companies. The mean and standard deviation are also reported. Our statistics show that 25.6% of the companies have bad debt less than 1%, 19.2% of the companies have 1-3 % of bad debt, 16.9% of companies have 3-6 % bad debts, 25.6% of companies have 6-9 % of bad debts and 12.8 % of companies have more than 10 % of bad debts levels in account receivables in Turkey.

Table 129: Bad Debt level in Accounts Receivable compared with Behavioral Biases

Bad Debt	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Less Than 1%	4	15	7	12	2	17	8	11	12	7	6	13
1 to 3%	3	8	5	6	3	8	7	4	4	7	4	7
3 to 6%	6	7	4	9	2	11	8	5	5	8	3	10
6 to 9%	4	23	9	18	7	20	15	12	15	12	13	14
More than 10%	2	9	6	5	4	7	3	8	6	5	4	7

The table 129 presents the number of respondents based on behavioral bias level and respective bad debt ratio. The cells indicate the number of respondents for each behavioral bias with relation to bad debt ratio. All the respondents have shown mixed results which have been shown in the table above. However, companies having a large amount of bad debts are reporting a high level of biasness.

Table 130: A Comparison of Family and Non-Family Owned Companies

Family Owned	SS		OC		OPT		ARB		LA		MA	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
No	12	42	21	33	15	39	28	26	27	27	18	36
Yes	7	20	10	17	3	24	13	14	15	12	12	15

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

The table 130 shows a comparison of family owned and non-family owned companies for effects of behavioral biases. The statistics indicate that family owned and non-family owned companies subjected to low self-serving bias are 7, 12 and high self-serving bias are 20, 42 respectively. Family owned companies, with low overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 10, 3, 13, 15 and 12 while with high overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 17, 24, 14, 12 and 15 respectively. Non-family owned companies, with low overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 21, 15, 28, 27 and 18 while non-family owned companies with high overconfidence, optimism, anchoring/representative, loss aversion and mental accounting bias are 33, 39, 26, 27 and 36 respectively.

6.3.1 Summary of Disruptive Analysis

The disruptive analysis of Turkish respondents indicates that the high number of financially literate respondents fall in the high biased column. The respondents with medium managerial skills are less biased as compared to two other groups. The managers with high risk perception are highly biased. Manager finance are the most in number of all respondents, however, highly biased. Male respondents are the most in number among the respondents. The results indicate that most of the respondents fall in the age group of 46 to 55. The maximum number of respondents fall in the age group of 21-25 years and highly biased. The respondents

from textile, wearing apparel and leather sectors are found highly biased among all the other organizational sectors in Turkey. The responders from no foreign sales companies and with foreign sales are found biased. Firms generally are on high and moderate levered level in their capital structure policies. The statistics concluded that the most important financial motive is 'maintaining voting control of shareholders' and the least important is 'preferring previously used financing sources'.

Overall, the results exhibit mixed pattern regarding biases of respondents in capital structure decision motives, however, 'maintaining voting control of shareholders' are reported significantly different for subsamples of all biases. 8.1% respondents reported 'lowest concern for paying dividend', 19.8% respondents reported 'low concern for paying dividend', 29.7% respondents reported 'moderate concern for paying dividend', 40.7% respondents reported 'high concern for paying dividend', and 1.7% respondents reported 'highest concern for paying dividend'. Our results show that firms normally exhibit moderate and high concern for paying dividend to their shareholders. 0.6% respondents reported that they are highly conservative about WCM policies, whereas 37.8% reported conservative, 8.7% reported moderate, 41.3% reported aggressive, and 11.6% respondents reported that they are highly aggressive in their WCM policies. Mix trend of conservative and aggressive WCM policies was witnessed in Turkish companies. The approach 'diversification of banks' is the most popular and 'emergency liquidity reserves' is least important for decision makers of Turkish companies. The respondents are highly biased as self-serving, optimism and mental accounting were showing a significant difference in choice of cash management approaches. And the rest of the respondents were moderately biased as overconfidence, anchoring/representative and loss aversion were showing least difference in the cash management approaches. The approaches 'supply chain management', 'material requirement planning' and 'sale forecasting' are the most useable approaches while the fourth highest approach was 'inventory models'. The highly

biased respondents are reported in self-serving, overconfidence, mental accounting and optimism in all inventory management approaches as shown by the higher parentage vales, rest of the respondents are moderately biased in anchoring/representative and loss aversion in their inventory management approaches. The statistics conclude that 76.2%, 72.7%, 65.1% and 61.0% of the respondents are paying importance to operational, price, transaction and financial motives, respectively while taking account payable decisions.

Our statistics show that 25.6% of the companies have bad debt less than 1%, 19.2% of the companies have 1-3% of bad debt, 16.9% of companies have 3-6% bad debts, 25.6% of companies have 6-9% of bad debts and 12.8% of companies have more than 10% of bad debts level in account receivables. Most of the companies are reporting a high level of behavioral biases with a bad debt level of 6 to 9%.

6.4 Assessment of Measurement Model – Turkey

The assessment of the measurement model is assessed through two validities (1) convergent validity, (2) discriminant validity. Turkey model is assessed in the same way as the validity of other models of countries is assessed. The validities of Turkey model are explained next in details.

6.4.1 Individual Indicator Reliability – Turkey

The estimation of factor loadings for Turkey remains more than 0.7 and statistically significant except RP5 → risk perception. Its value is 0.646, which can be considered because this factor has three more items and their factor loadings are more than 0.770. This model is measured with more than 75 samples; therefore, this loading value can be accepted by keeping in view the threshold value of CR and AVE, which are found at the acceptable level of 0.7 and 0.5. The table 131 shows the values of factor loading of Turkey along with respective construct details.

6.4.2 Convergent Validity – Turkey

Average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha (α) of each construct is used for the assessment of convergent validity of the Turkey model.

6.4.2.1 Composite Reliability (CR) and Cronbach's Alpha

The values of composite reliability (CR) and Cronbach's alpha (α) are summarized in tables 131 for Turkey. The threshold values of CR=0.7 and Cronbach's alpha=0.6, are based on Churchill, (1979) and Nunnally, (1967a). The results indicate that CR and alpha values of these constructs are above than the threshold value hence, the internal consistency reliability of measurement indicators is appropriate for their relevant constructs. The figure 10 depicts the CR values of the constructs for the Turkey model.

6.4.2.2 Average Variance Extracted (AVE)

Convergent validity at the construct level is measured using average variance extracted (AVE) (Hair et al., 2014). The values of AVE are well above the minimum level of 0.5 (please refer to the table 131). Hence, the measures of reflective constructs for Turkey have high levels of convergent validity. It is also notable that single item constructs (like behavioral biases constructs, working capital management and dividend policy) AVE is not an appropriate measure because their outer loading is fixed at 1.00 (Hair et al., 2014).

Each of the measurement models implies good convergent validity and internal consistency which infer that items of each latent variable measure well on its construct than others. It is notable that the constructs with single-items (self-serving, overconfidence, optimism, anchoring/representative, loss aversion, mental accounting, dividend policy, working capital management) are not shown in turkey table because convergent validity and internal consistency reliability are not applicable to single-item constructs (Hair et al., 2014). However, blindfolding algorithm of Smart PLS is used to estimate the validity of single-item constructs for this study. The figure 11 depicts the AVE values of constructs in Smart PLS.

Table 131: Factor Analysis of Measurement Model along with Composite Reliability (CR) and Average Variance Extracted (AVE) – Turkey

Variable Name	Item Code	Cronbach's alpha	Loadings	(CR)	(AVE)
Risk Perception	RP5	0.763	0.646	0.849	0.586
	RP6		0.812		
	RP7		0.816		
	RP8		0.778		
Capital Structure	CS1_1	0.975	0.988	0.988	0.976
	CS1_2		0.988		
Corporate Performance	OP4_1	0.883	0.914	0.919	0.741
	OP4_3		0.781		
	OP4_5		0.867		
	OP4_6		0.876		
Financial Literacy	FL1	0.812	0.889	0.879	0.710
	FL2		0.717		
	FL		0.908		
Managerial Skills	MS12	0.639	0.952	0.828	0.711
	MS9		0.718		

Notes: AVE=Average Variance Extracted, CR= Composite Reliability

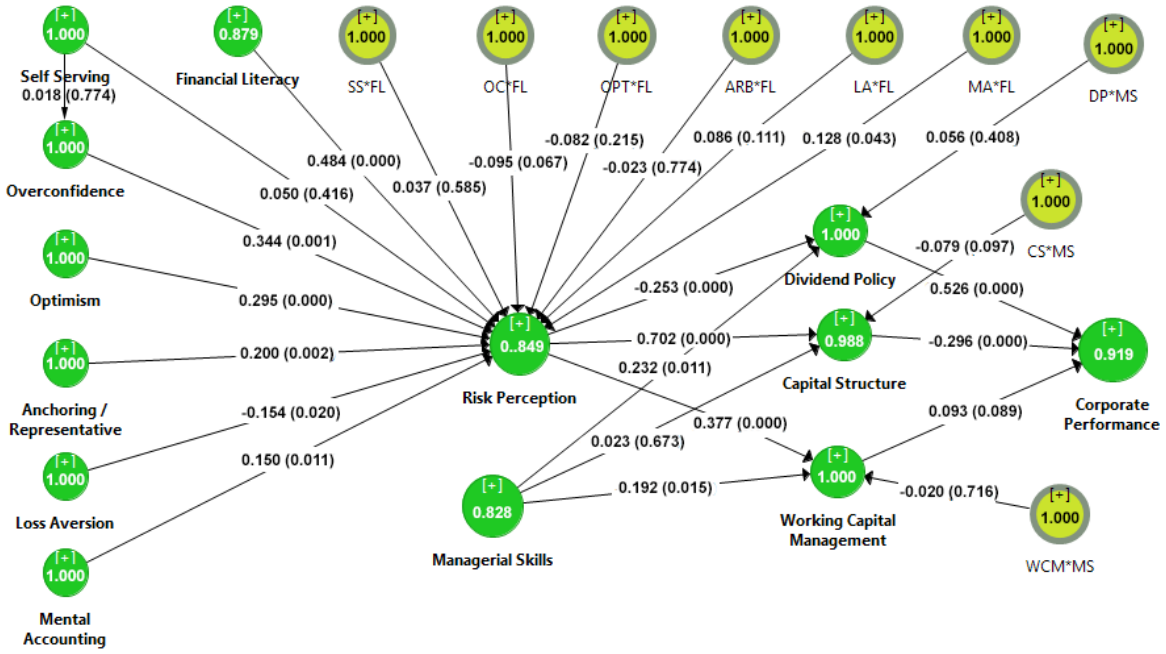

Figure 10: Composite Reliability of Constructs – Turkey

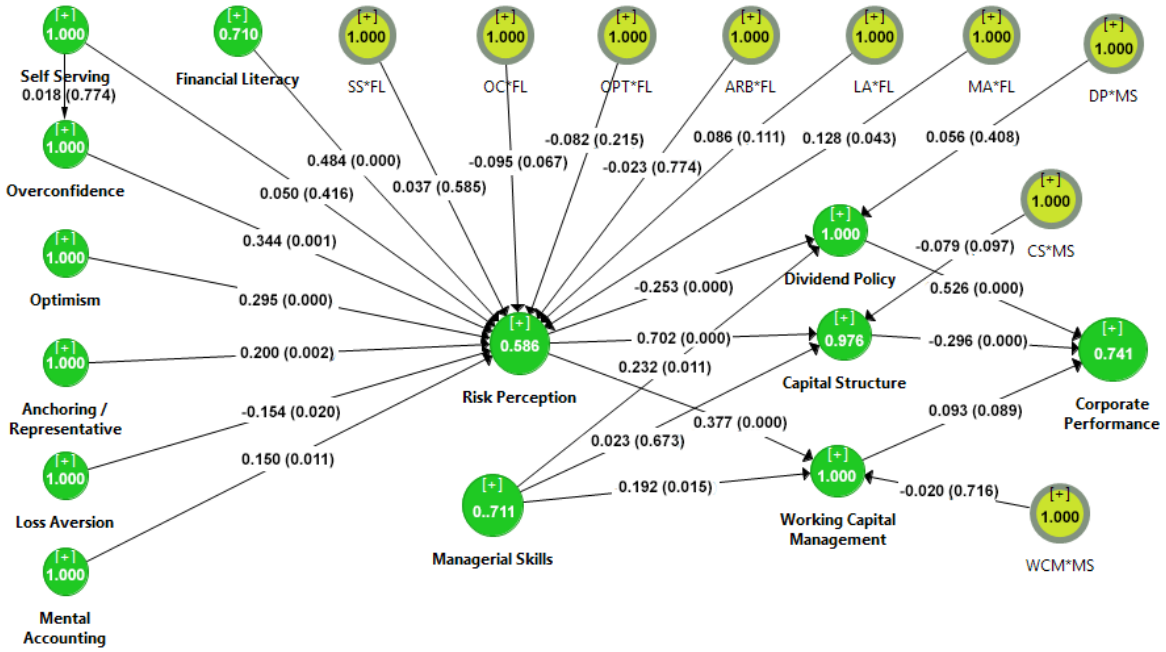

Figure 11: Average Variance Extracted (AVE) of Constructs – Turkey

6.4.3 Discriminant Validity – Turkey

The results of discriminant validity for Turkey are shown in the table 132. The measurement model presents acceptable convergent validity, discriminant validity and indicator reliability. The results show that all constructs are lying within an acceptable level of error. Hence, the measurement model demonstrates the ample robustness needed to assess the structural model of Turkey (relationships among constructs).

Table 132: Discriminant Validity by Fornell & Larcker's (1981) Criterion – Turkey

	Mean	Standard Deviation	Anchoring/Representative	Capital Structure	Dividend Policy	Financial Literacy	FL*ARB	FL*LA	FL*MA	FL*OC	FL*OPT	FL*SS	Loss Aversion
Anchoring/Representative	3.63	1.142	1.000										
Capital Structure	2.87	1.259	0.140	0.988									
Dividend Policy	3.18	1.06	0.064	-0.149	1.000								
Financial Literacy	3.93	0.870	0.066	0.148	0.013	0.843							
FL*ARB	---	---	0.088	0.110	0.063	0.099	1.000						
FL*LA	---	---	-0.006	-0.054	-0.007	-0.104	0.128	1.000					
FL*MA	---	---	0.070	-0.039	0.055	-0.039	0.050	0.197	1.000				
FL*OC	---	---	-0.072	-0.048	0.028	0.018	-0.209	-0.227	-0.315	1.000			
FL*OPT	---	---	0.115	-0.003	0.025	-0.126	0.046	0.468	0.245	-0.336	1.000		
FL*SS	---	---	0.094	0.035	-0.059	0.075	-0.140	0.192	-0.040	-0.070	0.055	1.000	
Loss Aversion	3.15	0.88	0.066	-0.071	0.243	0.096	-0.009	0.028	-0.002	0.094	-0.060	-0.057	1.000
Mental Accounting	3.23	1.277	-0.059	0.114	0.032	0.184	0.078	-0.002	0.093	-0.027	-0.050	-0.099	0.189
Managerial Skills	3.93	0.811	0.081	0.163	0.104	0.630	0.115	-0.064	0.070	-0.044	0.007	0.108	0.115
MS*CS	---	---	0.152	-0.154	0.061	0.059	0.193	0.050	0.175	-0.175	0.305	-0.009	0.186
MS*DP	---	---	0.152	-0.154	0.061	0.059	0.193	0.050	0.175	-0.175	0.305	-0.009	0.186
MS*WCM	---	---	0.152	-0.154	0.061	0.059	0.193	0.050	0.175	-0.175	0.305	-0.009	0.186
Overconfidence	2.08	0.964	-0.002	-0.063	0.025	-0.820	-0.102	0.100	-0.034	0.142	0.038	-0.055	-0.001
Corporate Performance	3.23	0.588	0.028	-0.333	0.550	0.106	-0.009	0.032	0.070	-0.069	0.010	0.103	0.134
Optimism	1.88	1.122	0.038	0.274	0.558	0.065	0.143	-0.056	-0.056	0.034	-0.088	-0.177	0.326
Risk Perception	3.425	0.891	0.227	0.738	-0.050	0.241	0.106	0.077	0.140	-0.120	-0.026	0.027	0.034
Self-Serving	4.16	0.641	-0.099	0.075	0.001	-0.009	0.090	-0.041	-0.085	-0.037	-0.136	-0.080	0.190
Working Capital Management	3.15	1.096	0.064	0.447	-0.213	0.003	0.058	0.084	0.027	-0.062	-0.049	0.054	-0.215

***Note**: Square root of average variance extracted is represented in the bold diagonal text and the remaining of the entries are correlation values. Fornell & Larcker's(1981).*

(Cont.): Discriminant Validity by Fornell & Larcker's (1981) Criterion – Turkey

	Mean	Standard Deviation	Mental Accounting	Managerial Skills	MS*CS	MS*DP	MS*WCM	Overconfidence	Corporate Performance	Optimism	Risk Perception	Self-Serving	Working Capital Management
Anchoring/Representative	3.63	1.142											
Capital Structure	2.87	1.259											
Dividend Policy	3.18	1.06											
Financial Literacy	3.93	0.870											
FL*ARB	---	---											
FL*LA	---	---											
FL*MA	---	---											
FL*OC	---	---											
FL*OPT	---	---											
FL*SS	---	---											
Loss Aversion	3.15	0.88											
Mental Accounting	3.23	1.277	1.000										
Managerial Skills	3.93	0.811	0.040	0.843									
MS*CS	---	---	0.257	0.020	1.000								
MS*DP	---	---	0.257	0.020	1.000	1.000							
MS*WCM	---	---	0.257	0.020	1.000	1.000	1.000						
Overconfidence	2.08	0.964	-0.153	-0.554	-0.062	-0.062	-0.062	1.000					
Corporate Performance	3.23	0.588	-0.095	0.111	0.041	0.041	0.041	-0.090	0.861				
Optimism	1.88	1.122	0.131	0.067	-0.027	-0.027	-0.027	-0.129	0.196	1.000			
Risk Perception	3.425	0.891	0.208	0.258	-0.055	-0.055	-0.055	-0.128	-0.155	0.246	0.766		
Self-Serving	4.16	0.641	0.190	-0.111	-0.092	-0.092	-0.092	0.018	-0.096	0.097	0.057	1.000	
Working Capital Management	3.15	1.096	0.053	0.135	-0.098	-0.098	-0.098	0.051	-0.151	0.020	0.406	0.032	1.000

Note: Square root of average variance extracted is represented in the bold diagonal text and the remaining of the entries are correlation values. Fornell & Larcker's(1981).

6.5 Evaluation of Structural Model – Turkey

In this section, the results of the structural model are presented.

6.5.1 Structural Model Path Coefficients – Turkey

We execute bootstrap algorithm with 500 randomly drawn samples with replacement to get path coefficients and their significance level. The figure 12 shows the path coefficients and their R^2 values for the Turkey model. The results of path coefficients and their significance have been presented in the table 133 for Turkey.

In the hypothesis H_1 andH_{1a}, the relationship of self-serving bias is proposed with risk perception and overconfidence. The test results of Turkey show no significant effect of self-serving bias on risk perception and overconfidence. The values of hypothesis H_1 and H_{1a} for Turkey model represented $\beta = 0.050, p = 0.416$ and $\beta = 0.416, p = 0.774$ respectively.

The relationship between overconfidence and risk perception is hypothesized in H_2. The test results support the relationship between overconfidence and risk perception with $\beta = 0.344, p = 0.001$ for Turkey. The findings indicate that a financial manager or a chief financial officer with more overconfidence bias will be more likely to have more risk perception.

The findings of hypothesis H_3 show that increases in optimism bias resulted in higher risk perception for corporate finance managers with significant value for Turkey with $\beta = 0.295, p = 0.000$.

The hypothesis H_4 is also significant for Turkey with $\beta = 0.200, p = 0.002$. Hence, the hypothesis H_4 is supported significantly. The relationship between Loss aversion bias and risk perception is hypothesized in H_5. The findings indicate significant support for the hypothesis with $\beta = -0.154, p = 0.020$.

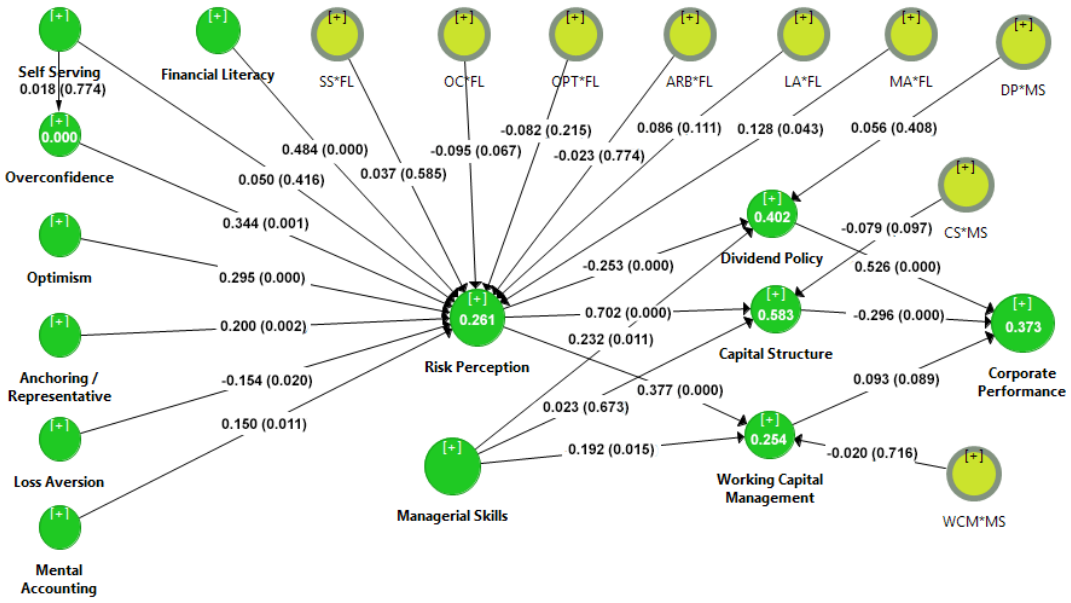

Figure 12: Path Coefficients (β) and R^2 values of constructs – Turkey

Table 133: Direct Relationship Path Coefficients – Turkey

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
H_1	Self-Serving → Risk Perception	0.050	0.062	0.815	0.416	Not Supported
H_{1a}	Self-Serving → Overconfidence	0.018	0.062	0.287	0.774	Not Supported
H_2	Overconfidence → Risk Perception	0.344	0.098	3.492	0.001	Supported
H_3	Optimism → Risk Perception	0.295	0.072	4.117	0.000	Supported
H_4	Anchoring/Representative → Risk Perception	0.200	0.064	3.151	0.002	Supported
H_5	Loss Aversion → Risk Perception	-0.154	0.066	2.343	0.020	Supported
H_6	Mental Accounting → Risk Perception	0.150	0.059	2.547	0.011	Supported
H_7	Risk Perception → Dividend Policy	-0.253	0.065	3.870	0.000	Supported
H_8	Risk Perception → Capital Structure	0.702	0.040	17.414	0.000	Supported
H_9	Risk Perception → Working Capital Management	0.377	0.065	5.760	0.000	Supported
H_{10}	Dividend Policy → Corporate Performance	0.526	0.050	10.451	0.000	Supported
H_{11}	Capital Structure → Corporate Performance	-0.296	0.058	5.096	0.000	Supported
H_{12}	Working Capital Management → Corporate Performance	0.093	0.055	1.704	0.089	Supported

***Note**: Significance Level < 0.100 (two tailed)*

In H_6, it was hypothesized that mental accounting has a significant impact on risk perception. The results indicate that mental accounting bias is significantly affecting risk perception with the beta and p value $\beta = 0.150, p = 0.011$.

