ORGANIZATIONAL IMPROVISATION AND FIRM PERFORMANCE: THE ROLE OF BUSINESS MODEL INNOVATION, INNOVATION CLIMATE AND INTELLECTUAL CAPITAL

By

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THESIS ACCEPTANCE CERTIFICATE

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Table of Contents

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Declarations

I, Zenab Waseem, solemnly declare that this thesis, entitled Organizational Improvisation and Firm Performance: The Role of Business Model Innovation, Innovation Climate and Intellectual Capital, conducted under the guidance of Dr. Ayesha Abrar. It represents the culmination of dedicated study, analysis, and critical thinking in the field of management.

I affirm that all sources utilized in this thesis have been duly cited and acknowledged in accordance with established academic conventions and ethical standards. Any assistance received from individuals or organizations, be it data, resources, or guidance, has been appropriately acknowledged within the relevant sections of this thesis.

Furthermore, I assert that this thesis has not been previously submitted for the conferral of any other academic degree. The ideas, arguments, and conclusions presented herein are solely my own, supported by the evidence and analysis presented throughout this document.

I acknowledge the challenges and limitations encountered during the research process. Nonetheless, I have made diligent efforts to ensure the rigor and integrity of the research methods employed. The findings and conclusions presented in this thesis accurately reflect the data and analysis conducted during the course of this study.

I am steadfast in upholding the principles of academic honesty, integrity, and ethical conduct throughout this research. I have adhered to the relevant institutional policies and guidelines concerning research ethics, data handling, and confidentiality.

Abstract

In the uncertain times as today, organizations need more resources and skills to help with their growth and to deal with any unforeseen circumstances. Organizational improvisation can help companies overcome any turbulent situation. To understand this, a positivist epistemology and quantitative method was employed. Data was collected via questionnaire from 250 companies from the IT sector. The end result and findings of this study provide insight on the existing strength of the relationship between firm performance and organizational improvisation. Business model innovation is acting as the mediating factor that depicts the relationship between organizational improvisation and firm performance. Furthermore, this relationship is strengthened by intellectual capital. The innovation climate in the firm further strengthens the relationship between organizational improvisation and firm performance. Hence, use of existing resources in a firm like the intellectual capital, enhancement of innovative climate and continuous innovation in business model helps the firm perform better and eventually leads to a better market standing for the firm. This study adds to the existing research by emphasizing the role organizational improvisation can play by incorporating business model innovation, intellectual capital and innovative climate to increase the performance of any firm and help the managers with the success and growth of their organization. These findings provide grounds for managers to bring about the required changes to their organizations for improved final results. It also gives future researchers the groundwork for studying different factors that can help contribute to better performance for firms so that maximum efficiency can be achieved.

Keywords: Organizational improvisation, firm performance, innovation climate, intellectual capital, business model innovation

CHAPTER 1: INTRODUCTION

The introductory chapter that this study portrays the reasoning behind the study and provides essential context and background information. It follows this by outlining the research's objectives and aims, followed by a brief summary of the literature and any gaps in existing research. The chapter goes on to describe the study's scope and significance, and concludes with a concise outline of the thesis's progression.

1.1 Background

The advent and advancement of new-age digital technologies like macro data, the cloud, IoT, and AI have led to continuous changes in the social and economic landscape. This has disrupted organizational structures and production methods, and has given rise to new application scenarios and consumption concepts. In this digital era, many traditional businesses are struggling with challenges such as restructuring their organizational structure, upgrading resource allocation, and adapting to changes in market demand (Sraml Gonzalez and Gulbrandsen, 2022). Over the years, scholars have found a number of reasons for why organizations engage in improvisation, as noted by Cunha et al. (1999). One reason is that unexpected events may arise where prior plans or operational capabilities may not be applicable. Another reason is the limited time frame that is available to quickly solve problems or address opportunities, which may make lengthy and formal planning processes infeasible or costly. Lastly, in order to increase the chances of fruitful improvised actions, organizations intentionally set aside plans and utilize available resources in new and unplanned ways to handle evolving situations. These details align with two perspectives on improvisation: the logic of responsiveness, which emphasizes the extemporaneousness of actions, and the logic of

activeness, which stresses the retention of new knowledge gained from improvised actions to facilitate the implementation of more effective impromptu actions, as Liu et al. (2018) have noted.