Now, we look at the relationships between risk perception and corporate financial decisions. Financial decisions include dividend policy decisions, capital structure decisions, and working capital management decisions. The relationship between risk perception and dividend policy is hypothesized inH_7. The statistical results indicate that the relationship is significant for Turkey with values $\beta = -0.253, p = 0.000$.

Next, the relationship between risk perception and corporate finance decisions was hypothesized in H_8. The results show that risk perception is positively affecting capital structure with $\beta = 0.702, p = 0.000$. It specifies that the corporate finance managers with high-risk perception may focus on aggressive capital structure decisions.

The last relation of risk and corporate financial decisions is hypothesized between risk perception and working capital management decisions. Our study results show that this relation is significant with $\beta = 0.377, p = 0.000$. It explains that the high-risk perception of corporate finance managers will result in aggressive working capital management decisions.

At the last phase of direct relation analysis, three hypotheses are hypothesized ($H_{10}, H_{11}\&H_{12}$) between corporate financial decisions and corporate performance. The hypothesis 10 is hypothesized as dividend policy decisions of firms have a significant relationship on corporate performance of firms. Our statistical estimation specifies that dividend policy decisions are significantly impacting on corporate performance $\beta =$

0.526, and $p = 0.000$ for Turkey. It specifies that dividend policy decisions are affecting positively on the firm performance of Turkey.

Next, the hypothesis H_{11} is about the relationship between capital structure decisions and corporate performance. It concludes that capital structure decisions impact negatively on corporate performance with $\beta = -0.296$, $p = 0.000$ in Turkey. It can be explained that aggressive capital structure reduces the performance of firms.

The last hypothesis H_{12} of direct relationships is hypothesized as working capital management decisions of the firms have a significant relationship with corporate performance of firms. This relationship is also statistically significant in the Turkish data analysis with beta and p value $\beta = 0.093$,$p = 0.089$. It shows that aggressive working capital management decisions have a positive impact on corporate performance.

6.5.2 Analysis for Mediating Effects – Turkey

To examine the statistical significance of the mediation effect of risk perception between behavioral biases and corporate financial decisions, the bootstrapping algorithm in Smart PLS is executed to get the values of the direct and indirect path coefficients with 500 resamples as recommended by (Preacher & Hayes 2004). The value of VAF is also calculated for partial mediation to check in the proportion of impact of indirect relation on the total effect.

The mediation results are summarized in the table 134 for the Turkey data set respectively. Hypothesis decisions are supported in four types of decisions, which include, (1) not significant, (2) partial mediation, (3) full mediation and (4) no mediation.

Table 134: Mediation Path Coefficients with significance – Turkey

Hypothesis	Direct Relation	Direct Impact	Indirect Impact	Total Impact	VAF	Mediation
H_{22a}	SS → DP	-0.016	-0.011	-0.027	---	Not Significant
		(0.773)	(0.552)	(0.652)		
H_{22b}	SS → CS	0.043	0.04	0.084	---	Not Significant
		(0.373)	(0.395)	(0.239)		
H_{22c}	SS → WCM	0.068	0.025	0.093	---	Not Significant
		(0.231)	(0.465)	(0.146)		
H_{23a}	OC → DP	0.208 **	-0.087 ***	0.121	-72%	Partial Mediation
		(0.010)	(0.008)	(0.162)		
H_{23b}	OC → CS	0.051	0.241 ***	0.293 ***	100%	Full Mediation
		(0.364)	(0.000)	(0.000)		
H_{23c}	OC → WCM	0.210 ***	0.129 ***	0.340 ***	38%	Partial Mediation
		(0.004)	(0.002)	(0.000)		
H_{24a}	OPT → DP	0.628 ***	-0.075 ***	0.553 ***	-13%	Partial Mediation
		(0.000)	(0.005)	(0.000)		
H_{24b}	OPT → CS	0.146 ***	0.207 ***	0.353 ***	59%	Partial Mediation
		(0.006)	(0.000)	(0.000)		
H_{24c}	OPT → WCM	0.018	0.111 ***	0.129 **	100%	Full Mediation
		(0.791)	(0.001)	(0.048)		
H_{25a}	ARB → DP	0.070	-0.051 **	0.019	100%	Full Mediation
		(0.235)	(0.026)	(0.727)		
H_{25b}	ARB → CS	-0.002	0.141 ***	0.139 **	100%	Full Mediation
		(0.97)	(0.002)	(0.017)		
H_{25c}	ARB → WCM	-0.007	0.075 ***	0.068	100%	Full Mediation
		(0.915)	(0.01)	(0.312)		
H_{26a}	LA → DP	0.006	0.039 **	0.045	100%	Full Mediation
		(0.932)	(0.034)	(0.514)		
H_{26b}	LA → CS	-0.137 **	-0.108 **	-0.245 ***	44%	Partial Mediation
		(0.027)	(0.017)	(0.002)		
H_{26c}	LA → WCM	-0.271 ***	-0.058 **	-0.329 ***	18%	Partial Mediation
		(0.000)	(0.034)	(0.000)		
H_{27a}	MA → DP	0.016	-0.038 **	-0.022	100%	Full Mediation
		(0.782)	(0.036)	(0.731)		
H_{27b}	MA → CS	-0.007	0.105 **	0.098	100%	Full Mediation
		(0.886)	(0.013)	(0.165)		
H_{27c}	MA → WCM	0.040	0.056 **	0.096	100%	Full Mediation
		(0.524)	(0.021)	(0.124)		

***Notes**: SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. P values are shown in brackets, VAF=Variance Accounted For. * p < 0.10, ** p < 0.05, *** p < 0.01 (two tailed)*

The mediation hypotheses H_{22a}, H_{22b} and H_{22c} are defined as mediation impact of risk perception between self-serving bias and three corporate financial decisions dividend policy, capital structure, and working capital management respectively. These three hypotheses are not statistically supported in Turkish model because of significance p value is greater than 0.100 for all the direct and indirect paths. Hence, no mediation effect is found but self-serving bias may impact directly on capital structure decisions of the Turkish firms.

The mediation Hypotheses H_{23a}, H_{23b} and H_{23c} proposed the relationship of overconfidence bias with dividend policy, capital structure and working capital management by mediating role of risk perception. The results indicate that direct paths OC→DP and OC→WCM are statistically significant in the data set of Turkey. The path coefficients are $\beta = 0.208, (p = 0.010)$ for DP and $\beta = 0.210, (p = 0.004)$ for WCM. After adding the mediating variable in the models, the indirect paths OC→ RP→DP and OC→RP→WCM are also significant, with beta value $\beta = -0.087, p = 0.008$ and $\beta = 0.129, p = 0.002$. Hence, the partial mediation is supported for H_{23a} and H_{23c} hypotheses. The value of VAF indicates -72% and 38% of the total effect of overconfidence bias on dividend policy and working capital management decisions are explained by the indirect effect of risk perception of corporate finance managers. For testing the mediation effect for hypothesis H_{23b}, the direct path OC→CS is tested and found that it is not statistically significant with $\beta = 0.051, p = 0.364$. By adding the mediating variable risk perception, the indirect relation OC→RP→CS tested and found significant with beta and p value $\beta = 0.241, p = 0.000$. Hence, full mediation is supported for hypothesis H_{23b}.

Next, the mediation hypotheses H_{24a}, H_{24b} and H_{24c} are hypothesized as the relationship of optimism bias with dividend policy, capital structure and working capital management is mediated by risk perception. The statistical results for Turkey reveal that direct paths OPT→DP and OPT→CS are statistically significant with path coefficients $\beta = 0.628, (p = 0.000)$, and $\beta = 0.146, (p = 0.006)$ respectively. While the one direct path OPT→WCM is not significant with $\beta = 0.018, (p = 0.791)$. The indirect paths OPT→RP→DP, OPT→RP→CS and OPT→RP→WCM are significant with beta values $\beta = -0.075, p = 0.005$, $\beta = 0.207, p = 0.000$ and $\beta = 0.111, p = 0.001$, which indicate that partial mediation is supported for hypothesis H_{24a}, H_{24b} and full mediation is supported for hypothesis H_{24c}. The VAF value indicates -13% and 59% total effect of optimism bias on dividend policy and capital structure is explained by indirect effect of risk perception of corporate finance managers.

The statistics of the mediation analysis for proposed hypotheses H_{25a}, H_{25b} and H_{25c} reported that direct paths ARB→DP, ARB→CS and ARB→WCM are not significant with path coefficients $\beta = 0.070, (p = 0.235)$, $\beta = -0.002, (p = 0.970)$ and $\beta = -0.007, (p = 0.915)$ respectively. For the mediating effects, indirect paths ARB→RP→DP, ARB→RP→CS and ARB→RP→WCM are significant with beta value $\beta = -0.051, p = 0.026, \beta = 0.141, p = 0.002$ and $\beta = 0.075, p = 0.001$ Hence, the Full mediation is supported for H_{25a} , H_{25b} and H_{25c}.

For the mediation Hypotheses H_{26a}, H_{26b} andH_{26c} , the results show that direct paths LA→CS and LA→WCM are statistically significant with path coefficients $\beta = -0.137, (p = 0.027)$ and $\beta = -0.271, (p = 0.000)$ respectively. After adding the mediating variable in the model, the indirect paths LA→RP→CS and LA→RP→

WCM are also significant with beta value $\beta = -0.108, p = 0.017$ and $\beta = -0.058, p = 0.034$ Hence, the partial mediation is supported for H_{26b} and H_{26c} hypothesis. The value of VAF indicates that 44% and 11% of the total effect of loss aversion bias on capital structure and working capital management decisions are explained by the indirect effect of risk perception of corporate finance managers. The direct path relation LA→DP is not statistically significant with $\beta = -0.006, p = 0.932$ while the indirect effect LA→RP→DP is significant with $\beta = 0.039, p = 0.034$. Hence, full mediation is supported for hypothesis H_{26a}.

The last three mediation hypotheses H_{27a}, H_{27b} and H_{27c} are hypothesized as the relationship of mental accounting bias with dividend policy, capital structure and working capital management is mediated by risk perception. The statistical results show the direct paths MA→DP, MA→CS and MA→WCM are not significant with $\beta = 0.016, (p = 0.782)$, $\beta = -0.007, p = 0.886$ and $\beta = 0.040, p = 0.524$ respectively. While adding mediation of risk perception the indirect paths MA→ RP→ DP, MA→RP→CS and MA→RP→WCM are significant with $\beta = -0.038, p = 0.036$, $\beta = 0.105, p = 0.013$ and $\beta = 0.056, p = 0.021$. Hence, the hypothesis H_{27a},H_{27b} and H_{27c} are supported for full mediation of risk perception in Turkey model.

6.5.3 Analysis for Moderation Effects – Turkey

To test the moderation hypothesis, we generated interaction variables in Smart PLS 3.2.6, which automatically generate standardized values for independent variables or constructs. The bootstrap process started with 500 resamples recommended by Chin (2010), and results for interaction terms are summarized in the table 135 for Turkey, which include path coefficients of interaction term and their significance level. The six

hypotheses ($H_{13} - H_{18}$) are proposed for the moderation of financial literacy between six behavioral biases (self-serving bias, overconfidence bias, anchoring/representative bias, optimism bias, loss aversion and mental accounting) and risk perception. While the three hypotheses ($H_{19} - H_{21}$) are proposed for the moderation impact of managerial skills between risk perception and corporate financial decisions (e.g., dividend policy, capital structure and working capital management). Direct impact of financial literacy on risk perception is statistically significant for Turkey with path coefficient $\beta = 0.484, p = 0.000$. Similarly, the direct impact of managerial skills is tested with three corporate financial decisions. The results of the Turkey model show that managerial skills are significantly impacting on divided policy and working capital management with path coefficients $(\beta = 0.232, p = 0.011)$ and $(\beta = 0.192, p = 0.015)$ respectively, while the relationship between managerial skills and capital structure is not significant ($p = .673$).

The hypothesis H_{13} is hypothesized as moderation effect of financial literacy has a significant relationship between self-serving bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested and results reveal that the interaction path of this construct (self-serving × financial literacy) is not significant in Turkey with p value 0.585. Similarly, the hypothesis H_{16} is hypothesized as moderation effect of financial literacy has a significant relationship between anchoring/representative bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested empirically on the Turkey model. The results show that the interaction path of the construct (anchoring/representative × financial literacy) is not significant at p value 0.774.

The next hypothesis H_{14} is hypothesized as moderation effect of financial literacy has a significant relationship between overconfidence bias and risk perception

of corporate finance managers. The interaction effect of this hypothesis is tested and results indicate that the interaction path of product construct (overconfidence × financial literacy) is significant on risk perception with path coefficient $\beta = -0.095, p = 0.067$ for Turkey. Hence, the H_{14} is supported statistically.

The hypothesis H_{15} as moderation effect of financial literacy has a significant relationship between optimisms bias and risk perception of corporate finance managers. The interaction effect for this hypothesis is tested empirically in Turkey. The results indicate that the interaction path of product construct (optimism × financial literacy) is not significant in Turkey with p value 0.215. The H_{15} is not supported for Turkey.

The hypothesis H_{17} is hypothesized as moderation effect of financial literacy has a significant impact between loss aversion bias and risk perception of corporate finance managers. The interaction effect of this hypothesis is tested and results indicate that the interaction path of product construct (loss aversion × financial literacy) is not significant on risk perception in the Turkey model with p = 0.111. Hence, the H_{17} is not supported statistically.

Table 135: Moderation Path Coefficients and their significance – Turkey

Hypothesis	Path Coefficient	Path Coefficient	Standard Deviation	T Statistics	P Values	Decision
	Financial Literacy → Risk Perception	0.484	0.108	4.490	0.000	Supported
	Managerial Skills → Dividend Policy	0.232	0.092	2.537	0.011	Supported
	Managerial Skills → Capital Structure	0.023	0.054	0.422	0.673	Not Supported
	Managerial Skills → Working Capital Management	0.192	0.079	2.437	0.015	Supported
H_{13}	SS*FL → Risk Perception	0.037	0.068	0.547	0.585	Not Supported
H_{14}	OC*FL → Risk Perception	-0.095	0.051	1.837	0.067	Supported
H_{15}	OPT*FL → Risk Perception	-0.082	0.066	1.241	0.215	Not Supported
H_{16}	ARB*FL → Risk Perception	-0.023	0.079	0.288	0.774	Not Supported
H_{17}	LA*FL → Risk Perception	0.086	0.054	1.595	0.111	Not Supported
H_{18}	MA*FL → Risk Perception	0.128	0.063	2.024	0.043	Supported
H_{19}	DP*MS → Dividend Policy	0.056	0.068	0.827	0.408	Not Supported
H_{20}	CS*MS → Capital Structure	-0.079	0.048	1.661	0.097	Supported
H_{21}	WCM*MS → Working Capital Management	-0.020	0.055	0.365	0.716	Not Supported

***Notes**: SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. Significance Level < 0.100 (two tailed)*

The last hypothesis of the moderation effect of financial literacy H_{18} is hypothesized as moderation effect of financial literacy has a significant relationship between mental accounting bias and risk perception of corporate finance managers. The results show that the interaction path of product construct (mental accounting × financial literacy) is significant on risk perception for Turkey where the path coefficients are $\beta = 0.128, p = 0.043$. Therefore, the H_{18} is supported for this model.

The 2nd moderation impact of managerial skills are hypothesized in H_{19}, H_{20} and H_{21} between risk perception and three corporate financial decisions (dividend policy, capital structure and working capital management). After analyzing this hypothesis in the data set of Turkey, the relationship of interaction term with dividend policy and working capital management are not significant with p value 0.408 and 0.716 respectively while it is significant with capital structure with beta and p value -0.079 and 0.097 respectively.

6.5.4 Coefficient of Determination (R^2) Value – Turkey

The value of R^2 and its significance is obtained by bootstrap for all endogenous variables (capital structure, corporate performance, dividend policy, overconfidence, risk perception and working capital management). All the values of R^2 are significant at level $p < 0.01$ except overconfidence. The level of significance and predictive accuracy are summarized in the table 136.

Turkey model explains 58.3% $(R^2 = 0.583)$ variance in capital structure, 40.2% $(R^2 = 0.402)$ of variance in dividend policy, 37.3% $(R^2 = 0.373)$ of variance in corporate performance, 25.4% $(R^2 = 0.254)$ of variance in working capital management and 26.1% $(R^2 = 0.261)$ of variance in risk perception by their respective exogenous variables.

Table 136: Table of Coefficient of Determination (R^2) – Turkey

Target Construct	R^2	T Statistic	P Value	Predictive accuracy
Capital Structure	0.583	15.638	0.000	Moderate
Dividend Policy	0.402	8.268	0.000	Moderate
Overconfidence	0.000	0.055	0.956	Not Significant
Corporate Performance	0.373	6.267	0.000	Feasible
Risk Perception	0.261	5.002	0.000	Feasible
Working Capital management	0.254	4.798	0.000	Feasible

***Note**:R^2 predictive accuracy levels 0.00 ≥ Weak, 0.25 ≥ Feasible, 0.50 ≥ Moderate, 0.75 ≥ Substantial*

Predicting the model fitness on the value of R^2 is not a safe approach because adding or omitting non-significant variable in structural model fluctuate the R^2 value. Therefore, the next step for the assessment of the structural model is by exploring the change in R^2 value to see whether, the exogenous construct has a large impact on endogenous construct (Chin, 1998).

6.5.5 Effect size (f^2) Value– Turkey

After calculating the values of R^2 for the constructs of structural models, the effect size for each path should be estimated as discussed by Cohen (1988).

The table 137 summarizes the f^2 estimates for each relationship of the Turkey model. The results indicate that predictor variables of risk perception have all small effects by its predictands. The f^2 values remain for self-serving $(f^2 = 0.003)$, overconfidence $(f^2 = 0.045)$, optimism $(f^2 = 0.095)$, anchoring/representative $(f^2 = 0.050)$, loss aversion $(f^2 = 0.026)$ and mental accounting $(f^2 = 0.027)$. The predictor self-serving of overconfidence is also having no effect with value $(f^2 = 0.000)$. The constructs dividend policy, capital structure and working capital management are predicted by risk perception. The large effect size calculated for capital structure with $(f^2 = 0.912)$ while the small and the medium effect size is measured for dividend policy and working capital management with f^2 values 0.083 and 0.147 respectively. The last construct of corporate performance is predicted by dividend policy, capital structure and working capital management. The effect size of

working capital management is small with f^2 values 0.011 while dividend policy ($f^2 = 0.420$) and capital structure ($f^2 = 0.112$) remain large and medium respectively.

Table 137: Effect size of Path Coefficient (f^2) – Turkey

Depended Construct	Independence Construct	f^2	Effect Size
Risk Perception	Self-Serving	0.003	Small
	Overconfidence	0.045	Small
	Optimism	0.095	Small
	Anchoring/Representative	0.050	Small
	Loss Aversion	0.026	Small
	Mental Accounting	0.027	Small
Overconfidence	Self-Serving	0.000	No Effect
Dividend Policy	Risk Perception	0.083	Small
Capital Structure	Risk Perception	0.912	Large
Working Capital Management	Risk Perception	0.147	Medium
Corporate Performance	Capital Structure	0.112	Medium
	Dividend Policy	0.420	Large
	Working Capital Management	0.011	Small

Notes: Value of f^2 0.02 ≥ Small Effect, 0.15 ≥ Medium effect and 0.35 ≥ Large Effect

6.5.6 Predictive Relevance (Q^2) Value by Blindfolding Technique – Turkey

The table 138 exposes the Q^2 values of Turkey model. The Q^2 values of endogenous variables are greater than zero, which indicates predictive relevance of constructs except for overconfidence. The values of Q^2 of constructs remained as capital structure = 0.529, corporate performance = 0.256, dividend policy = 0.342, overconfidence = -0.010, risk perception = 0.122 and working capital management = 0.202. There is no issue associated with a single-indicator constructs in the Turkey model as a predictor variable.

Table 138: Predictive Relevance (Q^2) Table – Turkey

Endogenous Construct	Q^2	Predictive Relevance
Capital Structure	0.529	Yes
Corporate Performance	0.256	Yes
Dividend Policy	0.342	Yes
Overconfidence	-0.010	No
Risk Perception	0.122	Yes
Working Capital Management	0.202	Yes

Note: Predictive relevance of Construct > 0

6.6 Summary of the Chapter

This chapter explains the statistical results (descriptive, disruptive, measurement model, structural model) of Turkish respondents. Each hypothesis is discussed, and the results of moderation and mediation are also explained. Next chapter discusses the result comparison of all countries and concludes discussion in the light of relevant theory and previous evidence of studies.

CHAPTER 7:

COMPARISON OF RESULTS OF PAKISTAN, MALAYSIA, AND TURKEY

7.1 Introduction

This chapter discusses the results of Pakistan, Malaysia, and Turkey. The statistics of each country has been compared with the group and findings are concluded. The first phase discusses the descriptive and disruptive analysis of the study. Later, results of hypotheses are discussed which include direct path, moderation, and mediation analysis. Let's start with the descriptive statistics.

7.2 Descriptive Analysis

The following tables show a comparison of descriptive analysis of Pakistan, Malaysia, and Turkey.

Table 139: Gender/Age/Designation wise comparison of all countries

		Pakistan		Malaysia		Turkey	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	Male	158	92	113	90.6	72	88.8
	Female	14	8	12	9.4	9	11.2
	Total	172	100.0	125	100	81	100
Age	18-25	11	6.4	2	1.6	1	1.3
	26-35	25	14.5	21	16.8	5	6.3
	36-45	49	28	25	20	18	22.5
	46-55	46	26.7	43	34.4	36	43.8
	56-60	25	14.5	23	18.4	10	12.5
	60-Above	16	9.3	11	8.8	11	13.8
	Total	172	100.0	125	100	81	100
Designation	CFO	81	47.1	41	32.8	19	23.8
	CEO	10	5.8	0	0	0	0
	General Manager	12	6.5	11	8.8	16	20
	Director Finance	11	6.4	17	13.6	12	15

	General Manager Finance	49	29.3	29	23.2	9	11.3
	Manager Finance	0	0	27	21.6	21	25
	Managing Director	9	5.2	0	0	4	5
	Total	**172**	**100.0**	**125**	**100**	**81**	**100.0**

The statistics in the above table 139 shows that approximately 90% of respondents are male in each country. Therefore, male respondents are more dominant than females in each country. The age distribution shows that about 23% of the respondents are between age 36 to 45 years in all counties and about 35% of respondents are between age 46 to 55. It indicates that majority of the respondents are from higher age group and well experienced. Each country in this regard shows the same trend. The statistics of the designation of the respondents show that respondents of this research are mostly CFOs and general manager finance. The distribution of data (for Pakistan) shows that 47.1% of respondents are CFOs and 29.3% of respondents are GM finance. The sample distribution of Turkey and Malaysian data, CFOs are 23.8% and 32.8% while GM finance for both counties are 11.3% and 23.2% respectively. It is also observed that general managers are dominant in Turkish organizations and manager finance are dominant in Malaysian firms.

Table 140: Education/Work Experience wise respondent Distribution

		Pakistan		**Malaysia**		**Turkey**	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Education	Graduation	9	5.2	3	2.4	9	11.3
	Master	31	18	15	12	12	15
	MS/M.Phil.	17	9.9	12	9.6	7	8.8
	Ph.D.	0	0	6	4.8	2	2.5
	CFA	5	2.9	14	11.2	18	22.5
	ACMA/CFP/CPA	27	15.7	17	13.6	17	21.3
	ACCA	14	8.1	31	24.8	10	12.5
	CA/CIMA	69	40.1	27	21.6	6	6.3
	Total	172	100.0	125	100	81	100
Experience	1-5	6	3.5	3	2.4	2	2.5
	6-10	23	13.4	12	9.6	3	3.8
	11-15	30	17.4	16	12.8	8	10.2
	16-20	51	29.7	26	20.8	25	30.8
	21-25	25	14.5	38	30.4	24	29
	25-30	21	12.2	19	15.2	12	15
	Above 30	16	9.3	11	8.8	7	8.8
	Total	**172**	**100.0**	**125**	**100**	**81**	**100**

Table 140 describes the descriptive comparison about education and work experience of the respondents for each country. Analysis results indicate that companies in these countries are well structured and they hire qualified staff for their future planning like general manager, GM finance and CFO. It is observed that most of the respondents in Pakistani organizations are having CA or CIMA qualification while the Malaysian organizations have hired ACCA qualified professionals. Whereas, The Turkish organizations have mostly CFA/ACMA/CFP/CPA qualified professional hired for their financial decision making. The graduates and masters vary in numbers for each country statistics.

If we look at the statistics about the experience, we see that in Pakistan, respondents have more than ten years' work experience who are appointed on the key positions of the organizations. The maximum respondents are from the experience group between 16 to 20 years. In the Malaysian sample, maximum respondents fall in the 16-20 and 21-25 years job experience category, and almost the same trend has been observed the respondents of Turkey.

Table 141: Industry-wise Distribution of Respondents

Country	Industry Type	Frequency	Percent
Pakistan	Automobile Assembler	15	8.7
	Automobile Assembler and Parts	5	2.9
	Cable and Electrical Goods	1	0.6
	Cement	7	4.1
	Chemical	12	7.0
	Engineering	7	4.1
	Fertilizer	6	3.5
	Food & Personal Care Products	21	12.2
	Glass and Ceramics	3	1.7
	Jute	2	1.2
	Leather and Tanneries	1	0.6
	Oil and Gas Exploration	3	1.7
	Oil and Gas Marketing	2	1.2
	Paper and Board	2	1.2
	Pharmaceuticals	2	1.2
	Power Generation & Production	2	1.2
	Sugar and Allied	5	2.9
	Synthetics and Rayon	2	1.2
	Technology and Communication	4	2.3
	Textile	61	35.5
	Textile Weaving	3	1.8
	Textile Spinning	6	3.5
	Total	172	100.0

Malaysia	Construction	13	10.4
	Consumer	15	12
	Hotels	4	3.2
	Industrials	60	48
	Plantation	8	6.4
	Technology	11	8.8
	Mining	2	1.6
	Others	12	9.6
	Total	125	100
Turkey	Agriculture, forestry and fishing	3	3.8
	Wood products including furniture	3	3.8
	Paper and paper products	4	5.0
	Printing and publishing	1	1.3
	Various variant of oil and coal	6	7.5
	Rubber products	3	3.8
	Non-metallic mineral products	7	8.8
	Iron and steel	3	3.8
	Electrical machines and devices	3	3.8
	Vehicles	8	10
	Textile, wearing apparel and leather	10	12.5
	Food beverages and tobacco	2	2.5
	Automotive	1	1.3
	Energy	2	2.5
	Transportation	6	7.5
	Restaurants and hotels	2	2.5
	Chemicals, petroleum, rubber and plastic products	3	3.7
	Consumer trade and wholesale trade	6	7.5
	Technology	3	3.8
	Cement industry	5	6.3
	Total	81	100.0

Table 141 shows the comparison of different industries of Pakistan, Malaysia, and Turkey. Pakistan has 22 industry types, and most of the respondents are from textile sector of Pakistan. Automobile, chemical, food and personal care sectors of Pakistan are also dominant. Malaysia has seven industry categories. In our study, the maximum number of respondents fall in the industrial sector of Malaysia. Construction and technology sector are also dominant in Malaysian dataset. Turkey has 20 industry types and statistics are reported in table 141. The statistics show that data has been collected from each of the industry sector and maximum number of respondents were from textile sector of Turkey.

Table 142: Credit Rating distribution of companies

	Credit Rating	**Frequency**	**Percent**
Pakistan	AAA	15	8.7
	AA	11	6.4

	A	41	23.8
	BBB	9	5.2
	BB	2	1.2
	B	4	2.3
	CCC	1	.6
	CC	1	.6
	Other	88	51.2
	Total	172	100.0
Malaysia	AAA	15	12
	AA	7	5.6
	A	28	22.4
	BBB	19	15.2
	BB	6	4.8
	C	14	11.2
	D	5	4
	N/A	31	24.8
	Total	125	100
Turkey	AAA	5	6.3
	AA	3	3.8
	A	15	18.8
	BBB	8	10
	-BBB	5	6
	BB	2	2.5
	B	9	11.3
	CCC	1	1.3
	N/A	33	40.3
	Total	**81**	**100**

Table 142 shows the statistics about credit ratings of the firms in Pakistan, Malaysia, and Turkey. Results indicate that about 23.8% companies are with 'A' credit rating in Pakistan, about 51.2% companies in Pakistan dataset are not rated while the ratio of not rated companies in Malaysia and Turkey is 24.8% and 40.3 % respectively. In each dataset, 'A' rated companies were dominant.

Table 143: Number of employee's/Family owned distribution of companies

		Pakistan		**Malaysia**		**Turkey**	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
No of Employees	1-999	46	26.6	3	2.4	6	7.5
	1000-1999	21	12.2	21	16.8	10	12.5
	2000-2999	33	19.2	24	19.2	6	6.5
	3000-3999	18	10.5	27	21.6	17	21.3
	4000-4999	15	8.7	19	15.2	23	28.8
	Above 5000	39	22.7	31	24.8	19	23.8
	Total	172	100.0	125	100	81	100.0
Family Owned	Yes	113	65.7	47	37.6	27	32
	No	59	34.3	78	62.4	54	68
	Total	**172**	**100.0**	**125**	**100**	**81**	**100**

Table 143 shows the descriptive statistics about no. of employees and family-owned status of the companies. In Pakistan, about 65.7% of companies are family owned while the ratio of family-owned companies in Malaysia and Turkey is less than Pakistan. Malaysia and Turkey have 37.6% and 32% of companies with family-owned status respectively. If we look at the statistics about the number of employees of the companies, the largest percentage of companies is falling in the category of '1-999' and 'above 5000 employees' companies. Malaysia and Turkey have a large percentage of companies in 'above 5000 employees' category.

Table 144: Annual Revenue/Foreign Sales distribution of companies

		Pakistan		**Malaysia**		**Turkey**	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Annual Revenue in US$	30 Million or Less	73	42.4	17	13.6	10	12.5
	30-99 Million	52	30.2	24	19.2	13	16.3
	100-499 Million	37	21.5	18	14.4	33	41.1
	500-999 Million	7	4.1	32	25.6	13	15.2
	1000 -1999 Million	3	1.7	29	23.2	11	13.8
	1999 Million and Above	0	0	5	4	1	1.3
	Total	**172**	**100.0**	**125.0**	**100.0**	**81**	**100.0**
Foreign Sales	0%	32	18.6	40	32	5	6.2
	1-24%	59	34.3	36	28.8	18	21.5
	25-49%	26	15.1	27	21.6	27	33.8
	50 % Above	55	32	22	17.6	31	33.5
	Total	**172**	**100.0**	**125**	**100.0**	**81**	**100.0**

The table 144 shows the statistics comparison about annual revenue and foreign sales in all three countries. In Pakistan, about 42.4% of companies are having annual revenue of 30 million or less and about 30.2% of companies are having revenue of 30-99 million. These two categories are with the maximum percentage in the dataset. Most of the Malaysian companies are in the category of '500-999' and '1000-1999 million' revenue while most of the Turkish companies are from '100-499 million' revenue.

The second statistical comparison is about foreign sales of the companies. The statistics indicate that about 34.3% companies in Pakistan are engendering up to 24% foreign sales. And about 50% of companies are generating 32% foreign sales. About 40% of Malaysia companies are generating 25-49% foreign sales which are below than Pakistan. In Turkey, about 66% of companies are making foreign sales greater than 25% which is greater than foreign sales of Pakistani companies.

7.3 Disruptive analysis

The disruptive analysis shows the crosstab count of six behavioral biases with different variables in the model. Each behavioral bias is further segregated into two sub-groups of highly biased and low biased respondents. After that, each value is compared with behavioral biases and other variables of the study. Statistics f three counties are combined in a single table for comparison. The total number of respondents for Pakistan were $n = 172$, for Malaysia $n = 125$ and for Turkey $n = 81$.

Table 145: Financial Literacy Compared with Behavioral Biases

Financial Literacy		**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Low	15	36	15	36	21	30	23	28	23	28	22	29
	Medium	9	21	13	17	5	25	22	8	19	11	6	24
	High	17	74	33	58	19	72	49	42	37	54	34	57
Malaysia	Low	11	24	11	24	13	22	15	20	15	20	14	21
	Medium	5	17	10	12	4	18	15	7	14	8	5	17
	High	14	54	26	42	14	54	36	32	29	39	26	42
Turkey	Low	7	15	10	12	5	17	16	6	10	12	7	15
	Medium	3	14	7	10	5	12	9	8	11	6	7	10
	High	9	33	14	28	8	34	16	26	21	21	16	26

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 145 indicates the crosstab statistics about financial literacy and six behavioral biases subgroups of high and low biased respondents. These results are summarized in this table for all three counties to compare each other. The variable of financial literacy was divided

into three subgroups of low, medium and high literate respondents while each bias is divided into two groups of high and low biased respondents. Then each group of biases and financial literacy is compared. It is observed that low financial literate respondents are highly biased in each contrary and high literate respondents are moderate biased. Almost the same pattern is observed in each country.

Table 146: Managerial Skills Compared with Behavioral Biases

Managerial Skills		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Low	12	27	10	29	15	24	21	18	17	22	18	21
	Medium	11	31	18	24	9	33	23	19	20	22	11	31
	High	18	73	33	58	21	70	50	41	42	49	33	58
Malaysia	Low	8	19	8	19	10	17	14	13	12	15	11	16
	Medium	7	25	13	19	7	25	17	15	15	17	9	23
	High	15	51	26	40	14	52	35	31	31	35	25	41
Turkey	Low	4	15	9	10	3	16	14	5	10	9	5	14
	Medium	4	19	9	14	5	18	14	9	14	9	9	14
	High	11	28	13	26	10	29	13	26	18	21	16	23

Note: *SS=Self-Serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 146 contains the crosstab comparison of managerial skills and six behavioral biases in the model. The respondents are divided into three skill levels as, high, medium and low, while two groups of each bias are created for high biased and low biased respondents. The results indicate that the respondents having low managerial skills are high biased. Almost the same pattern is observed in each country statistics.

Table 147: Corporate Performance Compared with Behavioral Biases

Org. Performance		SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Low	3	4	4	3	1	6	6	1	5	2	5	2
	Medium	2	10	3	9	3	9	7	5	7	5	6	6
	High	36	117	54	99	41	112	81	72	67	86	51	102
Malaysia	Low	2	3	2	3	1	4	4	1	4	1	3	2
	Medium	2	7	3	6	2	7	5	4	5	4	4	5
	High	26	85	42	69	28	83	57	54	49	62	38	73
Turkey	Low	2	1	1	2	1	2	2	1	2	1	0	3
	Medium	2	5	4	3	2	5	5	2	2	5	4	3

	High	15	56	26	45	15	56	34	37	38	33	26	45

***Note**: SS=Self-Serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 147 describes the crosstab statistics about corporate performance and six behavioral biases. These results are summarized for all three counties in this table for comparison of each country. The variable of corporate performance is divided into three subgroups of low, medium and high performing firms' respondents while each bias is divided into two groups of high and low biased respondents. It concludes that most of the respondents are from the firms which are high performing in each country and the ratio of highly biased respondents is found in each country.

Table 148: Risk Perception Compared with Behavioral Biases

Risk Perception		**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Low	19	26	29	16	13	32	33	12	9	36	19	26
	Medium	4	25	4	25	10	19	22	7	6	23	5	24
	High	18	80	28	70	22	76	39	59	64	34	38	60
Malaysia	Low	16	20	23	13	9	27	26	10	7	29	15	21
	Medium	2	16	3	15	6	12	14	4	3	15	3	15
	High	12	59	21	50	16	55	26	45	48	23	27	44
Turkey	Low	5	11	7	9	6	10	7	9	10	6	8	8
	Medium	3	9	5	7	2	10	6	6	6	6	4	8
	High	11	42	19	34	10	43	28	25	26	27	18	35

***Note**: SS=Self-Serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA= Mental Accounting*

Table 148 shows the results of crosstab analysis of six behavioral biases and risk perception and summarizes the data of all three counties. Risk perception variable is divided into three subgroups of low, medium and high respondents while each bias is divided into two sub-groups of high and low biased respondents. The observations state that most of the respondents are risk seeker in the firms of all countries and found biased.

Table 149: Gender/Age Compared with Behavioral Biases

			SS	**OC**	**OPT**	**ARB**	**LA**	**MA**

			Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan														
	Gender	Male	39	119	56	102	41	117	87	71	72	86	57	101
		Female	2	12	5	9	4	10	7	7	7	7	5	9
	Age	18-25	4	7	4	7	1	10	5	6	5	6	4	7
		26-35	8	17	7	18	5	20	10	15	10	15	6	19
		36-45	12	37	20	29	16	33	31	18	21	28	20	29
		46-55	10	52	16	46	13	49	31	31	26	36	21	41
		56-60	6	15	12	9	8	13	15	6	15	6	10	11
		60-Above	1	3	2	2	2	2	2	2	2	2	1	3
Malaysia	Gender	Male	27	86	40	73	28	85	60	53	55	58	38	75
		Female	3	9	7	5	3	9	6	6	3	9	7	5
	Age	18-25	1	4	0	5	3	2	2	3	1	4	1	4
		26-35	5	13	8	10	3	15	9	9	5	13	7	11
		36-45	10	15	11	14	7	18	13	12	11	14	10	15
		46-55	10	33	16	27	8	35	26	17	21	22	17	26
		56-60	2	21	8	15	10	13	12	11	13	10	6	17
		60-Above	2	9	4	7	0	11	4	7	7	4	4	7
Turkey	Gender	Male	18	54	26	46	18	54	34	38	36	36	29	43
		Female	1	8	5	4	0	9	7	2	6	3	1	8
	Age	18-25	0	2	1	1	0	2	1	1	1	1	0	2
		26-35	2	9	5	6	2	9	7	4	7	4	4	7
		36-45	6	20	10	16	6	20	15	11	12	14	11	15
		46-55	6	23	11	18	6	23	10	19	16	13	11	18
		56-60	5	8	4	9	4	9	8	5	6	7	4	9
		60-Above	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 149 indicates crosstab analysis of six behavioral biases with age and gender of respondents in our research and summarize the results for each country. Each bias is divided into two sub-groups of high and low biased respondents. The observations state that most of the respondents are male in each country while the respondents from the age group of 36 to 55 years are dominant.

Table 150: Designation Compared with Behavioral Biases

Designation		**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	CFO	12	52	26	38	11	53	30	34	28	36	24	40
	CEO	4	6	6	4	2	8	2	8	6	4	5	5
	GM Finance	10	39	10	39	17	32	33	16	18	31	18	31
	Director Finance	3	4	3	4	2	5	4	3	6	1	4	3
	General Manager	10	26	15	21	10	26	21	15	17	19	8	28

	Managing Director	2	4	1	5	3	3	4	2	4	2	3	3
Malaysia	CFO	5	36	16	25	6	35	21	20	20	21	13	28
	Manager Finance	6	21	12	15	9	18	15	12	13	14	11	16
	General Manager Finance	10	19	10	19	6	23	14	15	16	13	9	20
	Director Finance	6	11	7	10	7	10	10	7	2	15	7	10
	General Manager	3	8	2	9	3	8	6	5	7	4	5	6
Turkey	CFO	4	15	8	11	5	14	11	8	10	9	5	14
	Manager Finance	5	16	10	11	5	16	8	13	9	12	9	12
	General Manager Finance	1	8	3	6	2	7	4	5	7	2	4	5
	Director Finance	5	7	2	10	3	9	7	5	5	7	4	8
	General Manager	2	14	7	9	2	14	9	7	9	7	4	12
	Managing Director	2	2	1	3	1	3	2	2	2	2	4	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 150 indicates crosstab analysis of six behavioral biases with the designation of respondents and summarizes the results for each country. Each bias is divided into two sub-groups of high and low biased respondents. The results indicate that most of the respondents are CFOs in Pakistan and the ratio of highly biased CFOs is also high in each behavioral bias group. In Malaysia, it is observed that most of the financial decision making is done by CFOs and general manager finance, but the ratio of highly biased decision makers is also large in number. The results of Turkey indicate mixed-up results. Almost all type of designations relating to the finance department are making financial decisions, and the average ratio of high biased decision makers is observed in Turkey.

Table 151: Education Compared with Behavioral Biases

Country	Education	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Graduation	3	6	3	6	2	7	4	5	3	6	3	6
	Master	6	24	11	19	11	19	16	14	9	21	10	20
	MS/M.Phil.	2	15	7	10	2	15	9	8	7	10	7	10
	CFA	1	4	1	4	2	3	3	2	4	1	0	5
	ACMA	7	20	9	18	11	16	17	10	11	16	12	15
	ACCA	5	9	4	10	4	10	8	6	8	6	4	10
	CA	17	53	26	44	13	57	37	33	37	33	26	44
Malaysia	Graduation	3	0	1	2	0	3	3	0	0	3	1	2
	Master	5	10	5	10	4	11	7	8	6	9	2	13
	MS/M.Phil.	2	10	4	8	3	9	7	5	9	3	5	7
	PhD.	1	5	4	2	0	6	1	5	2	4	3	3
	CFA	3	11	4	10	4	10	8	6	8	6	7	7

	CFP	5	12	7	10	9	8	10	7	5	12	4	13
	ACCA	6	25	8	23	6	25	18	13	15	16	14	17
	CIMA	5	22	14	13	5	22	12	15	13	14	9	18
Turkey	Graduation	3	0	1	2	0	3	3	0	0	3	1	2
	Master	5	10	5	10	4	11	7	8	6	9	2	13
	MS/M.Phil.	2	10	4	8	3	9	7	5	9	3	5	7
	PhD.	1	5	4	2	0	6	1	5	2	4	3	3
	CFA	3	11	4	10	4	10	8	6	8	6	7	7
	CFP	5	12	7	10	9	8	10	7	5	12	4	13
	ACCA	6	25	8	23	6	25	18	13	15	16	14	17
	CIMA	5	22	14	13	5	22	12	15	13	14	9	18

The table 151 indicates crosstab analysis of education of respondents and six behavioral biases, and results are summarized for each country. Each bias is divided into two sub-groups of high and low biased respondents. Education has 7, 8 and 6 types of qualification for Pakistan, Malaysia, and Turkey respectively. Each category is cross compared and counted for analysis. The results indicate that most of the respondents are CA and ACMA in Pakistan dataset. The dataset of Malaysia shows that most of the respondents are CIMA and ACCA while Turkey has CFA, CFP, ACCA and CIMA respondents dominant in its dataset. The ratio of highly biased respondents is also found here for each country dataset.

Table 152: Work Experience Compared with Behavioral Biases

Country	**Work Experience**	**SS**		**OC**		**OPT**		**ARB**		**LA**		**MA**	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	1-5 Years	3	3	2	4	0	6	5	1	4	2	1	5
	6-10 Years	8	15	7	16	8	15	16	7	11	12	11	12
	11-15 Years	4	23	10	17	7	20	10	17	15	12	11	16
	16-20 Years	6	22	8	20	9	19	18	10	11	17	8	20
	21-25 Years	11	38	19	30	11	38	29	20	21	28	16	33
	25-30 Years	6	16	9	13	6	16	9	13	8	14	11	11
	Above 30 Years	3	14	6	11	4	13	7	10	9	8	4	13
Malaysia	1-5 Years	1	2	1	2	3	0	1	2	0	3	1	2
	6-10 Years	5	7	4	8	2	10	8	4	6	6	1	11
	11-15 Years	2	14	6	10	4	12	7	9	8	8	6	10
	16-20 Years	3	23	7	19	6	20	14	12	9	17	12	14
	21-25 Years	12	26	15	23	11	27	22	16	20	18	16	22
	25-30 Years	5	14	7	12	5	14	8	11	11	8	4	15
	Above 30 Years	2	9	7	4	0	11	6	5	4	7	5	6
Turkey	1-5 Years	0	2	1	1	0	2	1	1	0	2	1	1
	6-10 Years	1	4	1	4	1	4	1	4	1	4	2	3
	11-15 Years	2	5	3	4	1	6	4	3	4	3	4	3
	16-20 Years	5	14	9	10	4	15	11	8	11	8	8	11

	21-25 Years	8	20	11	17	7	21	13	15	14	14	9	19
	25-30 Years	1	12	3	10	1	12	7	6	9	4	5	8
	Above 30 Years	2	5	3	4	4	3	4	3	3	4	1	6

***Note**: SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 152 indicates crosstab analysis of work experience of respondents and six behavioral biases and results are summarized for each country in this table. Each bias is divided into two sub-groups of high and low biased respondents. Work experience has 7 classes with 5 years class interval starting from 1-year work experience to more than 30 years of experience. Each category is matched and counted for analysis. The results indicate that most of the respondents are with work experience of 11 to 25 years in Pakistan and Malaysia, while Turkey has most of the respondents from work experience of 16 to 25 years. The ratio of highly biased respondents is also moderate for each country dataset.

Table 153: Industry Compared with Behavioral Biases

Country	Industry	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Automobile Assembler	1	13	5	9	2	12	7	7	7	7	5	9
	Automobile Assembler and Parts	2	3	2	3	1	4	3	2	2	3	0	5
	Cable and Electrical Goods	0	1	0	1	0	1	1	0	0	1	1	0
	Cement	2	7	3	6	2	7	6	3	7	2	5	4
	Chemical	3	9	8	4	3	9	7	5	10	2	3	9
	Engineering	3	4	2	5	0	7	5	2	2	5	0	7
	Fertilizer	1	5	0	6	4	2	4	2	4	2	1	5
	Food & Personnel Care Products	5	16	7	14	5	16	11	10	8	13	8	13
	Glass and Ceramics	0	3	2	1	1	2	1	2	2	1	2	1
	Jute	1	1	2	0	0	2	1	1	1	1	1	1
	Leather and Tanneries	0	1	0	1	0	1	1	0	0	1	0	1
	Oil and Gas Exploration	1	2	1	2	1	2	2	1	1	2	2	1
	Oil and Gas Marketing	0	2	1	1	1	1	0	2	1	1	0	2
	Paper and Board	2	0	2	0	1	1	1	1	1	1	2	0
	Pharmaceuticals	0	2	1	1	0	2	0	2	0	2	1	1
	Power Generation & Production	0	2	1	1	0	2	0	2	1	1	0	2
	Refinery	0	0	0	0	0	0	0	0	0	0	0	0
	Sugar and Allied	3	2	2	3	1	4	2	3	2	3	1	4
	Synthetics and Rayon	1	1	2	0	0	2	1	1	2	0	1	1
	Technology and Communication	1	3	1	3	0	4	1	3	3	1	2	2

	Textile	13	47	17	43	20	40	37	23	24	36	24	36
	Textile Weaving	1	2	1	2	1	2	1	2	0	3	0	3
	Textile Spinning	1	5	1	5	2	4	2	4	1	5	3	3
	Textile Woolen	0	0	0	0	0	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	Construction	4	9	5	8	4	9	10	3	5	8	3	10
	Consumer	2	13	6	9	4	11	7	8	10	5	6	9
	Hotels	1	3	1	3	0	4	0	4	1	3	0	4
	Industrial	13	47	19	41	14	46	33	27	27	33	18	42
	Plantation	3	5	6	2	3	5	4	4	3	5	5	3
	Technology	2	9	6	5	3	8	6	5	5	6	6	5
	Mining	0	2	0	2	0	2	0	2	1	1	0	2
	Other	5	7	4	8	3	9	6	6	6	6	7	5
Turkey	Agriculture, Forestry and Fishing	3	6	4	5	2	7	4	5	2	7	2	7
	Wood Products including Furniture	0	3	1	2	0	3	2	1	0	3	0	3
	Paper and Paper Products	1	2	1	2	0	3	3	0	1	2	2	1
	Printing and Publishing	0	0	0	0	0	0	0	0	0	0	0	0
	Oil and Coal	2	3	2	3	2	3	3	2	1	4	2	3
	Rubber Industry	0	2	1	1	0	2	2	0	2	0	0	2
	Non-Metallic Mineral Products	3	4	4	3	2	5	3	4	4	3	5	2
	Food and Personal Care Products	0	0	0	0	0	0	0	0	0	0	0	0
	Iron and Steel	1	2	1	2	1	2	2	1	2	1	1	2
	Electrical Machines and Devices	0	3	1	2	3	0	2	1	3	0	1	2
	Vehicles	0	7	3	4	1	6	3	4	3	4	2	5
	Textile, wearing apparel and leather	1	9	2	8	2	8	6	4	8	2	2	8
	Chemical and other chemical products	0	0	0	0	0	0	0	0	0	0	0	0
	Food beverages and products	1	1	2	0	0	2	1	1	2	0	0	2
	Automotive	0	1	0	1	0	1	1	0	0	1	0	1
	Energy	1	1	1	1	1	1	1	1	1	1	1	1
	Electricity	0	0	0	0	0	0	0	0	0	0	0	0
	Gas and water	1	5	1	5	0	6	2	4	5	1	2	4
	Transportation	2	0	1	1	1	1	1	1	1	1	2	0
	Restaurants and hotels	0	0	0	0	0	0	0	0	0	0	0	0
	Metal Products, Machinery and equipment production	0	2	1	1	0	2	1	1	1	1	1	1
	Chemical, Petroleum, Rubber and Plastic Products	2	4	2	4	0	6	1	5	1	5	3	3
	Consumer Trade and Wholesale trade	0	3	0	3	0	3	1	2	2	1	3	0
	Technology	1	4	3	2	3	2	2	3	3	2	1	4
	Cement	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 153 indicates crosstab analysis of industry type of respondents and six behavioral biases. The results are summarized for each country in this table. Each bias is divided into two sub-groups of high and low biased respondents. In Pakistan and Turkey, twenty-five (25) types

of industries are observed while eight (8) types of industries are observed in Malaysia. The results indicate that the respondents are well spread in all type of industries and the respondents from each type of industry are approached for conducting this research.

Table 154: Credit Rating Compared with Behavioral Biases

Country	Credit Rating	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	AAA	9	32	17	24	7	34	19	22	21	20	18	23
	AA	1	8	4	5	4	5	7	2	5	4	2	7
	A	14	28	13	29	10	32	26	16	18	24	14	28
	BBB	1	6	4	3	4	3	3	4	1	6	4	3
	BB	0	2	0	2	0	2	1	1	2	0	0	2
	B	1	3	0	4	1	3	3	1	1	3	1	3
	CCC	0	1	1	0	0	1	0	1	0	1	0	1
	CC	0	1	1	0	0	1	1	0	0	1	0	1
	C	0	1	0	1	1	0	1	0	1	0	0	1
	Other	15	49	21	43	18	46	33	31	30	34	23	41
Malaysia	AAA	5	10	9	6	4	11	10	5	7	8	3	12
	AA	0	7	3	4	2	5	2	5	1	6	4	3
	A	8	20	8	20	9	19	12	16	12	16	11	17
	BBB	5	14	8	11	5	14	10	9	13	6	6	13
	BB	1	5	2	4	2	4	3	3	2	4	3	3
	C	8	6	7	7	2	12	8	6	4	10	5	9
	D	1	4	2	3	0	5	2	3	2	3	3	2
	N/A	2	29	8	23	7	24	19	12	17	14	10	21
Turkey	AAA	4	5	4	5	1	8	5	4	4	5	3	6
	AA	1	2	1	2	1	2	2	1	2	1	1	2
	A	5	24	8	21	8	21	13	16	15	14	11	18
	BBB	1	3	2	2	1	3	2	2	4	0	2	2
	BB	2	0	1	1	1	1	1	1	1	1	2	0
	B	1	8	7	2	3	6	5	4	4	5	4	5
	CCC	0	1	1	0	1	0	1	0	0	1	0	1
	CC	0	0	0	0	0	0	0	0	0	0	0	0
	C	0	0	0	0	0	0	0	0	0	0	0	0
	N/A	5	19	7	17	2	22	12	12	12	12	7	17

***Note**: SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 154 indicates crosstab analysis of credit rating of the firms and six behavioral biases for each country dataset. Each bias is sub-grouped into high and low biased respondents. The credit rating of the firms has 10 sub-groups in Pakistan and Turkey while 8 sub-groups in Malaysia. Each group is matched and counted for analysis. The results indicate that most of the respondents are working in 'AAA' and 'A' credit rating companies in Pakistan. Malaysian

respondents are mostly working in ‘AAA’, ‘A’ and ‘BBB’ credit rating companies while most of the respondents of Turkey are from ‘AAA’ and ‘A’ credit rating firm. It could be observed that all type of credit rating firms have been approached in this study to generalize the results.

Table 155: No. of Employees Compared with Behavioral Biases

Country	No. of Employees	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	1-999	9	36	15	30	15	30	26	19	20	25	13	32
	1000-1999	7	14	5	16	5	16	11	10	10	11	11	10
	2000-2999	7	26	10	23	3	30	14	19	17	16	12	21
	3000-3999	4	15	12	7	5	14	9	10	7	12	4	15
	4000-4999	2	13	4	11	4	11	11	4	4	11	4	11
	5000-5999	12	27	15	24	13	26	23	16	21	18	18	21
	6000-Above	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	1-999	0	3	1	2	1	2	1	2	0	3	0	3
	1000-1999	4	17	7	14	7	14	11	10	9	12	8	13
	2000-2999	7	17	9	15	6	18	14	10	12	12	8	16
	3000-3999	10	17	11	16	6	21	14	13	13	14	11	16
	4000-4999	3	16	8	11	7	12	11	8	10	9	4	15
	5000-5999	3	14	6	11	4	13	9	8	8	9	9	8
	6000-Above	3	11	5	9	0	14	6	8	6	8	5	9
Turkey	1-999	4	23	7	20	2	25	13	14	14	13	10	17
	1000-1999	6	15	10	11	9	12	10	11	8	13	9	12
	2000-2999	0	11	5	6	2	9	4	7	8	3	1	10
	3000-3999	5	7	4	8	3	9	8	4	7	5	6	6
	4000-4999	2	2	3	1	2	2	3	1	2	2	2	2
	5000-5999	2	4	2	4	0	6	3	3	3	3	2	4
	6000-Above	0	0	0	0	0	0	0	0	0	0	0	0

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Crosstab analysis of respondents’ firm size and six behavioral biases for each country has been summarized in table 155. Each bias is sub-grouped into high and low biased respondents. The firm size is estimated by the number of employees working in it. Seven classes are generated for frequency distribution, and each class has an interval of 1000 employees starting from ‘1’ to ‘6000 and above’. Each group is matched and counted for analysis. The results indicate that respondents in Pakistan are from each class of firm size except ‘above 6000 employees’ class. The same findings are in the dataset of Turkey while in

Malaysian dataset, the data collected from all classes of firms. It is also observed that more than 50% of respondents are highly biased for each category of firm size.

Table 156: Annual Revenue/Foreign Sales Compared with Behavioral Biases

Country	Group		SS		OC		OPT		ARB		LA		MA	
			Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Annual Revenue	30 Million or Less	19	53	23	49	20	52	38	34	33	39	24	48
		30-99 Million	13	40	21	32	7	46	28	25	20	33	21	32
		100-499 Million	8	28	13	23	16	20	23	13	20	16	16	20
		500-999 Million	1	7	2	6	2	6	5	3	3	5	0	8
		1000 -1999 Million	0	3	2	1	0	3	0	3	3	0	1	2
		1999 Million and Above	0	0	0	0	0	0	0	0	0	0	0	0
	Foreign Sales	0%	9	21	9	21	8	22	16	14	11	19	7	23
		1-24%	14	49	27	36	13	50	33	30	36	27	26	37
		25-49%	9	18	13	14	7	20	15	12	12	15	11	16
		50-75%	3	19	5	17	8	14	12	10	8	14	5	17
		75% and Above	6	24	7	23	9	21	18	12	12	18	13	17
Malaysia	Annual Revenue	30 Million or Less	4	13	6	11	5	12	7	10	6	11	3	14
		30-99 Million	4	20	7	17	6	18	13	11	13	11	7	17
		100-499 Million	7	11	9	9	3	15	7	11	12	6	9	9
		500-999 Million	8	24	13	19	10	22	23	9	14	18	12	20
		1000 -1999 Million	6	23	10	19	7	22	14	15	11	18	13	16
		1999 Million and Above	1	4	2	3	0	5	2	3	2	3	1	4
	Foreign Sales	0%	11	29	17	23	11	29	23	17	14	26	12	28
		1-24%	9	27	12	24	9	27	17	19	24	12	11	25
		25-49%	6	21	12	15	5	22	15	12	11	16	12	15
		50-Above	4	18	6	16	6	16	11	11	9	13	10	12
Turkey	Annual Revenue	30 Million or Less	6	10	6	10	2	14	9	7	5	11	4	12
		30-99 Million	2	17	5	14	3	16	8	11	11	8	7	12
		100-499 Million	3	23	9	17	8	18	14	12	15	11	9	17
		500-999 Million	6	8	8	6	4	10	8	6	8	6	8	6
		1000 -1999 Million	2	4	3	3	1	5	2	4	3	3	2	4
		1999 Million and Above	0	0	0	0	0	0	0	0	0	0	0	0
		0%	4	13	6	11	2	15	10	7	9	8	5	12

	Foreign Sales	1-24%	3	14	7	10	4	13	6	11	7	10	9	8
		25-49%	8	16	6	18	5	19	13	11	14	10	10	14
		50% and Above	4	19	12	11	7	16	12	11	12	11	6	17

***Note**: SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Crosstab statistics of respondents are summarized in table 156 based on six behavioral biases, foreign sales and annual revenue of the firm. Each bias is sub-grouped into high and low biased respondents. Annual revenue group has 6 subgroups starting from '30 million and less' to '1999 million and above'. Foreign sales group has 4 subgroups starting from '0% to '50% and above'. Each group and subgroups are compared and counted for analysis. The findings indicate that most of the respondents in Pakistan are from '1 million' to '99 million annual revenue'. Respondents of Malaysia belongs to each category of annual revenue while in Turkey, respondents are working in the organizations with annual revenue of '100 to 499 million'. The crosstab results of foreign sales and behavioral biases indicate that respondents of Pakistan are falling in '1-24% foreign sales' category. The same pattern has been observed except in Malaysia.

Table 157: Capital Structure Policy Decisions

Country	Capital Structure Decisions	Mean	S.D.	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
Pakistan	Capital Structure Policies	3.00	1.2	16.9%	10.5%	40.7%	19.8%	12.2%
	Capital Structure Target Ratio	2.77	1.1	17.4%	20.3%	39.5%	13.4%	9.3%
Malaysia	Capital Structure Policies	3.016	1.239	17.6%	9.6%	40.0%	19.2%	13.6%
	Capital Structure Target Ratio	2.728	1.176	19.2%	20.0%	38.4%	13.6%	8.8%
Turkey	Capital Structure Policies	2.96	1.29	19.8%	11.1%	37.0%	17.3%	14.8%
	Capital Structure Target Ratio	2.85	1.11	14.8%	18.5%	40.7%	18.5%	7.4%

Table 157 indicates the statistics about capital structure policy decisions of each country. It has been observed that most of the time respondents use moderate levered policies for managing their capital structure and target ratio. In general, it is also observed that around 10% to 20% respondents reported high and low levered capital structure policies and target ratio. Almost the same trend is observed in three countries with slight variations.

Table 158: Capital Structure Policy Motives

Country	Capital Structure Decisions	Mean	S.D.	Not at all important	Less Importance	Neutral	High Importance	Extremely Important
Pakistan	Maintaining Financial Flexibility	3.94	0.8	2.9%	3.5%	11.0%	61.0%	21.5%
	Ensuring Long-term Survivability	4.37	0.6	0.0%	0.6%	8.7%	43.6%	47.1%
	Considering Financial Decisions of Competitors	3.70	0.8	0.0%	7.0%	34.3%	39.5%	19.2%
	Considering Market Response	3.831	0.7	0.0%	2.3%	30.8%	48.3%	18.6%
	Maintaining a Stable Dividend Policy	3.390	0.9	6.4%	7.6%	33.1%	46.5%	6.4%
	Maximizing Profitability	3.814	0.7	0.0%	3.5%	26.7%	54.7%	15.1%
	Maintaining Voting Control of Shareholders	4.116	0.6	0.0%	1.7%	10.5%	62.2%	25.6%
	Preferring Previously Used Financing Sources	3.349	0.8	3.5%	8.7%	43.0%	39.0%	5.8%
Malaysia	Maintaining Financial Flexibility	3.91	0.87	3.2%	4.0%	12.0%	60.0%	20.8%
	Ensuring Long-term Survivability	4.32	0.67	0.0%	0.8%	9.6%	45.6%	44.0%
	Considering Financial Decisions of Competitors	3.73	0.85	0.0%	7.2%	32.0%	40.8%	20.0%
	Considering Market Response	3.8	0.76	0.0%	2.4%	31.2%	46.4%	20.0%
	Maintaining a Stable Dividend Policy	3.3	0.98	7.2%	7.2%	34.4%	43.2%	8.0%
	Maximizing Profitability	3.86	0.72	0.0%	3.2%	27.2%	54.4%	15.2%
	Maintaining Voting Control of Shareholders	4.14	0.66	0.0%	1.6%	12.8%	59.2%	26.4%
	Preferring Previously Used Financing Sources	3.38	0.86	3.2%	8.8%	41.6%	39.2%	7.2%
Turkey	Maintaining Financial Flexibility	3.87	0.79	1.2%	1.2%	27.2%	49.4%	21.0%

	Ensuring Long-term Survivability	3.63	1.26	7.4%	13.6%	19.8%	27.2%	32.1%
	Considering Financial Decisions of Competitors	3.28	1.23	9.9%	19.8%	18.5%	35.8%	16.0%
	Considering Market Response	3.49	1.10	6.2%	11.1%	28.4%	35.8%	18.5%
	Maintaining a Stable Dividend Policy	3.09	1.11	12.3%	16.0%	25.9%	40.7%	4.9%
	Maximizing Profitability	3.59	1.09	7.4%	7.4%	22.2%	44.4%	18.5%
	Maintaining Voting Control of Shareholders	3.43	1.41	18.5%	8.6%	7.4%	42.0%	23.5%
	Preferring Previously Used Financing Sources	3.21	0.85	4.9%	9.9%	48.1%	33.3%	3.7%

Table 158 shows the importance of capital structure policy motives in percentage and data is summarized for Pakistan, Malaysia, and Turkey. In this analysis, respondents rated their capital structure decisions on 5-point Likert scale ranging from 'not at all important' to 'extremely important'. It is observed that in Pakistan and Malaysia the most important factor is 'ensuring long-term survivability' while in Turkey, it is 'maintaining financial flexibility'.

Table 159: Capital Structure Policy Motives Compared with Behavioral Biases

Country	**Bias**		**Maintaining Financial Flexibility**	**Ensuring Long-term Survivability**	**Considering Financial Decisions of Competitors**	**Considering Market Response**	**Maintaining a Stable Dividend Policy**	**Maximizing Profitability**	**Maintaining Voting Control of Shareholders**	**Preferring Previously Used Financing Sources**
Pakistan	Self-Serving	High	3.95	4.42	3.73	3.84	3.37	3.83	4.15	3.32
		Low	3.93	4.22	3.63	3.80	3.44	3.76	4.00	3.44
	Overconfidence	High	3.89	4.39	3.73	3.81	3.41	3.80	4.14	3.39
		Low	4.05	4.34	3.67	3.87	3.36	3.84	4.07	3.28
	Optimism	High	3.92	4.35	3.69	3.82	3.39	3.83	4.06	3.40
		Low	4.02	4.44	3.78	3.87	3.40	3.78	4.29	3.20
	Anchoring/Representative	High	4.06	4.44	3.72	3.88	3.45	3.85	4.19	3.27
		Low	3.85	4.32	3.70	3.79	3.34	3.79	4.05	3.41
	Loss Aversion	High	3.89	4.38	3.71	3.75	3.41	3.85	4.01	3.43
		Low	4.01	4.37	3.71	3.92	3.37	3.77	4.24	3.25
	Mental Accounting	High	3.96	4.35	3.76	3.87	3.46	3.84	4.12	3.43
		Low	3.92	4.40	3.61	3.76	3.26	3.77	4.11	3.21
Malaysia	Self-Serving	High	3.83	4.34	3.76	3.85	3.35	3.76	4.09	3.43
		Low	4.17	4.30	3.67	3.80	3.47	4.00	4.13	3.23
	Overconfidence	High	3.88	4.37	3.77	3.91	3.46	3.79	4.10	3.54

		Low	3.96	4.26	3.68	3.72	3.23	3.85	4.11	3.13
	Optimism	High	3.99	4.34	3.74	3.89	3.39	3.83	4.11	3.31
		Low	3.68	4.29	3.71	3.68	3.32	3.77	4.10	3.61
	Anchoring/Representative	High	3.95	4.32	3.68	3.86	3.37	3.81	3.98	3.42
		Low	3.88	4.33	3.79	3.82	3.38	3.82	4.21	3.35
	Loss Aversion	High	3.96	4.31	3.76	3.88	3.42	3.82	4.06	3.42
		Low	3.86	4.34	3.71	3.79	3.33	3.81	4.16	3.34
	Mental Accounting	High	3.89	4.36	3.76	3.80	3.41	3.81	4.05	3.29
		Low	3.96	4.27	3.69	3.91	3.31	3.82	4.20	3.56
Turkey	Self-Serving	High	3.98	3.56	3.31	3.52	3.26	3.60	3.42	3.18
		Low	3.53	3.74	3.53	3.42	3.00	3.58	3.47	3.32
	Overconfidence	High	3.86	3.74	3.46	3.44	3.08	3.64	3.56	3.14
		Low	3.90	3.39	3.19	3.58	3.39	3.52	3.23	3.32
	Optimism	High	3.85	3.61	3.42	3.44	3.17	3.58	3.34	3.19
		Low	3.95	3.59	3.18	3.64	3.27	3.64	3.68	3.27
	Anchoring/Representative	High	3.83	3.63	3.40	3.40	3.28	3.50	3.13	3.28
		Low	3.93	3.59	3.32	3.59	3.12	3.68	3.73	3.15
	Loss Aversion	High	3.79	3.87	3.54	3.49	3.26	3.33	3.36	3.15
		Low	3.95	4.14	3.48	3.83	3.14	4.10	4.29	3.26
	Mental Accounting	High	3.96	4.18	3.59	3.73	3.12	3.96	4.10	3.14
		Low	3.73	4.30	3.70	3.93	3.33	3.97	4.37	3.33

Table 159 describes the crosstab percentages among capital structure motives and behavioral biases. Each bias is divided into two high and low sub-groups. The average Likert score of respondents for each capital structure motive with respect to biases is calculated and reported for Pakistan, Malaysia, and Turkey.

Table 160: Dividend Policy Decisions

Dividend Policy	Mean	S.D.	Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend
Pakistan	3.081	0.99	08.1%	19.8%	29.7%	40.7%	1.7%
Malaysia	3.032	1.035	10.4%	18.4%	31.2%	37.6%	2.4%
Turkey	3.025	1.23	14.8%	21.0%	21.0%	33.3%	9.9%

Table 160 shows the statistics about the concern of paying dividend to shareholders in Pakistan, Malaysia, and Turkey. In this analysis, respondents' dividend policy decisions on 5-point Likert scale ranging from 'Lowest Concern for Paying Dividend' to 'Highest Concern for Paying Dividend' are reported. In general, it is also observed that around 33% to 40%

respondents reported high concern for paying dividend. Almost a similar trend is observed in three countries.

Table 161: Dividend Policy Motives

Country	Dividend Policy	Mean	S.D.	Strongly Disagree	Disagree	Un-Decided	Agree	Strongly Agree
Pakistan	Paying Dividends rather than Risky Investments	3.052	0.897	3.5%	26.2%	33.1%	36.0%	1.2%
	Paying Dividends rather than Availability of Cash	2.738	0.992	6.4%	43.6%	22.7%	24.4%	2.9%
	Shareholder's Value Maximization by Paying Dividends	3.267	0.939	1.2%	28.5%	15.1%	52.9%	2.3%
	Firm Value Maximization by Paying Dividends	3.262	0.880	2.3%	19.8%	29.7%	45.9%	2.3%
Malaysia	Paying Dividends rather than Risky Investments	3.056	0.888	3.2%	25.6%	35.2%	34.4%	1.6%
	Paying Dividends rather than Availability of Cash	2.76	0.999	6.4%	42.4%	23.2%	24.8%	3.2%
	Shareholder's Value Maximization by Paying Dividends	3.264	0.948	0.8%	29.6%	15.2%	51.2%	3.2%
	Firm Value Maximization by Paying Dividends	3.224	0.875	3.2%	18.4%	32.8%	44.0%	1.6%
Turkey	Paying Dividends rather than Risky Investments	3.074	1.225	9.9%	28.4%	19.8%	29.0%	13.6%
	Paying Dividends rather than Availability of Cash	2.914	1.178	7.4%	39.5%	19.8%	21.0%	12.3%
	Shareholder's Value Maximization by Paying Dividends	3.321	1.294	11.1%	21.0%	11.1%	38.3%	18.5%
	Firm Value Maximization by Paying Dividends	3.210	1.074	6.2%	22.2%	24.7%	38.5%	8.4%

Table 161 shows statistics about divided policy motives of Pakistan, Malaysia and Turkey firms. Respondents rate their opinion on 5-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’. It is observed that in Pakistan, Malaysia, and Turkey the most important factor is ‘shareholder’s value maximization by paying dividends’.

Table 162: Dividend Policy Motives with Behavioral Biases

Country	Behavioral Bias		Paying Dividends rather than risky investments	Paying Dividends rather than availability of Cash	Maximizing Shareholder value by paying dividends	Increasing the Firm Value by Paying Dividends
Pakistan	Self-Serving	High	3.05	3.02	2.68	3.20
		Low	3.17	3.17	2.93	3.49
	Overconfidence	High	3.07	3.12	2.75	3.26
		Low	3.10	2.93	2.72	3.28
	Optimism	High	3.09	3.09	2.76	3.33
		Low	3.04	2.93	2.67	3.09
	Anchoring/Representative	High	3.10	2.92	2.69	3.38
		Low	3.06	3.16	2.78	3.17
	Loss Aversion	High	3.16	2.98	2.75	3.22
		Low	2.99	3.14	2.72	3.33
	Mental Accounting	High	3.14	3.15	2.78	3.26
		Low	2.98	2.89	2.66	3.27
Malaysia	Self-Serving	High	3.00	3.09	2.79	3.17
		Low	3.13	2.93	2.67	3.57
	Overconfidence	High	3.09	3.18	2.86	3.28
		Low	2.94	2.85	2.60	3.23
	Optimism	High	3.02	3.15	2.72	3.32
		Low	3.06	2.77	2.87	3.10
	Anchoring/Representative	High	3.07	3.08	2.83	3.32
		Low	3.00	3.03	2.70	3.21
	Loss Aversion	High	3.03	3.10	2.78	3.30
		Low	3.03	3.00	2.74	3.22
	Mental Accounting	High	2.99	3.06	2.66	3.25
		Low	3.11	3.04	2.93	3.29
Turkey	Self-Serving	High	2.87	3.11	2.98	3.34
		Low	3.53	2.95	2.68	3.26
	Overconfidence	High	2.94	3.24	2.88	3.36
		Low	3.16	2.81	2.97	3.26
	Optimism	High	3.00	2.97	2.97	3.08
		Low	3.09	3.36	2.77	3.95
	Anchoring/Representative	High	2.88	3.15	3.03	3.28
		Low	3.17	3.00	2.80	3.37
	Loss Aversion	High	2.97	2.97	2.95	3.49
		Low	3.07	3.17	2.88	3.17
	Mental Accounting	High	2.90	3.12	3.00	3.20
		Low	3.23	3.00	2.77	3.53

Table 162 describes the crosstab percentages among dividend policy motives and behavioral biases. Each bias is divided into two high and low sub-group categories. The

average Likert score of respondents for each dividend policy motive with respect to biases is calculated and reported for Pakistan, Malaysia and Turkey.

Table 163: Working Capital Management Policy

Working Capital Management Policy	Mean	S.D.	Highly Conservative	Conservative	Moderate	Aggressive	Highly Aggressive
Pakistan	3.25	1.10	0.6%	37.8%	8.7%	41.3%	11.6%
Malaysia	3.24	1.1	0.8%	37.6%	10.4%	39.2%	12.0%
Turkey	2.96	1.3	14.8%	30.9%	11.1%	29.6%	13.6%

Table 163 shows the percentage of respondents for working capital management policy decisions in three countries. Pakistani respondents are about 41.3% aggressive decision makers to maintain working capital, on the other hand, 37.8% are conservative. Malaysian respondents are 39.2% aggressive in WCM, and 37.6% are conservative. The Turkish respondents are 29.6% aggressive and 30.9% conservative in managing their working capital.

Table 164: Cash Management Approaches Used by Companies

Cash Management Approaches used by Companies	Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Pakistan	50	62	51	43	56	33	39	18
Malaysia	35	47	24	32	42	38	28	14
Turkey	28	30	17	20	29	32	17	16

Table 164 explains and compares the numbers of respondents that use cash management approaches in their decision-making process of three countries. The results indicate that most of the respondents in Pakistan and Malaysia have used ‘meet payment in a timely manner’, and ‘managing cash through netting’ approaches. Turkish respondents use

mostly ‘streamline bank relation’, ‘meet payment in time’ and ‘managing cash thorough netting’ approaches to manage their cash flows.

Table 165: Cash Management Approaches Compared with Behavioral Biases

Country	Behavioral Bias		Managing Cash Through Netting	Meet Payment in a Timely Manner	Diversification of Banks	Minimize Floats	Managing Cash through leading and lagging	Streamline Bank Relations	Centralization of Cash Management Decisions	Emergency Liquidity Reserves
Pakistan	Self-Serving	High	83.8%	79.0%	66.7%	67.4%	83.9%	80.4%	87.2%	83.3%
		Low	16.2%	21.0%	33.3%	32.6%	16.1%	19.6%	12.8%	16.7%
	Overconfidence	High	66.0%	66.1%	60.6%	60.5%	67.9%	62.7%	69.2%	66.7%
		Low	34.0%	33.9%	39.4%	39.5%	32.1%	37.3%	30.8%	33.3%
	Optimism	High	67.7%	74.2%	81.8%	74.4%	71.4%	84.3%	69.2%	88.9%
		Low	32.3%	25.8%	18.2%	25.6%	28.6%	15.7%	30.8%	11.1%
	Anchoring/Representative	High	44.5%	40.3%	39.4%	48.8%	46.4%	45.1%	53.8%	55.6%
		Low	55.5%	59.7%	60.6%	51.2%	53.6%	54.9%	46.2%	44.4%
	Loss Aversion	High	54.6%	45.2%	48.5%	55.8%	44.6%	39.2%	35.9%	50.0%
		Low	45.4%	54.8%	51.5%	44.2%	55.4%	60.8%	64.1%	50.0%
	Mental Accounting	High	64.6%	59.7%	69.7%	67.4%	62.5%	58.8%	79.5%	38.9%
		Low	35.4%	40.3%	30.3%	32.6%	37.5%	41.2%	20.5%	61.1%
Malaysia	Self-Serving	High	82.9%	68.1%	79.2%	71.9%	78.6%	73.7%	67.9%	78.6%
		Low	17.1%	31.9%	20.8%	28.1%	21.4%	26.3%	32.1%	21.4%
	Overconfidence	High	57.1%	57.4%	70.8%	62.5%	73.8%	60.5%	53.6%	50.0%
		Low	42.9%	42.6%	29.2%	37.5%	26.2%	39.5%	46.4%	50.0%
	Optimism	High	74.3%	80.9%	75.0%	78.1%	73.8%	76.3%	67.9%	64.3%
		Low	25.7%	19.1%	25.0%	21.9%	26.2%	23.7%	32.1%	35.7%
	Anchoring/Representative	High	45.7%	53.2%	58.3%	53.1%	47.6%	55.3%	28.6%	71.4%
		Low	54.3%	46.8%	41.7%	46.9%	52.4%	44.7%	71.4%	28.6%
	Loss Aversion	High	54.3%	51.1%	54.2%	50.0%	59.5%	55.3%	64.3%	35.7%
		Low	45.7%	48.9%	45.8%	50.0%	40.5%	44.7%	35.7%	64.3%
	Mental Accounting	High	71.4%	61.7%	62.5%	62.5%	64.3%	57.9%	53.6%	71.4%
		Low	28.6%	38.3%	37.5%	37.5%	35.7%	42.1%	46.4%	28.6%
Turkey	Self-Serving	High	82.1%	90.0%	70.6%	80.0%	86.2%	87.5%	94.1%	62.5%
		Low	17.9%	10.0%	29.4%	20.0%	13.8%	12.5%	5.9%	37.5%
	Overconfidence	High	64.3%	66.7%	58.8%	50.0%	72.4%	65.6%	70.6%	56.3%
		Low	35.7%	33.3%	41.2%	50.0%	27.6%	34.4%	29.4%	43.8%
	Optimism	High	67.9%	80.0%	70.6%	80.0%	72.4%	59.4%	76.5%	56.3%
		Low	32.1%	20.0%	29.4%	20.0%	27.6%	40.6%	23.5%	43.8%
	Anchoring/Representative	High	50.0%	63.3%	47.1%	50.0%	62.1%	53.1%	35.3%	37.5%
		Low	50.0%	36.7%	52.9%	50.0%	37.9%	46.9%	64.7%	62.5%
	Loss Aversion	High	39.3%	30.0%	41.2%	65.0%	41.4%	43.8%	41.2%	68.8%
		Low	60.7%	70.0%	58.8%	35.0%	58.6%	56.3%	58.8%	31.3%
	Mental Accounting	High	64.3%	70.0%	64.7%	60.0%	65.5%	65.6%	82.4%	75.0%
		Low	35.7%	30.0%	35.3%	40.0%	34.5%	34.4%	17.6%	25.0%

Table 165 describes the crosstab percentages among cash management approaches and behavioral biases. Each bias is divided into two high and low sub-groups. The relative

percentage of respondents for each cash management approach is reported for Pakistan, Malaysia, and Turkey.

Table 166: Approaches for Inventory Management

Approaches for Inventory Management	Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
Pakistan	50	62	33	43	56	51
Malaysia	24	55	47	33	54	18
Turkey	13	44	33	20	40	19

Table 166 shows the statistics about approaches used by respondents for managing their inventory. The results indicate that all inventory management approaches are used commonly by these respondents. Pakistani and Malaysian respondents have reported 'sales forecasting' approach $(n = 62, n = 55)$ to manage their inventory. Turkish respondents also use the 'sales forecasting' approach $(n = 44)$ to manage their inventory.

Table 167: Approaches for Inventory Management Compared with Behavioral Biases

Country	Behavioral Bias		Material Requirement Planning	Sales Forecasting	Inventory Models	Just in Time	Supply Chain Management	ERP Systems
Pakistan	Self-Serving	High	71.4%	75.0%	78.1%	80.0%	74.0%	88.5%
		Low	28.6%	25.0%	21.9%	20.0%	26.0%	11.5%
	Overconfidence	High	68.6%	65.0%	65.6%	60.0%	68.8%	76.9%
		Low	31.4%	35.0%	34.4%	40.0%	31.2%	23.1%
	Optimism	High	65.7%	77.5%	73.4%	77.8%	75.3%	76.9%
		Low	34.3%	22.5%	26.6%	22.2%	24.7%	23.1%
	Anchoring/Representative	High	54.3%	47.5%	42.2%	51.1%	48.1%	46.2%
		Low	45.7%	52.5%	57.8%	48.9%	51.9%	53.8%
	Loss Aversion	High	51.4%	48.8%	48.4%	71.1%	54.5%	34.6%
		Low	48.6%	51.3%	51.6%	28.9%	45.5%	65.4%
	Mental Accounting	High	60.0%	66.3%	60.9%	62.2%	59.7%	65.4%
		Low	40.0%	33.8%	39.1%	37.8%	40.3%	34.6%
Malaysia	Self-Serving	High	79.2%	70.9%	74.5%	72.7%	74.1%	77.8%
		Low	20.8%	29.1%	25.5%	27.3%	25.9%	22.2%
	Overconfidence	High	58.3%	65.5%	57.4%	63.6%	66.7%	55.6%
		Low	41.7%	34.5%	42.6%	36.4%	33.3%	44.4%
	Optimism	High	62.5%	72.7%	80.9%	75.8%	72.2%	77.8%
		Low	37.5%	27.3%	19.1%	24.2%	27.8%	22.2%
	Anchoring/Representative	High	29.2%	41.8%	51.1%	54.5%	53.7%	61.1%
		Low	70.8%	58.2%	48.9%	45.5%	46.3%	38.9%
	Loss Aversion	High	58.3%	52.7%	46.8%	51.5%	51.9%	38.9%

		Low	41.7%	47.3%	53.2%	48.5%	48.1%	61.1%
	Mental Accounting	High	54.2%	56.4%	70.2%	60.6%	57.4%	72.2%
		Low	45.8%	43.6%	29.8%	39.4%	42.6%	27.8%
Turkey	Self-Serving	High	84.6%	68.2%	97.0%	84.5%	77.5%	89.5%
		Low	15.4%	31.8%	3.0%	15.5%	22.5%	10.5%
	Overconfidence	High	38.5%	54.5%	69.7%	60.0%	72.5%	78.9%
		Low	61.5%	45.5%	30.3%	40.0%	27.5%	21.1%
	Optimism	High	76.9%	65.9%	69.7%	75.3%	75.0%	63.2%
		Low	23.1%	34.1%	30.3%	24.7%	25.0%	36.8%
	Anchoring/Representative	High	69.2%	38.6%	57.6%	40.7%	55.0%	47.4%
		Low	30.8%	61.4%	42.4%	59.3%	45.0%	52.6%
	Loss Aversion	High	46.2%	52.3%	33.3%	44.8%	32.5%	36.8%
		Low	53.8%	47.7%	66.7%	55.2%	67.5%	63.2%
	Mental Accounting	High	92.3%	61.4%	60.6%	65.4%	72.5%	73.7%
		Low	7.7%	38.6%	39.4%	34.6%	27.5%	26.3%

Table 167 describes the crosstab percentages among inventory management approaches and behavioral biases. Each bias is divided into two high and low sub-groups. The relative percentage of respondents for each inventory management approach is reported for Pakistan, Malaysia, and Turkey.

Table 168: Account Payable Motives

Country	Account Receivable Motives	Mean	S.D.	Not at All Important	Not Important	Neutral	Important	Highly Important
Pakistan	Financial Motives	3.814	0.835	4.1%	0.6%	19.8%	61.0%	14.5%
	Operational Motives	3.860	0.685	2.9%	0.6%	12.2%	76.2%	8.1%
	Price Motives	3.942	0.578	0.6%	0.6%	14.5%	72.7%	11.6%
	Transaction Motives	3.913	0.663	0.6%	1.7%	18.0%	65.1%	14.5%
Malaysia	Financial Motives	3.808	0.883	4.8%	0.8%	19.2%	59.2%	16.0%
	Operational Motives	3.864	0.685	2.4%	0.8%	14.4%	72.8%	9.6%
	Price Motives	3.944	0.611	0.8%	0.8%	14.4%	71.2%	12.8%
	Transaction Motives	3.896	0.702	0.8%	2.4%	18.4%	63.2%	15.2%
Turkey	Financial Motives	3.531	1.145	8.6%	11.1%	14.8%	49.4%	16.0%
	Operational Motives	3.704	0.962	6.2%	8.6%	2.5%	74.1%	8.6%
	Price Motives	3.778	0.889	4.9%	4.9%	8.6%	70.4%	11.1%
	Transaction Motives	3.827	0.872	3.7%	2.5%	18.5%	58.0%	17.3%

Table 168 describes the crosstab percentage of importance of account payable motives which include financial, operational, price and transactional motive. Each motive percentage with respect to its importance is summarized in the table. The results indicate that most of the

respondents in Pakistan and Malaysia have used 'Price Motives', while in Turkey it is 'Transaction Motive'.

Table 169: Account Payable Motives Compared with Behavioral Biases

Country	Behavioral Bias		Financial Motives	Operational Motives	Price Motives	Transaction Motives
Pakistan	Self-Serving	High	3.84	3.87	3.97	3.94
		Low	3.73	3.83	3.85	3.83
	Overconfidence	High	3.84	3.91	3.93	3.91
		Low	3.77	3.77	3.97	3.92
	Optimism	High	3.80	3.84	3.93	3.86
		Low	3.87	3.91	3.98	4.07
	Anchoring/Representative	High	3.83	3.85	3.87	3.90
		Low	3.80	3.87	4.00	3.93
	Loss Aversion	High	3.80	3.86	3.82	3.83
		Low	3.84	3.86	4.09	4.01
	Mental Accounting	High	3.86	3.81	3.97	3.96
		Low	3.73	3.95	3.89	3.82
Malaysia	Self-Serving	High	3.79	3.82	3.92	3.88
		Low	3.87	4.00	4.03	3.93
	Overconfidence	High	3.83	3.91	3.92	3.86
		Low	3.77	3.79	3.98	3.96
	Optimism	High	3.82	3.87	3.96	3.90
		Low	3.77	3.84	3.90	3.87
	Anchoring/Representative	High	3.75	3.76	3.88	3.83
		Low	3.86	3.95	4.00	3.95
	Loss Aversion	High	3.81	3.93	4.03	3.94
		Low	3.81	3.79	3.84	3.84
	Mental Accounting	High	3.86	3.89	4.01	3.94
		Low	3.71	3.82	3.82	3.82
Turkey	Self-Serving	High	3.48	3.73	3.87	3.84
		Low	3.68	3.63	3.47	3.79
	Overconfidence	High	3.58	3.66	3.82	3.90
		Low	3.45	3.77	3.71	3.71
	Optimism	High	3.49	3.68	3.88	3.81
		Low	3.64	3.77	3.50	3.86
	Anchoring/Representative	High	3.60	3.58	3.95	3.80
		Low	3.46	3.83	3.61	3.85
	Loss Aversion	High	3.44	3.59	3.62	3.79
		Low	3.62	3.81	3.93	3.86
	Mental Accounting	High	3.41	3.65	3.80	3.71
		Low	3.73	3.80	3.73	4.03

Table 169 describes the crosstab percentages among account payable motives and behavioral biases. Each bias is divided into two high and low sub-groups. The relative percentage of respondents for each account payable motive in Pakistan, Malaysia, and Turkey are shown in this table.

Table 170: Bad Debt level in Accounts Receivable

Working Capital Management	Mean	S.D.	Less Than 1%	1-3 %	3-6 %	6-9 %	More than 10%
Pakistan	2.808	1.395	25.6%	19.2%	16.9%	25.6%	12.8%
Malaysia	2.856	1.413	25.6%	17.6%	16.0%	27.2%	13.6%
Turkey	2.543	1.458	33.3%	24.7%	11.1%	16.0%	14.8%

Table 170 shows the bad debt statistics of firms in Pakistan, Malaysia, and Turkey. There are five categories of bad debt ratio. The results indicate that about 25.6% of firms in Pakistan have bad debt up to 1%. The 27.2% Malaysian firms have bad debt between 6% to 9% while 33% Turkish firms have bad debt less than 1%. It is observed that Turkish firms are quite better in managing their bad debt ratio.

Table 171: Bad Debt level in Accounts Receivable Compared with Behavioral Biases

Country	Bad Debt	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	Less Than 1%	17	25	14	28	11	31	21	21	17	25	17	25
	1 to 3%	4	26	10	20	6	24	12	18	13	17	10	20
	3 to 6%	7	22	12	17	7	22	21	8	14	15	14	15
	6 to 9%	9	40	15	34	18	31	30	19	25	24	16	33
	More than 10%	4	18	10	12	3	19	10	12	10	12	5	17
Malaysia	Less Than 1%	12	20	12	20	9	23	14	18	14	18	13	19
	1 to 3%	3	19	7	15	4	18	11	11	10	12	7	15
	3 to 6%	4	16	7	13	5	15	14	6	9	11	9	11
	6 to 9%	7	27	12	22	10	24	19	15	18	16	12	22
	More than 10%	4	13	9	8	3	14	8	9	7	10	4	13
Turkey	Less Than 1%	4	15	7	12	2	17	8	11	12	7	6	13
	1 to 3%	3	8	5	6	3	8	7	4	4	7	4	7
	3 to 6%	6	7	4	9	2	11	8	5	5	8	3	10
	6 to 9%	4	23	9	18	7	20	15	12	15	12	13	14
	More than 10%	2	9	6	5	4	7	3	8	6	5	4	7

Table 171 depicts crosstab analysis of six behavioral biases and bad debt status of the firms. Bad debt has five classes ranging from ‘less than 1% to ‘more than 10%’. Each behavioral bias data has been divided into two groups of low and high biased respondents. The results indicate that organizations are distributed in each type of debt class for all counties. The maximum 49 companies have bad debt between ‘6% to 9%’ in Pakistan. The maximum 34

companies have bad debt between '6% to 9%' in Malaysia. Turkey has maximum 27 firms which have bad debt ranging from '6% to 9%'.

Table 172: A Comparison of Family and Non-Family Owned Companies – Pakistan

Country	Family owned	SS		OC		OPT		ARB		LA		MA	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Pakistan	No	11	48	20	39	21	38	32	27	20	39	18	41
	Yes	30	83	41	72	24	89	62	51	59	54	44	69
Malaysia	No	18	60	30	48	18	60	41	37	42	36	30	48
	Yes	12	35	16	31	13	34	25	22	17	30	15	32
Turkey	No	12	42	21	33	15	39	28	26	27	27	18	36
	Yes	7	20	10	17	3	24	13	14	15	12	12	15

Note: *SS=Self-serving, OC=Overconfidence, OPT=Optimism, ARB=Anchoring/Representative, LA=Loss Aversion, MA=Mental Accounting*

Table 172 shows the crosstab statistics about behavioral biases and family-owned status of companies. These results are summarized for all three countries in this table. The variable of family-owned is divided into two subgroups of 'yes' and 'no' while each bias is divided into two sub-groups of high and low biased respondents. Each sub-group of bias and family owned is compared. The results indicate that Pakistan has 113 companies with family-owned status. Malaysia has 47 family-owned companies while Turkey has 27 family owned companies. It is also observed that the ratio of biased respondents is more in family-owned companies rather than non-family owned companies.

7.3.1 Summary of Disruptive Analysis

In Pakistan, financial managers are financially literate. However, they are influenced by behavioral biases while in Malaysia a high number of financially literate respondents fall in the high biased column. The same trend of financial literacy is observed in Turkish respondents. The results show a mixed trend of respondents with managerial skills and behavioral biases in Pakistan. The financial decision makers of Malaysia and Turkey are highly biased regardless of their managerial skills level. However, the managers with high managerial

skills are slightly less biased. Managers with high risk perception are highly biased while with low risk perception respondents are less biased. CFOs are the most in number in Pakistan and Malaysia while managers finance are most in number for Turkey. Male respondents are dominant and most in number as compared to female respondents. This same scenario is observed in all three countries. Most of the respondents in Pakistan are in the age of 26-55 years and appear less biased as compared to other age group respondents. Most of the Malaysian respondents are in the age group of 46-55 years. Malaysian respondents in the age group of 18-25 years are low biased as compared to the age group of 45-55 years. Most of the Turkish respondents fall in the age group of 46-55. The maximum respondents of Turkey fall in the age group of 21-25 years and appear to be highly biased. The respondents from the textile sector are found highly biased as compared to all other sectors in Pakistan. The statistics show that the respondents working in Pakistani organizations, either they are exporting or not, are overall highly biased. The experienced managers of Malaysia are showing more optimism. The statistics show that the Malaysian respondents of industry sector are highly biased. Moreover, the respondents of non-exporting firms are found biased. The Turkish respondents of textile, wearing apparel and leather sectors are found highly biased among all the other organizational sectors. The local production companies' respondents of Turkey are found biased. Pakistani firms are generally reporting moderate levered capital structure policies. The statistics conclude that the most important financial motives are 'maintaining financial flexibility' and 'maximizing profitability' and the least important financial motive is 'preferring previously used financing sources'. Overall, the results exhibit mixed pattern regarding biases of respondents in capital structure decision motives, however, 'maintaining voting control of shareholders' is reported significantly different for subsamples of all biases. Malaysian firms use the moderate levered capital structure. 'Maintaining financial flexibility' and 'maintaining voting control of shareholders' are the most important motives whereas 'preferring previously

used financing sources' is the least important motive of capital structure decisions in Malaysian firms. Turkish firms generally are on high and moderate levered capital structure policies in their firms. The statistics conclude that the most important financial motive is 'maintaining voting control of shareholders' and the least important is 'preferring previously used financing sources'. Overall, the results exhibit mixed pattern regarding biases of respondents in capital structure decision motives, however, 'maintaining voting control of shareholders' is reported significantly different for subsamples of all biases.

In Pakistan, 14.8% respondents have the opinion of 'lowest concern for paying dividend', 21% respondents have the opinion of 'low concern for paying dividend', 21% respondents have the opinion of 'moderate concern for paying dividend', 33.3% respondents have the opinion of 'high concern for paying dividend', and 9.9% respondents have the opinion of 'highest concern for paying dividend'. Firms are normally having moderate and high concern for paying dividend to their shareholders. The statistics of Malaysia show that 10.4% of respondents have opinion of 'lowest concern for paying dividend', 18.4% of respondents have the opinion of 'low concern for paying dividend', 31.2% respondents have the opinion of 'moderate concern for paying dividend', 37.6% respondents are of the opinion of 'high concern for paying dividend', and 2.4% respondents have the opinion of 'highest concern for paying dividend'. The Malaysian firms are normally having moderate and high concern for paying dividend to their shareholders. In the Turkish firms, 8.1% respondents reported 'lowest concern for paying dividend', 19.8% respondents reported 'low concern for paying dividend', 29.7% respondents reported 'moderate concern for paying dividend', 40.7% respondents reported 'high concern for paying dividend', and 1.7% respondents reported 'highest concern for paying dividend'. Overall, results indicate that firms normally exhibit moderate and high concern for paying dividend to their shareholders.

The statistics about WCM policy decisions indicate that 14.8% Pakistani respondents reported that their companies are highly conservative about WCM policies, 30.9% respondents reported that their companies are conservative for WCM policy, 11.1% respondents reported that their companies use moderate WCM policy. 29.6% of respondents have reported aggressive WCM policy, and 13.6% of respondents have the opinion that they are highly aggressive in their WCM policies. About 0.8% Malaysian respondents have opinion of 'highly conservative WCM policies', 37.6 % of respondents have the opinion of 'conservative WCM policies', 10.4% of respondents have the opinion of 'moderate WCM policies', 39.2% of respondents have the opinion of 'aggressive WCM policies', and 12% of respondents have the opinion of 'highly aggressive WCM policies'. Malaysian firms are normally having an aggressive approach for working capital management policies. The Turkish firms indicate that about 0.6% respondents are highly conservative about WCM policies, whereas 37.8% reported conservative, 8.7% reported moderate, 41.3% reported aggressive, and 11.6% respondents reported highly aggressive in their WCM policies. Mix trend of conservative and aggressive WCM policies is witnessed in Turkish organizations.

The WCM approach 'meet payment in a timely manner' and 'streamline bank relations' are used most in Pakistani firms. Moreover, the highly biased respondents are reported in self-serving, overconfidence, optimism and mental accounting in all cash management approaches. Rest of the respondents are moderately biased in anchoring/representative and loss aversion in cash management approaches. The Malaysian respondents use the approach 'managing cash through leading and lagging' most and second most used approach is 'meet payment in a timely manner'. The highly biased Turkish respondents are reported in self-serving, optimism and mental accounting for all cash management approaches. Rest of the respondents are moderately biased in overconfidence, anchoring/representative and loss aversion in cash management approaches. The approach 'diversification of banks' is most popular among the respondents of

Turkey while ‘emergency liquidity reserves’ is the least important approach. The Turkish respondents are highly biased in self-serving, optimism, mental accounting and showing a significant difference in choice of cash management approaches. Rest of the Turkish respondents are moderately biased in overconfidence, anchoring/representative and loss aversion.

The cash management approaches, ‘supply chain management’, and ‘sale forecasting’ are pointed out to be the most useable approach by Pakistani firms while the third most usable approach is ‘inventory models’. The highly biased respondents are reported in self-serving and optimism. The cash management approach, ‘supply chain management’ and ‘sale forecasting’ are pointed out to be the most useable approach in Malaysian firms and the second most usable approach is ‘inventory models’. The cash management approaches, ‘supply chain management’, ‘material requirement planning’ and ‘sale forecasting’ are the most popular in Turkish organizations while the fourth most usable approach is ‘inventory models’.

The Pakistani respondents are moderately biased in overconfidence, anchoring/representative, mental accounting and loss aversion in inventory management approaches. The highly biased respondents in Malaysia are reported in self-serving and optimism in all inventory management approaches. Rest of the Malaysian respondents are moderately biased in overconfidence, anchoring/representative, mental accounting and loss aversion for inventory management approaches. The Turkish respondents reported highly biased in self-serving, overconfidence, mental accounting and optimism for all inventory management approaches while the rest of the respondent are moderately biased in anchoring/representative and loss aversion for inventory management approaches. About 49.4%, 74.1%, 70.4% and 58% of the respondents in Pakistani firms are paying importance to ‘financial motives’, ‘operational price’ and ‘transaction motives’ respectively. About 25.6% of the Pakistani companies have bad debt less than 1%, 19.2% of the companies have 1-3%,

16.9% of companies have 3-6%, 25.6% of companies have 6-9% and 12.8% of companies have more than 10% bad debts. The companies show mixed up results for bad debt and behavioral biases. However, respondents of the Pakistani firms with a large amount of bad debts are highly biased. The statistics conclude that about 59.2 %, 72.8%, 71.2% and 63.2% of the Malaysian respondents pay importance to financial, operational, price and transaction motives in account payable decisions respectively. About 25.6% of the Malaysian companies have a bad debt of less than 1%, 17.6% of the companies have 1-3%, 16% of companies have 3-6 %, 27.2% of companies have 6-9% and 13.6% of companies having a bad debt of 'more than 10%'. The statistics of Turkish firms show that 25.6% of the companies have bad debt of 'less than 1%', 19.2% of the companies have 1-3%, 16.9% of companies have 3-6%, 25.6% of companies have 6-9% and 12.8% of companies having bad debt of 'more than 10%'. Most of the respondents are reporting high biased in bad debt group of 6 to 9%. The statistics conclude that 76.2%, 72.7%, 65.1% and 61.0% of the Turkish respondents are paying importance to operational, price, transaction and financial motives, respectively while taking decisions of accounts payable.

7.4 Analysis of Path Model

This section defines the direct relation, mediation, and moderation of variables and compares the results of all countries.

Table 173: Direct relationship Hypothesis Comparison

Hypothesis	Path Relationship	Pakistan	Malaysia	Turkey
H_1	Self-Serving → Risk Perception	Not Supported	Not Supported	Not Supported
H_{1a}	Self-Serving → Overconfidence	Not Supported	Not Supported	Not Supported
H_2	Overconfidence → Risk Perception	Supported	Supported	Supported
H_3	Optimism → Risk Perception	Supported	Supported	Supported
H_4	Anchoring/Representative → Risk Perception	Supported	Supported	Supported
H_5	Loss Aversion → Risk Perception	Supported	Not Supported	Supported
H_6	Mental Accounting → Risk Perception	Supported	Supported	Supported
H_7	Risk Perception → Dividend Policy	Supported	Supported	Supported
H_8	Risk Perception → Capital Structure	Supported	Supported	Supported
H_9	Risk Perception → Working Capital Management	Supported	Supported	Supported
H_{10}	Dividend Policy → Corporate Performance	Supported	Supported	Supported
H_{11}	Capital Structure → Corporate Performance	Supported	Supported	Supported
H_{12}	Working Capital Management → Corporate Performance	Supported	Supported	Supported

Note: *Significance Level < 0.100 (two tailed)*

Table 173 shows the results of direct relationship comparison of path model and twelve hypotheses developed for each relationship.

In the literature review, many authors have studied the relationship of self-serving bias, risk perception and overconfidence (Choi & Lou, 2010b; Mishra & Metilda, 2015). Self-attributed managers perceive risk in different manners (Kim, 2013). Our study also tried to test the impact of self-serving bias on risk perception and overconfidence. The results of our study indicate that hypotheses H_1 and H_{1a} are not significant in all three countries. This result may be attributed to the religious belief of the managers that outcomes of uncertainty should be attributed to God as the majority of the managers in these countries are Muslims.

Overconfidence impact on risk perception has been tested in H_2 as this relation has already been tested by Kafayat, (2014); Broihanne, Merli, & Roger,(2014) and Shleifer, (2000).

The statistical results of our study show that this relationship is statistically supported for all three countries. It concludes that overconfidence tends to produce biased risk perception leading to the pursuit of risk-taking behavior in decision making. Our results are also in line with the research of Camerer & Lovallo, (1999).

The relationship of optimism bias and risk perception is hypothesized in H_3 for each country. Shleifer, (2000) argued that optimist persons perceive higher risk relying on the expectation of positive outcome of their decisions. According to the Hackbarth (2008), in corporate decisions, optimistic managers perceive debt to be undervalued. Optimism produces a perception of lower default risk due to the higher perceived growth rate of earnings. In our study, we also testsed the effect of optimism on risk perception. Our results indicate that this hypothesis is statisticaly supported for Pakistan, Malaysia and Turkey. It concludes that the managers of these countries perceive positive outcome of their decisions in the future. They do not estimate future risk properly and make irrational decisions. Our findings are also in line with the results of Broihanne, Merli, & Roger, (2014).

The Hypothesis H_4 was defined for the impact of anchoring/representative bias on risk perception and this relationship had been tested previously by Ganzach, (2000); Ramiah et al., (2016); Shiller, (2003) & Zhao, (2011). These studies concluded that anchoring/representative biased managers rely on a piece of information and do not consider the available information in the market. Thus, they make risky decisions. The results indicate that this relationship is statistically significant for Pakistan, Malaysia and Turkey. It concludes that the managers intend to make credit sales to those firms which have low credit rating in the market, based on their present in time payments. Hence, the managers may face losses and high risks in their decisions. The results of Ramiah et al., (2016); Schönbohm & Zahn, (2012) also supported the same findings.

The hypothesis H_5 was defined as relationship between loss aversion and risk perception. This relation is significant in Pakistan and Turkey, however, not in Malaysia. Previous authors argued that loss averse managers tend to make such decisions which result in definite gain only (Shefrin & Statman, 2000). Köbberling & Wakker, (2005) concluded based on prospect theory that decision makers try to prevent from losses or avoid risk. This relation had also been tested by Bodnaruk & Simonov, (2016). They found that the professionals who are highly loss averse, select the portfolio which has low downside risk. Our study also tested this relation in three countries and concludes that managers in Pakistan and Turkey are loss averse. Our results are in line with previous studies of Dupont & Lee, (2001); Duxbury & Summers, (2004); Eric, Gächter, & Herrmann, (2010); Ert & Erev, (2013); Faff, Mulino, & Chai, (2008); Heshmat & Ahmed, (2010).

Bondt & Thaler, (1985) discussed the model of mental accounting and argued that decision makers distribute their capital, knowledge and other types of resources into separate and non-fungible mental accounts. The relationship of mental accounting and risk perception has also been tested by Coleman, (2007) and concluded that the managers who are exhibiting mental accounting bias overvalue the level of risk in their decision making. The same relationship in our hypothesis H_6 was defined and tested. The results conclude that this relationship is significant in all countries. The managers of these countries do not evaluate decisions rationally, in fact, deviate from utility maximization concept and take abnormal risk. Our results are also supporting the previous studies of Shefrin, (2007b); Thaler, (1999).

A person's interpersonal traits develop risk perception. People with aggressive personality take more risk, they show sensation seeking behavior while making risky decisions (Wildavsky & Dake, 1990). Cain & McKeon (2016) analyzed the relationship between chief executive officer (CEO) personal risk taking, corporate risk-taking, and the source of the elevated firm risk to specific corporate policies, including leverage. Our study has also tested

the relationship of risk perception and corporate decisions (dividend policy, capital structure, and working capital management). For this purpose, three hypotheses (H_7, H_8, H_9) were proposed. The statistical results of our study indicate that these relationships are supported statistically for all three countries. The results show that risk perception has a negative impact on dividend policy, positive impact on capital structure and working capital management. Our results for dividend policy decisions are in line with the previous studies of Aivazian et al., (2003); Amidu & Abor, (2006); Guo, (2002). For capital structure decisions, our results are in line with Cain & McKeon, (2016). For working capital management decisions, our findings support the previous results of Gitman, (2005); Moyer et al., (2005); Ramiah et al., (2016) & Ricciardi, (2004). The managers of Pakistan, Malaysia, and Turkey take aggressive decisions to manage their working capital management which are ultimately associated with the high risk for corporate financing.

The hypotheses (H_{10}, H_{11}, H_{12}) were defined for the relationship of financial decision making (dividend policy, capital structure, and working capital management) and corporate performance. In previous studies, Amidu, (2007); Miller & Modigliani, (1961); and Wan, Norwani, Mansor, & Endut, (2016) discussed the relationship of dividend policy and corporate performance. Harris, & Raviv, (2009); Jensen & Meckling, (1976) and Van Horne & Wachowicz, (2008) discussed the relationship of capital structure and corporate performance. Deloof, (2003); Ramiah et al., (2016); and Wang, (2002) studied the relationship of working capital management with corporate performance. Our results indicate that these relationships are statistically supported for all three countries. The firm performance is vulnerable to the decisions taken by these potentially biased managers as they work for their self-interest rather than the interest of investors. The resulted raised agency cost influences the stock value and ultimately impacts firm performance. This notion is in line with Shefrin & Statman, (1984). The reason for these results is that managers usually raise funds from heavy borrowings which

negatively impact the firm performance. While the market positively reacts to dividend announcements and it positively affects the firm performance. Whereas, maintaining aggressive working capital management positively impacts the firm performance as it reduces several costs at an optimum level.

7.5 Analysis of Moderation

In our model, the moderation effect of two variables is tested. Financial literacy is moderating between six behavioral biases and risk perception while the managerial skills are moderating between risk perception and financial decisions (dividend policy, capital structure, working capital management).

Table 174: Moderation Hypothesis Comparison

Hypothesis	Path Coefficient	Pakistan	Malaysia	Turkey
H_{13}	SS*FL → Risk Perception	Not-Supported	Not Supported	Not Supported
H_{14}	OC*FL → Risk Perception	Supported	Supported	Supported
H_{15}	OPT*FL → Risk Perception	Supported	Supported	Not Supported
H_{16}	ARB*FL → Risk Perception	Not-Supported	Not Supported	Not Supported
H_{17}	LA*FL → Risk Perception	Supported	Not Supported	Not Supported
H_{18}	MA*FL → Risk Perception	Supported	Supported	Supported
H_{19}	DP*MS → Dividend Policy	Not-Supported	Not Supported	Not Supported
H_{20}	CS*MS → Capital Structure	Not-Supported	Not Supported	Supported
H_{21}	WCM*MS → Working Capital Management	Not-Supported	Not Supported	Not Supported
Financial Literacy → Risk Perception		Supported	Supported	Supported
Managerial Skills → Dividend Policy		Supported	Supported	Supported
Managerial Skills → Capital Structure		Not-Supported	Not Supported	Not Supported
Managerial Skills → Working Capital Management		Supported	Not Supported	Supported

Notes: *SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. Significance Level < 0.100 (two tailed)*

The relationship of financial literacy and risk perception was studied by Aren & Zengin, (2016) and Wang, Keller, & Siegrist, (2011) while managerial skills and corporate financial decisions is tested by Analoui & Hosseini, (2001). Our results (see table 174) indicate that financial literacy with self-serving and anchoring bias is not significant for all countries, hence, H_{13} and H_{16} are not supported. H_{14} and H_{18} are supported in each country which indicate that

financial literacy has a significant moderating impact on the relationship of overconfidence and mental accounting bias with risk perception. H_{15} is describing the moderating effect of financial literacy with optimism bias on risk perception. It is supported in Pakistan and Malaysia but not supported in Turkey. The hypothesis H_{17} is supported only for Pakistan which indicates the moderating impact of financial literacy on the relationship of loss aversion and risk perception. The results are supporting the arguments of Aren & Zengin, (2016); Coleman, (2007); Ma, Xue, Zhao, & Lin, (2013); Naser, Nuseibeh, & Al-Hadeya, (2013).

The hypotheses (H_{19}, H_{20}, H_{21}) were defined for the moderating effect of managerial skills between risk perception and financial decisions. This variable has been discussed by McKenna, (2004); Schoening, Sittner, & Todd, (2006); and Whetten, Cameron, & Woods, (2000). The statistical results indicate that the moderating effect of managerial skills is not witnessed on the relationship of dividend policy and working capital management with risk perception for all three countries. Hence, hypotheses H_{19} and H_{21} are not supported. The moderating impact of managerial skills is only significant for capital structure in Turkey. Hence, hypothesis H_{20} is supported only in Turkey.

7.6 Analysis of Mediation

This portion indicates the results of the mediating impact of risk perception between six behavioral biases and corporate financial decisions. Table 175 describes the results of 18 mediation hypotheses of three countries. The results are summarized in the form of not-significant, partial mediation, full mediation and no mediation. Further, the partial mediation is explained as a percentage of VAF (variance accounted for) which indicates the ratio of mediating effect.

Table 175: Mediation Hypothesis Comparison

Hyp.	Relation	Pakistan		Malaysia		Turkey	
		VAF	Mediation	VAF	Mediation	VAF	Mediation

H_{22a}	SS →RP→ DP	---	Not Significant	---	Not Significant	---	Not Significant
H_{22b}	SS →RP → CS	---	Not Significant	---	No Mediation	---	Not Significant
H_{22c}	SS →RP → WCM	---	Not Significant	---	Not Significant	---	Not Significant
H_{23a}	OC→RP → DP	-25%	Partial Mediation	25%	Partial Mediation	-72%	Partial Mediation
H_{23b}	OC →RP → CS	100%	Full Mediation	100%	Full Mediation	100%	Full Mediation
H_{23c}	OC →RP → WCM	33%	Partial Mediation	24%	Partial Mediation	38%	Partial Mediation
H_{24a}	OPT→RP → DP	-12%	Partial Mediation	12%	Partial Mediation	-13%	Partial Mediation
H_{24b}	OPT →RP → CS	66%	Partial Mediation	60%	Partial Mediation	59%	Partial Mediation
H_{24c}	OPT →RP → WCM	58%	Partial Mediation	27%	Partial Mediation	100%	Full Mediation
H_{25a}	ARB →RP → DP	100%	Full Mediation	100%	Full Mediation	100%	Full Mediation
H_{25b}	ARB →RP → CS	-22%	Partial Mediation	22%	Partial Mediation	100%	Full Mediation
H_{25c}	ARB →RP → WCM	26%	Partial Mediation	100%	Full Mediation	100%	Full Mediation
H_{26a}	LA→RP → DP	100%	Full Mediation	---	Not Significant	100%	Full Mediation
H_{26b}	LA →RP → CS	53%	Partial Mediation	---	No Mediation	44%	Partial Mediation
H_{26c}	LA →RP → WCM	26%	Partial Mediation	---	Not Significant	18%	Partial Mediation
H_{27a}	MA→RP → DP	100%	Full Mediation	---	Not Significant	100%	Full Mediation
H_{27b}	MA →RP → CS	100%	Full Mediation	100%	Full Mediation	100%	Full Mediation
H_{27c}	MA →RP → WCM	100%	Full Mediation	---	Not Significant	100%	Full Mediation

Notes: *SS=Self-serving Bias, OC=Overconfidence Bias, ARB=Anchoring/Representative Bias, OPT=Optimism bias, LA=Loss aversion. MA=Mental Accounting, WCM=Working Capital Management, RP=Risk Perception, DP=Dividend Policy, CS=Capital Structure, FL=Financial Literacy, MS=Managerial Skills. P values are shown in brackets, VAF=Variance Accounted For. * p < 0.10, ** p < 0.05, *** p < 0.01 (two tailed)*

Previous studies described the relationship between risk perception and the corporate financial decisions of the managers. Managers exhibiting behavioral biases as the perception of high risk prefer maintaining the high levered capital structure with increasing bankruptcy cost (Barros & da Silveira, 2007). The mediating role of risk perception with behavioral biases and financial decisions has been tested by Bodnaruk & Simonov, (2016); Glaser et al., (2008) and Nosic & Weber, (2010).

First, we tested the mediating role of risk perception between self-serving bias and financial decisions. For this purpose, three hypotheses are defined ($H_{22a}, H_{22b}, H_{22c}$). These hypotheses are not supported for all three countries.

Next mediating role of risk perception is tested between overconfidence and financial decisions and hypotheses H_{23a}, H_{23b} and , H_{23c} are defined. Partial mediation is found for the hypothesis H_{23a} (OC→RP→DP) in all countries. The VAF value for Pakistan and Malaysia is 25% while 72% VAF is estimated for Turkey. It indicates that Turkish managers are more conscious about the risk associated with the capital structure decision as compared to Pakistan and Malaysia. The result of hypothesis H_{23b} (OC→RP→CS) concludes that this relation fully mediates in each country. Hypothesis H_{23c} (OC→RP→WCM) is significant with partial mediation for each country. The value of VAF is estimated 33%, 24% and 38% for Pakistan, Malaysia and Turkey respectively. It indicates that Turkish managers are considering more risk associated with the working capital decisions than the Pakistan and Malaysia.

The mediating role of risk perception is tested between optimism and financial decisions, and three hypotheses were designed ($H_{24a}, H_{24b}, H_{24c}$). The results of H_{24a} (OPT→RP→DP) and H_{24b} (OPT→RP→CS) are partially significant in each country. It implies that managers in these countries are optimistic, however, they consider risk associated with financial decisions. Pakistani managers are sharper than other countries in accessing the risks associated with capital structure decisions while Turkish managers are sharper than other countries in dividend policy decisions. The VAF values for hypothesis H_{24a} (OPT→RP→DP) are, 12% for Pakistan and Malaysia while 13% Turkey. The VAF value for the hypothesis H_{24b} (OPT→RP→CS) is calculated 66%, 60% and 59% for Pakistan, Malaysia and Turkey respectively. The results of H_{24c} (OPT→RP→WCM) are partially significant in Pakistan and Malaysia while full in Turkey. The VAF for H_{24c} (OPT→RP→WCM) is 58% and 27% for Pakistan and Malaysia respectively. It concludes, if Turkish managers are optimistic in their decision, they will

evaluate the risk associated with the WCM decisions. The optimistic managers of Pakistan consider the risk more than Malaysia.

The hypotheses H_{25a}, H_{25b} and H_{25c} are proposed for the mediating role of risk perception between anchoring/representative bias and financial decisions. The H_{25a} (ARB→RP→DP) is fully mediating in all countries. It concludes that all the respondents consider risk factor for dividend policy decisions. The results of hypothesis H_{25b} (ARB→RP→CS) indicate that risk perception partially mediates in Pakistan and Malaysia while fully mediates in Turkey. The VAF value for Pakistan and Malaysia is -22% and 22 % respectively. It concludes that Turkish respondents with anchoring/representative bias consider more risk for capital structure decisions while the respondents of Pakistan and Malaysia consider less risk. The results of hypothesis H_{25c} (ARB→RP→WCM) show that risk perception is partially mediating in Pakistan while fully mediating for Malaysia and Turkey. The VAF value for hypothesis H_{25c} (ARB→RP→WCM) is 26% for Pakistan. It shows that Turkish and Malaysian managers with anchoring/representative bias consider less risk for WCM decisions than Pakistani respondents.

The next three hypotheses ($H_{26a}, H_{26b}, \& H_{26c}$) are defined for mediating role of risk perception between loss aversion bias and financial decisions. Mediating role of risk perception between loss aversion and dividend policy is proposed in H_{26a} (LA→RP→DP) and results indicate that risk perception fully mediates in Pakistan and Turkey while this relation is not significant in Malaysia. It concludes that Turkish and Pakistani managers with loss aversion bias would consider the risk while taking dividend policy decisions. Mediating role of risk perception between loss aversion and capital structure is proposed in H_{26b} (LA→RP→CS) and results indicate that risk perception partially mediates in Pakistan and Turkey while this relation is not significant for Malaysia. The VAF value for Pakistan and Turkey remained 55% and 44% respectively. If the Turkish and Pakistani managers are loss averse, they would be

considering the risk associated with dividend policy decisions. In this regard, Pakistani respondents are better than Turkish respondents. The mediating role of risk perception between loss aversion and working capital management is tested in H_{26c} (LA→RP→WCM) and results indicate that it partially mediates in Pakistan and Turkey while this relation is not significant for Malaysia. The VAF value for Pakistan and Turkey remained 26% and 18% respectively. If the Turkish and Pakistani managers are loss averse, they would be considering the risk associated with WCM decisions.

The mediation role of risk perception between mental accounting and financial decisions. The hypothesis H_{27a} (MA→RP→DP) is defined as mediating role of risk perception between mental accounting and dividend policy decisions. The results indicate that risk perception fully mediates between mental accounting and dividend policy in Pakistan and Turkey while this relation is 'not significant' in Malaysia. It concludes that Pakistani and Turkish managers consider risk for dividend policy decisions while having mental accounting bias. The hypothesis H_{27b} (MA→RP→CS) is suggested for the mediating role of risk perception between mental accounting and capital structure decisions. The results indicate that risk perception fully mediates between mental accounting and capital structure in all countries. It concludes that respondents of all countries consider risk for capital structure decisions while having mental accounting bias. The hypothesis H_{27c} (MA→RP→WCM) is defined as the mediating role of risk perception between mental accounting and working capital management decisions. The results indicate that risk perception is fully mediating between mental accounting and working capital management decisions in Pakistan and Turkey while this relation is significant in Malaysia. It concludes that Pakistani and Turkish managers consider risk factor for WCM decisions while having mental accounting bias.

In the nutshell, it is observed from the above discussion that the impact of behavioral biases on corporate financial decisions is moderated by risk perception of corporate managers.

It also indicates that managers of these countries are influenced by these biases, however, the effect of these biases on financial decisions is channelized through risk perception.

7.7 Summary of the Chapter

This chapter compares the results of Pakistan, Malaysia and Turkey. In the first phase, descriptive and disruptive statistics are compared for each country. Later, the hypothesis acceptance and rejection are compared. Moreover, mediation and moderation results are also presented with cross country comparison. The results of each hypothesis are discussed with the support of previous literature. The next chapter discusses the implications of this study along with limitations and future research guidelines.

CHAPTER 8:

CONCLUSION AND RECOMMENDATIONS

8.1 Overview

As pointed out by Baker and Wurgler (2011), the behavioral finance literature considers irrational managers and irrational markets separately. This research focuses on behavioral perspectives of financial decisions made in the corporate sector by managers. In this pursuit, this research investigated the role of behavioral biases of corporate finance managers (i.e. self-serving, overconfidence, optimism, anchoring/representativeness, loss aversion and mental accounting) in the three facets of corporate financial decisions (i.e. capital structure, dividend policy and working capital management), and how the corporate performance is affected by these decisions. The study also focused how the behavioral biases impact the risk perception of managers associated with all financial decisions. Furthermore, it explored the moderating role of financial literacy and managerial skills for the above stated relationships. In this regard, a comparison of family vis-à-vis non-family owned companies of selected developing countries, i.e. Pakistan, Malaysia, and Turkey was employed.

Overall, this study has explored new insights into behavioral corporate finance by establishing the relationship of behavioral biases and financial decisions with corporate performance. For this purpose, multivariate data analysis technique Partial Least Square Structural Equation Modeling (PLS-SEM) was applied.

8.2 Conclusions

In this section, the conclusions drawn from results are discussed in relation with each research objective.

The first objective of the study is to investigate the impact of behavioral biases on risk perception in the corporate sector. The findings of this study conclude that self-serving bias has no impact on the risk perception of corporate finance managers of Pakistan, Malaysia & Turkey and it is also not contributing to overconfidence bias. This finding is contradicting to Kafayat, (2014) and Li, (2010). It implies that the managers of developing countries vis-à-vis developed countries, behave differently. As the majority of the corporate finance managers in Pakistan, Turkey and Malaysia believe in religion and they may attribute their success and failure to the God, contrary to the notion of self-serving bias.

Overconfidence bias has a positive impact on risk perception of corporate finance managers of Pakistan, Malaysia & Turkey. This finding indicates that the finance managers with overconfidence bias are more aggressive in their risk taking behavior. This finding is in line with Parhankangas & Hellström (2007). Similar to the findings of Glaser, Schäfers, & Weber (2008), optimism bias has a positive influence on risk perception of corporate finance managers of Pakistan, Malaysia & Turkey which implies that increase in optimism bias results in higher risk perception. Anchor/representative bias has a positive effect on risk perception of corporate finance managers of Pakistan, Malaysia & Turkey. This finding is confirming the notion proposed by Shiller, (2003).

Loss aversion bias negatively impacts the risk perception of corporate finance managers of Pakistan and Turkey, however for Malaysia, the relationship is not significant. This result implies that corporate finance managers with high loss aversion bias are more likely to exhibit low risk perception. This finding validates the conclusion of Shefrin & Statman, (2000). Mental

accounting has a significant impact on risk perception of corporate finance managers of Pakistan, Malaysia & Turkey and our findings are in line with Coleman, (2007).

Risk perception of corporate finance managers impacts negatively on dividend policy decisions of corporate firms of Pakistan, Malaysia & Turkey which implies that the high risk taker managers avoid dividend payments and invest in alternative risky investment opportunities and vice versa. This was also discussed by Aivazian, Booth, & Cleary, (2003) and Amidu & Abor, (2006). Risk perception of corporate finance managers positively influences the capital structure decisions of corporate firms of Pakistan, Malaysia & Turkey similar to the findings of Cain & McKeon (2016). It specifies that the corporate finance managers with high-risk perception focus on aggressive or high levered capital structure decisions, which may increase the financing cost and lower the firm profits. Risk perception of corporate finance managers also has a positive impact on working capital management decisions of corporate firms of Pakistan, Malaysia & Turkey. It explains that the high risk perception of corporate finance managers results in aggressive working capital management decisions. These findings are validating the results of Gardner et al., (1986) and Weinraub & Visscher, (1998).

The second objective of the study is to explore the moderating role of financial literacy between behavioral biases and risk perception while taking the corporate financial decisions. The results conclude that the moderating effect of financial literacy is not captured for self-serving and anchoring/representative bias, however, for overconfidence and mental accounting bias the moderation effect is witnessed in all three countries. For optimism Bias, it is moderated for Pakistan, Malaysia however, not for Turkey. For loss aversion, it is not moderated for Malaysia and Turkey, however, moderated for Pakistan.

The above findings conclude that financial literacy moderates the relationship of behavioral biases with risk perception which amplifies the importance of training and

development of financial decision makers. The investment in developing human capital paybacks to the firm as it helps the managers to extend their exposure, deep understanding of the policy puzzles and demonstrate fewer behavioral biases which are hazardous to unnecessary risk perception level of corporate finance decisions.

The third objective of the study is to find out the mediating role of risk perception between behavioral biases and corporate financial decisions. The findings show that no mediation of risk perception on the relationship of self-serving bias with dividend policy, capital structure, and working capital management decisions is witnessed for Pakistan, Malaysia & Turkey. However, the mediation impact of risk perception on the relationship of overconfidence bias with dividend policy, capital structure, and working capital management is partial, full and partial for Pakistan, Malaysia & Turkey respectively. For optimism bias, it is partial mediation in all decisions for Pakistan and Malaysia however, for Turkey, it is partial, partial and full mediation for dividend policy, capital structure, and working capital management decisions respectively. For anchoring/representative bias, it is full, partial and partial mediation for Pakistan, full, partial and full mediation for Malaysia, and full mediation for Turkey for dividend policy, capital structure, and working capital management decisions respectively. For loss aversion bias, it is full, partial and partial mediation for Pakistan and Turkey, however, no mediation for Malaysia is found for dividend policy, capital structure, and working capital management decisions respectively. For mental accounting bias, it is full mediation for all three decisions for Pakistan and Turkey, however for Malaysia, it is full mediation for capital structure decisions only. The above findings state in general, the impact of behavioral biases on corporate financial decisions is channelized through risk perception of corporate finance managers.

Fourth objective of the study is to examine the moderating role of managerial skills between risk perception and corporate financial decisions. The moderation of managerial skills

on the relationship of risk perception and the corporate financial decision is not found significant for Pakistan, Malaysia, and Turkey. However, it is only significant in the relationship of risk perception and capital structure decisions of Turkey.

The fifth objective of the research is to investigate the presence of potential irrationality in corporate decisions, and its entailing effect on corporate performance. Dividend policy decisions positively impact the corporate performance of firms of Pakistan, Malaysia & Turkey. This result specifies that firms having high concern for dividend payment are reporting high corporate performance. Capital structure decisions negatively impact the corporate performance of firms of Pakistan, Malaysia & Turkey. Therefore, it is reported that aggressive or high levered capital structure decisions reduce corporate performance. The impact of working capital management decisions on corporate performance is positive for Pakistan, Malaysia & Turkey. It shows that aggressive working capital management decisions have a positive impact on corporate performance as low investment in working capital contributes to the profits of the firm. These findings are authenticating the results of Amidu, (2007), Krishnan & Moyer, (1997) and Gardner et al., (1986). It can be concluded from the discussion that financially aggressive corporate finance managers use more leverage and hold less cash on the balance sheet, and many tend to grow their firms through acquisitions. More conservative managers have more cash on the balance sheet and grow more through internal investments.

The last objective of the research is to determine the differences in family vis-à-vis non-family owned companies in developing countries, i.e. Pakistan, Turkey, & Malaysia. The family-owned companies are the predominant class of companies around the world. Family owned companies are more prominent in lesser-developed economies, i.e., Pakistan, Malaysia & Turkey, and one reason for this is the deficient institutional and legal framework in these countries. Lack of trust in the legal process and the validity of contracts *strengthen* the inclination not to trust anyone but family members. The second reason is, business owners are

more reluctant to establish partnerships with anyone outside of the family and delegate management authority to professionals. The findings of comparison of family and non-family owned companies conclude that corporate finance managers of family-owned companies are more behaviorally biased as compared to non-family owned companies. This finding emphasizes that monarchism in the family control business trigger the effect of behavioral biases in corporate decisions and risk perception of the financial decision makers.

8.3 Recommendations and Implications

This study has implications for policymakers, corporate sector in general, corporate financial decision-makers in specific and the academic researchers. The real-world implications of this type of research go against much of the prevailing classical wisdom regarding corporate finance. At least until the recent spate of corporate behavioral finance is emerged. The corporate finance managers operating with behavioral biases may do what they think best, however, nonetheless make unsound decisions. This behavioral corporate finance research indicates that traditional ideas of corporate governance may be too simplistic.

The behavioral biases impact the personality of corporate finance mangers. The managers with self-serving bias have higher investment-cash flow sensitivity and experience more negative market reactions which ultimately tends the organization to have higher leverage, and less likely to issue dividends. The results of this study suggest that proper corporate policies should be implemented to address this issue. The overconfident managers use lower discount rates to value cash flows, invest more, use more debt, and are less likely to pay dividends. These managers start emphasizing on long-term financing rather than short-term financing. As per results, the pervasive effect of this mis calibration suggests that the effect of overconfidence should be explicitly modeled when analyzing corporate decision-making.

The optimistic managers may show smooth earnings more on average than rational managers do. This behavior can dramatically impact firms earning and falsify the existing corporate policies. This effect can be controlled controlled by implementing training programs of market survey. Our study concludes that managers are more inclined toward making mistakes and suffering from anchoring/representativeness bias. The managers should pay attention to their working environment while making any financial decision. They should use full power of mindfulness and dynamic analysis. This may help to overcome anchoring/representativeness bias while making financial decisions.

The above business scenarios explain that managers are biased in their decision making and they should be trained accordingly. The policymakers are strongly recommended to look beyond the classical facets, by focusing on psychological aspects while hiring finance managers with desired experience, personality, management style, and problem-solving skills. For existing corporate finance managers, professional training session should be conducted to realize them about their behavioral biases and solutions to eradicate it.

In a nutshell, theories from behavioral finance are at the forefront of explaining differences in corporate financial policies. Most important, however, behavioral corporate finance has reintroduced humanity with all its complexity and subtlety into corporate finance, where indeed it belongs.

8.3.1 Academic Contribution

- Although this study is not coining a new theory, rather validates/challenges the existing theories of corporate finance. Incremental and scientific theoretical contribution is made under the positivism paradigm. Meager evidence exists that explained the behavioral aspects of corporate financial decisions and their impacts on corporate performance in the developing countries like Pakistan, Turkey, and Malaysia. The study

is unique in its nature as it aims to present a unified theoretical model of behavioral corporate finance and its delineation to firm performance.

- The study takes a holistic perspective of behavioral biases, financial literacy, managerial skills, risk perception, financial decisions, and corporate performance. The theoretical contribution of the study is the comprehensive model, which explains the whole process of financial decision-making and entailing impacts on the corporate performance of corporate sector.

- The literature provides concrete evidence on the behavioral biases and corporate financial decisions (Malmendier & Tate, 2002; Cain & McKeon, 2016; Zhao, 2011). However, most of the studies have been conducted on the secondary data, collected from annual reports of corporate sector. Some evidence had been proven from the field experiments of psychological behaviors examining the financial situations (e.g., Welsh et al., 2013; Cipriani & Guarino, 2008; Ramiah et al., 2016). In contrast, evidence on empirical testing on primary data are rare. This study contributes to the literature at the individual decision-making level, rather than at the industry or firm levels.

- This study also contributes to the existing behavioral corporate finance literature. First and most importantly, the study develops a new set of proxies for mental accounting and optimism. Secondly, the homogeneous measurement method is developed for all variables of analysis.

8.3.2 Practical Contribution

The practical contribution of the study is centered as follows:

- The study is helpful for managers to make better financial decisions in corporate sector as well as all stakeholders, i.e., investors, policymakers, tax authorities, corporate

sector, financial analysts, and the academic researchers are the beneficiary of the implications proposed by this thesis.

- This study tries to provide the opportunity for a better understanding of the heteroskedastic policies and decisions of individuals and groups in the corporate sector.
- The risk management is an important aspect for financial decision making which ultimately impacts corporate performance of the firms. However, the importance of risk factors differs across the firms and country. This thesis addresses this important issue with practical implication, for example, the older managers of the firms are more risk averse.
- Large firms in these countries seriously focus on working capital and capital structure rather than dividend policy. This study can help managers to form policies regarding the important financial decision.

8.3.3 Contextual Contribution

The contextual contribution of the study is based on the investigation of behavioral biases in family and non-family owned corporate firms of emerging economies, i.e. Pakistan, Malaysia, & Turkey. The plethora of previous literature has provided no evidence of any research on the difference between family and non-family owned firms regarding financial decision making from behavioral perspectives. However, this study contributes to this context with the focus on family vis-à-vis non-family owned firms.

8.4 Limitations and Future Research Guidelines

This study is investigating the role of behavioral biases on risk perception and financial decision making of managers and ultimately its effect on firm performance. Although this study is novel in several facets however for the comparison of results, further research may be carried out in the same field. We tested the relation of the six most important behavioral biases.

However, this research can be replicated by incorporating other biases with theoretical justification. For example, framing and confirmation bias could be added in the current model and tested. We tested this model on the dataset of Pakistan, Malaysia, and Turkey. It is important that similar studies should be conducted in other countries of the world to test if the same conclusions can be drawn or a comparison of developed and developing counties can be interesting. The variables in our model (particularly biases) could be measured with different techniques like primary data, secondary data and experimental design. We used primary data technique for our research. However, other quantitative techniques can be developed and used to measure these variables and test the validity of the conclusions generated in this study. The collection of primary data was the difficult task of our research because data were collected from three countries and the response rate of financial managers was very small in numbers. Therefore, by employing large dataset, the model can be retested.

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APPENDICES

Appendix A

COVER LETTER

Subject: Request to Participate in a Research Study

Dear Sir/Madam,

Department of **Management Sciences** of **International Islamic University (IIU)**, Islamabad is a research driven leading business and management School in South Asia. IIU aspires to contribute to knowledge generation and dissemination through unparalleled research and teaching.

I am a PhD Scholar at IIU and undertaking a research thesis to access **quality of corporate financial decisions with a comparison of Pakistan, Turkey, and Malaysia,'.** An understanding developed by this work, may help suggesting novel ways to corporate sector of Pakistan, Malaysia, and Turkey to increase performance.

We badly need your support in this research. We request you to please spare 15 minutes of your valuable time to participate in this research by clicking following link of your respective country of working.

http://www.hecresearchproject.com/pakistan.aspx
http://www.hecresearchproject.com/malaysia.aspx
http://www.hecresearchproject.com/turkey.aspx

We assure you that the information sought in this questionnaire will be treated with complete confidentiality. The research results will not base on individual respondent's data rather on a large sample.

If you desire, we can share findings of our research with you. Having any question(s) please do not hesitate to contact me on the information given below.

Thank you very much!

Best Regards,

Muhammad Zia Ur Rehman

PhD (Scholar), MS Finance
Faculty of Management Sciences,
International Islamic University, Islamabad, Pakistan
Email: mzrehman.fin@iiu.edu.pk

QUESTIONNAIRE

Corporate Behavioral Finance Survey

Name (Optional): **Designation(Optional):**

Email (Optional): **Name of Company (Optional):**

1	Gender
●	Male
●	Female

2	Age
●	18-25
●	26-35
●	36-45
●	46-55
●	56-60
●	60 and Above

3	Education
●	Graduation
●	Master
●	MS/M.Phil.
●	PhD.
●	CFA
●	ACMA
●	ACCA
●	CA
●	CPA

4	Work Experience
●	_____ Years

5	Industry
●	Automobile Assembler
●	Automobile Assembler and Parts
●	Cable and Electrical Goods
●	Cement
●	Chemical
●	Engineering
●	Fertilizer
●	Food & Personnel Care Products
●	Glass and Ceramics
●	Jute
●	Leather and Tanneries
●	Oil and Gas Exploration
●	Oil and Gas Marketing
●	Paper and Board
●	Pharmaceuticals
●	Power Generation & Production
●	Refinery
●	Sugar and Allied
●	Synthetics and Rayon
●	Technology and Communication
●	Textile
●	Textile Weaving
●	Textile Spinning
●	Textile Woolen

6	Credit Rating
●	AAA
●	AA
●	A
●	BBB
●	BB
●	B
●	CCC
●	CC
●	C
●	N/A

7	Annual Revenue (US$)
●	30 Million or Less
●	30-99 Million
●	100-499 Million
●	500-999 Million
●	1000 -1999 Million
●	1999 Million and Above

8	Foreign Sales as % of Total Sales
●	0%
●	1-24%
●	25-49%
●	50% and above

9	No. of Employees
●	1-2999
●	1000-1999
●	2000-3999
●	4000-4999
●	5000-5999
●	6000 and above

10	Members in BOG/BOD
●	5 or Less
●	6-10
●	11-15
●	16-20

11	Debt to Equity Ratio
●	____/____%

12	Dividend Payout Ratio
●	_____%

13	Working Capital % of Sales/ WC Turnover in Days
●	_____% or _____Days

14	Private or Public Limited
●	_____

14	**Number of Family Members in the Board of Directors/ Governors (if any).**	
15	**Percentage of shares held by single family members (if any).**	
16	**Is the major proportion of shares held by owners belonging from single family?**	**YES / NO**

Section – I

1 When your firm is in financial distress to what extent do you blame any of the following?

	Your own financial policy	Not at all	Very little	Don't know	Somewhat	Very Much
	The economic environment	Not at all	Very little	Don't know	Somewhat	Very Much

2 Assuming the economic environment is good, how confident are you with your financial decisions ?

		Not at all confident	Little Confident	Don't Know	Somewhat Confident	Extremely Confident
3	Imagine that you are about to purchase a jacket for Rs 10000 in store. Mean while the salesman informs you that the jacket you wish to buy is on sale for Rs 9700 at the other branch of the store located 20 minutes' drive away. Would you make a trip to other store?					
		Surely won't	won't	Not Sure	Yes , I will	Surely, I will
4	Looking ahead, what do you think that your firm's capital structure would be after one year from now?					
		Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
5	Assume that you have made a credit sales to low credit rated company "A", it has paid on time, what is the likelihood you would:					
	Make credit sales to **Company A** in the future	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
	Make credit sales to another low credit rated company in the future?	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
6	How upset would you feel if you have total bad debts of:					
	1% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
	5% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
	10% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
7	How confident are you in your financial decisions when your firm's performance is poor?					
		Not at all confident	Little Confident	Don't Know	Somewhat Confident	Extremely Confident
8	In times of good financial performance to what extent do you think the following factors have contributed:					
	Your own financial decisions	Not at all	Very little	Don't know	Somewhat	Very Much
	The National Macro-economic conditions	Not at all	Very little	Don't know	Somewhat	Very Much
9	Imagine that you are about to purchase a calculator for Rs 1200 in store. Mean while the salesman informs you that the calculator you wish to buy is on sale for Rs 900 at the other branch of the store located 20 minutes' drive away. Would you make a trip to other store?					
		Surely won't	won't	Not Sure	Yes , I will	Surely, I will
10	Assuming that you have made a credit sales to low credit rated company "B", it has <u>not paid</u> on time, what is the likelihood you would:					
	Make credit sales to **Company B** in the future	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
	Make credit sales to another low credit rated company in the future?	Not Likely	Somewhat Likely	Don't know	Very Likely	Extremely likely
11	What do you expect for your firm's policy about dividend payout in the next year?					
		Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Undecided	High Concern For Paying Dividend	Highest Concern for Paying Dividend
12	How satisfied you would be with annual profit of:					
	10% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
	20% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
	30% of your sales revenue	Not at all	Very little	Don't know	Somewhat	Very Much
Section II						
1	How would you rate your literacy level regarding financial markets/systems?	Very Low	Low Average	Average	Above Average	Excellent

2	Your knowledge to understand key financial terms, concepts, and situations?	Very Low	Low Average	Average	Above Average	Excellent
3	You are always aware of the outcome of your financial decisions?	Never	Seldom	Sometimes	Often	Always
4	You are aware of the risk associated with your decision?	Never	Seldom	Sometimes	Often	Always
5	Generally, how willing are you to make risky decisions?	Never	Seldom	Sometimes	Often	Always
6	Are you always ready to make your decisions based on risk?	Never	Seldom	Sometimes	Often	Always
7	Does the riskiness of your decision fluctuate the outcome over a period of time?	Never	Seldom	Sometimes	Often	Always
8	Are your decisions overall highly risky?	Never	Seldom	Sometimes	Often	Always
9	You have the technical skills and ability to maintain an optimal capital structure of the organization	Very Poor	Poor	Acceptable	Good	Very Good
10	Rate your leadership skills for motivating and guiding your subordinates for achieving the goals and targets.	Very Poor	Poor	Acceptable	Good	Very Good
11	Rate your skills for controlling financial and economic factors that influence your financial policy	Very Poor	Poor	Acceptable	Good	Very Good
12	Rate your skills for planning and formulation of strategies for implementing your financial policies and decisions.	Very Poor	Poor	Acceptable	Good	Very Good
Section – III						
1	Rate your company's capital structure policies?	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
2	Rate your company's target capital structure ratio	Very Low Levered	Low Levered	Moderate	High Levered	Very High Levered
3	**Indicate the relative importance of the following financial planning principles in governing your company's financing decisions**					
	Maintaining financial flexibility	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Ensuring long-term survivability (avoiding bankruptcy)	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Considering financial decisions of competitors	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Considering market response	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Maintaining a stable dividend policy	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Maximizing profitability	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Maintaining voting control of shareholders	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
	Preferring previously used financing sources	Not at all Important	Less Importance	Neutral	High Importance	Extremely Important
4	Which of the following policies best describes your company's current Dividend Policy?	Lowest Concern for Paying Dividend	Low Concern for Paying Dividend	Moderate Concern for Paying Dividend	High Concern for Paying Dividend	Highest Concern for Paying Dividend
5	**To what extent do you agree with the following statements of decisions in dividend policy?**					
	We are concerned for paying dividends rather than risky investments.	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

	We are concerned for paying dividends rather than availability of cash.	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	We are concerned for share holders value maximization by paying dividends	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
	We are concerned for increasing the firm value by paying dividends	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
6	Which of the following policies best describes your company's working capital management?	Highly Conservative	Conservative	Moderate	Aggressive	Highly Aggressive

7	Please indicate the **Cash Management** approach used by your company. **(You may Select multiple)**						
a. Managing cash through netting	b. Meet payment in a timely manner	c.Diversification of banks	d. Minimize floats	e. Managing cash through leading and lagging	f. Streamline Bank Relations	g. Centralization of cash management decisions	h. Emergency liquidity reserves

8.	**What approach does your firm use for inventory management?(You may Select multiple)**		
a. Material requirement planning	b. Sales forecasting	c.Inventory models	
d. Just-in-time	e. Supply Chain Management	f. ERP Systems	

9.	**Rate the factor given below for their importance while taking decisions regarding account Payables**					
	Financial motives	Not at all important	Not Important	Neutral	Important	Highly important
	Operational Motives	Not at all important	Not Important	Neutral	Important	Highly important
	Price Motives	Not at all important	Not Important	Neutral	Important	Highly important
	Transaction Motives	Not at all important	Not Important	Neutral	Important	Highly important

10.	**What is bad debt level in your accounts receivable?**				
Less than 1%	1-3%	3-6%	6-9%	More than 10 %	

11	In the last three years, relative to your closest competitors how well or poorly do you perceive your firm has performed on the following performance measures? "-2" means much worse, "0" means about the same and "+2" means much better					
1	Overall business performance	-2	-1	0	1	2
2	Market share	-2	-1	0	1	2
3	Sales growth	-2	-1	0	1	2
4	Customer satisfaction	-2	-1	0	1	2
5	Profitability	-2	-1	0	1	2
6	Return on investment	-2	-1	0	1	2

[9]

[9] The above stated questionnaire was used to collect data from Pakistan. However, for Malaysia and Turkey, minor changes are made to comply with local requirements e.g. firm & respondent specific variables and local currency etc. All the changes can be seen in sections 4.2, 5.2, 6.2 and 7.2 "Descriptive Analysis" in corresponding chapters.

Appendix B

This appendix discusses the generation of hypothesis based on the literature and its bifurcation for the analysis. According to the objectives of the thesis and to evaluate main hypothesis, it was necessary to examine all sub-hypotheses of following table. And it was also mandatory for execution of the analysis in Smart PLS.

Hypothesis from Literature	Hypothesis for PLS Smart Analysis and Discussion	Sub - Hypotheses
H_I: Self-serving bias has a significant relationship with risk perception of corporate finance managers. H_{Ia}: Self-serving bias has a significant relationship with overconfidence of corporate finance managers.	H_1: Self-serving bias has a significant relationship with risk perception of corporate finance managers. H_{1a}: Self-serving bias has a significant relationship with overconfidence of corporate finance managers.	N/A
H_{II}: Overconfidence bias has a significant relationship with risk perception of corporate finance managers.	H_2: Overconfidence bias has a significant relationship with risk perception of corporate finance managers.	N/A
H_{III}: Optimism bias has a significant relationship with risk perception of corporate finance managers.	H_3: Optimism bias has a significant relationship with risk perception of corporate finance managers.	N/A
H_{IV}: Anchoring/Representative bias has a significant relationship with risk perception of corporate finance managers.	H_4: Anchoring/Representative bias has a significant relationship with risk perception of corporate finance managers.	N/A
H_V: Loss aversion bias has a significant relationship with risk perception of corporate finance managers.	H_5: Loss aversion bias has a significant relationship with risk perception of corporate finance managers.	N/A
H_{VI}: Mental accounting bias has a significant relationship with risk perception of corporate finance managers.	H_6: Mental accounting bias has a significant relationship with risk perception of corporate finance managers.	N/A
H_{VII}: Financial literacy has a significant impact on relationship between behavioral biases and risk perception of corporate finance managers.	H_{13-18}: Financial literacy has a significant impact on relationship between behavioral biases and risk perception of corporate finance managers.	H_{13}: Financial literacy has a significant impact on relationship between self-serving bias and risk perception of corporate finance managers.

			H_{14}: Financial literacy has a significant impact on relationship between overconfidence bias and risk perception of corporate finance managers. H_{15}: Financial literacy has a significant impact on relationship between optimism bias and risk perception of corporate finance managers. H_{16}: Financial literacy has a significant impact on relationship between anchoring/representative bias and risk perception of corporate finance managers. H_{17}: Financial literacy has a significant impact on relationship between loss aversion bias and risk perception of corporate finance managers. H_{18}: Financial literacy has a significant impact on relationship between mental accounting bias and risk perception of corporate finance managers.
H_{VIII}:	Risk Perception of Corporate finance managers have a significant relationship with financial decisions of corporate firms	H_{7-9}: Risk Perception of Corporate finance managers have a significant relationship with financial decisions of corporate firms	H_7: Risk Perception of Corporate finance managers have a significant relationship with dividend Policy Decisions of corporate firms H_8: Risk Perception of Corporate finance managers have a significant relationship with Capital structure Decisions of corporate firms H_9: Risk Perception of Corporate finance

			managers have a significant relationship with working Capital Management Decisions of corporate firms
H_{IX}:	Risk perception mediates the relationship between behavioral biases of corporate finance managers and financial decisions of corporate firms.	$H_{22a-27a}$: Risk perception mediates the relationship between behavioral biases of corporate finance managers and dividend policy decisions of corporate firms. $H_{22b-27b}$: Risk perception mediates the relationship between behavioral biases of corporate finance managers and capital structure decisions of corporate firms. $H_{22c-27c}$: Risk perception mediates the relationship between behavioral biases of corporate finance managers and working capital decisions of corporate firms.	H_{22a}: Risk perception mediates the relationship of self-serving bias of corporate finance managers and dividend policy decisions of corporate firms. H_{22b}: Risk perception mediates the relationship of self-serving bias of corporate finance managers and capital structure decisions of corporate firms. H_{22c}: Risk perception mediates the relationship of self-serving bias of corporate finance managers and working capital management decisions of corporate firms. H_{23a}: Risk perception mediates the relationship of overconfidence bias of corporate finance managers and dividend policy decisions of corporate firms. H_{23b}: Risk perception mediates the relationship of overconfidence bias of corporate finance managers and capital structure decisions of corporate firms. H_{23c}: Risk perception mediates the relationship of overconfidence bias of corporate finance managers and working capital management

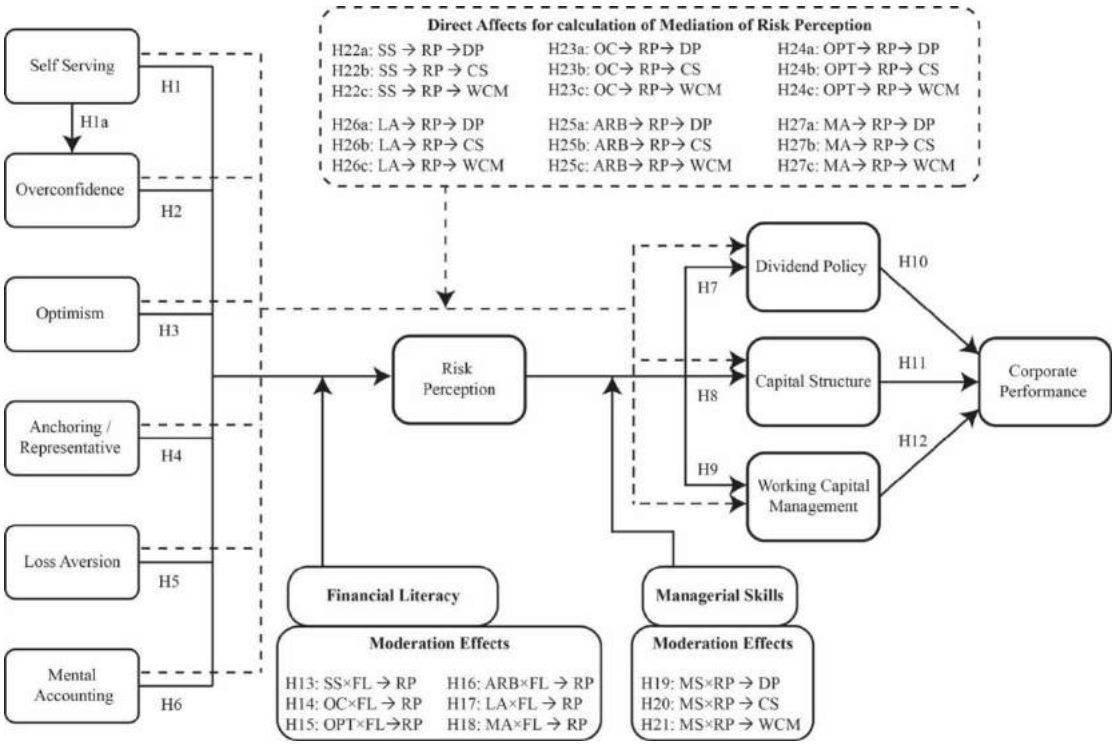
		decisions of corporate firms. H_{24a}: Risk perception mediates the relationship of optimism bias of corporate finance managers and dividend policy decisions of corporate firms. H_{24b}: Risk perception mediates the relationship of optimism bias of corporate finance managers and capital structure decisions of corporate firms. H_{24c}: Risk perception mediates the relationship of optimism bias of corporate finance managers and working capital management decisions of corporate firms. H_{25a}: Risk perception mediates the relationship of anchoring/representative bias of corporate finance managers and dividend policy decisions of corporate firms. H_{25b}: Risk perception mediates the relationship of anchoring/representative bias of corporate finance managers and capital structure decisions of corporate firms. H_{25c}: Risk perception mediates the relationship of anchoring/representative bias of corporate finance managers and working capital management decisions of corporate firms. H_{26a}: Risk perception mediates the relationship of loss

		aversion bias of corporate finance managers and dividend policy decisions of corporate firms. H_{26b}: Risk perception mediates the relationship of loss aversion bias of corporate finance managers and capital structure decisions of corporate firms. H_{26c}: Risk perception mediates the relationship of loss aversion bias of corporate finance managers and working capital management decisions of corporate firms. H_{27a}: Risk perception mediates the relationship of mental accounting bias of corporate finance managers and dividend policy decisions of corporate firms. H_{27b}: Risk perception mediates the relationship of mental accounting bias of corporate finance managers and capital structure decisions of corporate firms. H_{27c}: Risk perception mediates the relationship of mental accounting bias of corporate finance managers and working capital management decisions of corporate firm
H_X: Managerial skills have a moderating effect between risk perception of corporate finance managers and financial decisions of the firms.	H_{19-21}: Managerial skills have a moderating effect between risk perception of corporate finance managers and financial decisions of the firms.	H_{19}: Managerial skills have a significant impact on relationship between risk perception of corporate finance managers and

		dividend policy of firms. H_{20}: Managerial skills have a significant impact on relationship between risk perception of corporate finance managers and capital structure of firms. H_{21}: Managerial skills have a significant impact on relationship between risk perception of corporate finance managers and working capital management of firms.
H_{XI}: Financial Decision making has significant effect on corporate performance of the firm.	H_{10-12}: Financial Decision making has significant effect on corporate performance of the firm.	H_{10}: Dividend policy decisions of firms have a significant relationship with corporate performance of firms. H_{11}: Capital structure decisions of firms have a significant relationship with corporate performance of firms. H_{12}: Working capital management decisions of firms have a significant relationship with corporate performance of firms.

Appendix C

Detailed Model of Research



Appendix D

DEFINITIONS OF VARIABLES FROM LITERATURE

Overconfidence	
(Einhorn & Hogarth, 1978)	'Overconfidence is apparent that neither the extent of professional training and experience nor the amount of information available necessarily increases predictive accuracy (P. 395)'.
(Arkes, Dawes, & Christensen, 1986)	'One of the dangers of overconfidence is that one feels that no assistance is needed. If one assumes that his or her judgment is quite good, decision aids would be entirely superfluous'
(Baumann et.al. 1991)	'The phenomenon of overconfidence concerns, in effect, an estimate of the accuracy of the estimate (P. 168)'.
(Davidhizar, 1993)	'Self-confidence is the feeling that someone knows how to do something, has the power to make things happen, and knows that one's efforts will be successful; it is the belief that knowledge, skill, experience, and potential result in success (P. 218)'.
(H. Shefrin, 2000)	Overconfidence ''pertains to how well people understand their own abilities and the limits of their knowledge'.
(Heaton, 2002)	Overconfident managers are unrealistically optimistic and tend to 'systematically overestimate the probability of good firm performance and underestimate the probability of bad firm performance.'
(Shiller, 2002)	''People think they know more than they do'.
(Bénabou & Tirole, 2002)	Overconfidence as 'believing ─ rightly or wrongly ─ that one possesses certain qualities may make it easier to convince others of it (P 872).
(Hiebl, 2012)	'Excessive confidence in one's own answers to questions'.
(Billett & Qian, 2008)	'Overconfidence and biased self-attribution are static and dynamic counterparts; self-attribution causes individuals to learn to be overconfident rather than converging to an accurate self-assessment (P 31)'.
(Schaefer, Williams, Goodie, & Campbell, 2004)	'Overconfidence is a judgmental error in which people overestimate their own accuracy. Specifically, overconfidence is defined as a positive difference between confidence and accuracy (P 473)'.
Anchoring & Representative	

(Amos Tversky & Kahneman, 1974)	'As the amount of detail in a scenario increases, its probability can only decrease steadily, but its representativeness and hence its apparent likelihood may increase. The reliance on representativeness, we believe, is a primary reason for the unwarranted appeal of detailed scenarios and the illusory sense of insight that such constructions often provide (p. 98)'.
(Mussweiler & Strack, 2001)	''Large anchoring effect occur under conditions which promote the extensive generation of anchor consistent target knowledge (p.238)''
(Mussweiler & Strack, 2001)	''Appears to involve a relatively elaborate process of testing the hypothesis that the target quantity may be similar to the comparison standard (p. 252)''
(Hirshleifer, 2001)	'Dynamic psychology-based asset pricing theory in its infancy (p. 1535).'
(S. D. Campbell, Sharpe, & Sharpe, 2007)	'Anchoring, defined as choosing forecasts that are too close to some easily observable prior or arbitrary point of departure. Such behavior results in forecasts that underweight new information and can thus give rise to predictable forecast errors (P, 02)'.
(G. Chen et al., 2007)	'Representativeness leads people to form probability judgments that systematically violate Bayes' rule (p. 427)'.
(Amir & Ganzach, 1998)	'The representativeness heuristic leads to excessively extreme predictions, or overreaction. When using this heuristic, people choose a prediction value whose extremity matches the extremity of the predictive information (p.334)'.
Mental Accounting	
(Lipe, 1993)	'Mental account is a way of framing a decision. Mental account is used to gather and combine the information that will be used in making a decision, while data consider irrelevant to the decision' (p.751)
(R. H. Thaler, 1999)	''Similar to the system of recording and summarizing business and financial transaction in books and analyzing, verifying and reporting the results however it is a mental process (p, 184)''
(Shefrin, & Thaler , 2004)	'Mental accounting—people set up mental accounts for outcomes that are psychologically separate, as much as financial accountants lump expenses and revenues into separated accounts to guide managerial attention' (p.18).

(Lim, 2006)	'There are two forms of mental accounting, one in which investors care about the gains and losses in the value of individual stocks (individual stock accounting) and the other in which investors care about the gains and losses in the value of the overall portfolio (portfolio accounting) (p.2542)'.
(Henderson & Peterson, 1992)	'Mental accounting is type of decision framing in which individuals form (psychological) accounts containing the advantages and disadvantages of an event or option (p.92)'.
(Singer, Singer, & Ritchie, 1986)	'For some subjects, the imagined 'budgeting' of $10 was sufficient to trigger topical organization of a mental account' (p. 836)'.
Self-Serving Bias	
(Federoff & Harvey, 1976)	''people will attribute negative events to external causes to avoid a lowered self-evaluation (p. 338)'.
(Kunda, 1987)	'Self-serving bias is defined as, 'a psychosomatic consequence of creating such judgments and theories in which one person's predictability regarding self-skills for favorable results are higher and the disinclination of self-attributed skills towards unfavorable outcomes (p. 639)'.
(Babcock & Loewenstein, 1997)	A tendency 'to conflate what is fair with what benefits oneself (p. 110)'.
(Libby & Rennekamp, 2012c)	'A tendency to attribute positive outcomes to their own internal characteristics and negative outcomes to external factors (p.198)'.
(Forsyth, 2008)	'Self-serving biases are particularly evident when individuals formulate attributions about the causes of personal actions, events, and outcomes. When explaining positive actions and experiences, their attributions emphasize the causal impact of internal, dispositional causes, but when identifying the causes of negative events, they stress external, situational factors (p.429)'.
Loss Aversion	
(Samuelson, 1963)	'Losses are weighted about twice as much as gains (p. 109)'

(Shafir, Diamond, & Tversky, 1997)	'The origin in the value function and losses or gains be calculated in nominal terms since '...people often think about economic transactions in both nominal and real terms, and that money illusion arises from an interaction between these representations, which results in a bias toward a nominal evaluation (P. 01)'.
(Camerer, 2005)	'Loss aversion is often an exaggerated emotional reaction of fear, an adapted response to the prospect of genuine, damaging, survival-threatening loss. Many of the losses people fear the most are not life threatening, but there is no telling that to an emotional system that is over adapted to conveying fear signals (p.132)'.
(Kahneman, Knetsch, & Thaler, 1991)	'Loss aversion-the disutility of giving up an object is greater that the utility associated with acquiring it (p.194)'.
(Johnson et al., 2006)	'Losses hurt more than gains satisfy; most empirical estimates conclude that losses are about twice as painful as gains are pleasurable (p.5)'.
(Abdellaoui, Bleichrodt, & Paraschiv, 2007)	'Prospect theory assumes that people weight probabilities and that probability weighting for gains may be different from probability weighting for losses (p.1660)'.
Optimism	
(Helweg-Larsen & Shepperd, 2001)	'the tendency for people to report that they are less likely than others to experience negative events and more likely than others to experience positive events (p. 74)'.
(Hackbarth, 2008)	'Optimistic agents as predicting that favorable future events are more likely than they actually are (p. 843)'.
(Tomak, 2013)	Optimism bias or over-optimism is defined as 'the tendency of people to over-estimating the likelihood of positive events and under-estimating the likelihood of negative events'.
(Heaton, 2012)	Managers are 'optimistic' when they systematically overestimate the probability of good firm performance and underestimate the probability of bad firm performance (p.33)'.
Risk Perception	
(Brehmer, 1987)	'How risk is judged depends upon the context in which the judgments take place (p.36)'.
(Lopes, 1987)	'The word risk refers to situations in which a decision is made whose consequences depend on the outcomes of future events having known probabilities (p. 255)'.
(Amos Tversky & Fox, 1995)	'Much of the study of decision making is concerned with the assessment of these values and the manner in which they are or should be-combined (p. 269)'.

(Society, 1997)	Risk is identified ‘‘as a probability that obeys all the mathematical rules of combination and can thus be handled statistically (p. 3)’.
(Renn, 1998)	‘‘Risks refer to the possibility that human actions or events lead to consequences that affect aspects of what humans value (p.51)’’
(Lane & Quack, 1999)	‘A dictionary definition of risk is that of a state in which the number of possible future events exceeds the number of actually occurring events, and some measure of probability can be attached to them. Risk is thus seen to differ from uncertainty where the probabilities are unknown. Such a definition is beholden to mathematically inspired decision theory, and the rational actor model, and does not sufficiently consider the complexity of risk in business (p. 989)’.
(Rohrmann & Renn, 2000)	‘There is no commonly accepted definition for the term risk neither in the sciences nor in public understanding. In disciplines such as engineering, physics, pharmacology, toxicology or epidemiology, formal definitions based on the probability and physical measurements or corresponding utilities of negative outcomes are preferred; quantification of probabilities and outcomes lie at the core of this approach. In the social sciences, the meaning of risk is a key issue, and qualitative aspects of risk are seen as crucial facets of the concept (p-13)’.
(Rosa, 2003)	‘Defined risk as ‘a situation or an event where something of human value (including humans themselves) is at stake and where the outcome is uncertain (p. 56)’.
(Elmiger & Kim, 2003)	‘‘The trade-off that every investor has to make between the higher rewards that potentially come with the opportunity and the higher risk that has to be borne as a consequence of the danger (p. 28)’’.
Financial Literacy	
(Noctor, Stoney, & Stradling, 1992)	‘The ability to make informed judgments and to take effective decisions regarding the use and management of money’.
(McDaniel, Martin, & Maines, 2002)	‘The ability to read and understand basic financial statements (p.139)’.
(FINRA, 2003)	‘The understanding of ordinary investors about the market principles, instruments, organizations and regulations (p. 2)’.
(D. Moore, 2003)	‘Individuals are considered financially literate if they are competent and can demonstrate the use of the knowledge, they have learned. (p. 29)’
(Markow & Bagnaschi, 2005)	‘Familiarity with basic economic principles, knowledge about the economy, and understanding of some key economic terms’ (p. 03).

(Lusardi & Mitchell, 2007)	'The process by which financial consumers/investors improve their understanding of financial products and concepts, and through information, instruction, and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being (p.36)'
(Mandell, 2008)	'The ability to evaluate the new and complex financial instruments and make informed judgments in both choices of instruments and extent of use that would be in their own best long-run interests (p. 163)'
(Lusardi & Tufano, 2009)	'the ability to make simple decisions regarding debt contracts, in particular how one applies basic knowledge about interest compounding, measured in the context of everyday financial choices (p. 02)'.
(Bank, 2008)	'The ability to make informed judgments and to take effective decisions regarding the use and management of money (p. 01)'.
(Lusardi, 2008)	'Knowledge of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk diversification' (p. 02).
(Servon & Kaestner, 2008)	'A person's ability to understand and make use of financial concepts (p.273)'.
(Huston, 2010)	'Measuring how well an individual can understand and use personal finance-related information (p.306)'.
(Remund, 2010)	The degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning (p, 279)'.
Managerial Skills	
(Lawrence, 1973)	'It might be said that a skilled manager is one who can use techniques well in a simple natural way (p.177) '
(R. L. Katz, 1974)	An ability which can be developed, and which is manifested in performance, not merely in potential, the ability to translate knowledge into practice (p. 94)'
(Mahoney, 1995)	'The attributes of a management team may satisfy the conditions for achieving and maintaining competitive advantage (p. 92)'.

(Whetten, & Cameron, 2002)	'Designed specifically to help guide individual improving their own personal management competencies' (p.11)
(Timmons, 1999)	For marketing professionals, 'it is ability to organize, supervises, and motivates a direct sales force, and the ability to analyze territory and account sales potential and to manage a sales force to obtain maximum share of market. (p. 250)'