Previous studies show that improvisation capability can lead to better competitive actions in businesses. At the tactical level, companies that can deviate from their daily operations can better react to unexpected events and provide more reliable and fruitful experiences for the customers. (Secchi et al., 2019). At the strategic level, companies that can renew operational capabilities can conduct novel competitive actions, such as developing major new products or technologies (Moorman and Miner, 1998b; Pavlou and El Sawy, 2010; Vera et al., 2016). It is also argued that improvisation capability positively affects firm performance because frequent, heterogeneous, and complex competitive actions are associated with higher levels of temporary advantages (Tai, Wang, & Wang, 2020). With the increase in competition and the need for firms to improve their performance, BMI has contributed to firm performance a great deal (Hartmann et al., 2013; Karimi and Walter, 2016; Lambert and Davidson, 2013). There are a few of the more noticeable examples available of business models (BMs) that have applied innovation and their link with improved performance of the firm along with providing them with a competitive advantage in the market. The examples provided include the company within the computer industry named "Dell", within the retail industry, the company is "Wal-Mart". Similarly, within the transport industry, Uber has proven to be an example whereas the airline industry has Southwest to show as an example. These companies developed unique BMs by presenting or reorganizing crucial aspects of existing BMs in their relevant niches. The implication is that these innovative BMs contributed to the success of these companies and helped them gain a competitive edge over their rivals (Latifi, Nikou, & Bouwman, 2021).

There have also been instances where business model innovations (BMI) fail to deliver improved performance, despite being well-formulated. Examples of such failed BMIs include IKEA's Boklok scheme for mass-produced houses and the security of provision of electricity BM by TenneT's. Christensen et al. (2016) found that more than 60% of BMI-related efforts in their sample companies did not have the expected outcome. This implies that even a well-formulated BMI may not have the desired effect if not handled properly. BMI has been known to have both affirmative and negating returns, and for this reason, firms can go through immense growth or on the other hand, go completely bankrupt, which is entirely dependent on how BMI is implemented. As a result, knowing how and when to innovate a BM is a serious challenge for firm managers/owners. However, there are tools that are available to support business model innovation (BMI) and aid in the timely implementation of the innovated BM in operations. The use of these tools can help managers ensure a smooth and agile transition, not only in a technical sense but also concerning social and organizational aspects. Agile and scrum-based approaches can be used in theory and practice to deal with rapidly changing external factors and dynamics associated with BMI. Bouwman et al. (2018b) suggests that the use of such approaches will help managers effectively deal with these challenges.

1.2 Research Gaps

A number of studies have been done on the effects of organizational improvisation along with its variables on firm performance. A previously done study concludes that enterprise systems (ES) capabilities can enhance organizational improvisation capability through the ostensive and performance aspects of organizational routines. ES analytics competence can ultimately provide distinct and faster solutions to help enhance improvisation by utilizing declarative memory which is stored in the available enterprise systems. ES collaborative capability enhances system

and strategic collaboration among organizational units, allowing for better leveraging of each unit's procedural memory for rapid and coherent improvisations. The concurrent use of ES analytics and ES collaboration capability produces a grander level of improvisational capability. Empirical results support three of the four proposed hypotheses, indicating that organizations should develop both ES analytics and ES collaboration abilities to fortify improvisation and firm performance. The paper recommends that future research increases sample size and re-examination of the robustness of the empirical results (Tai, Wang, & Wang, 2020).

Another study highlights the need for firms to improve their performance by innovating their business model in the current complex and dynamic environment to continue maintaining their position (Ladib & Lakhal, 2015). However, despite studies in various numbers being done to study the details of business models, the ultimate effect that business model innovation has on the performance of a firm is still relatively unexplored (Ben Romdhane Ladib & Lakhal, 2015; Bock et al., 2012; Lambert & Davidson, 2013). Latifi et al., (2021) suggest that future research can investigate different organizational capabilities that can act as mediators between business model innovation (BMI) and performance. While the study by Latifi et al., (2021) examined the entrepreneurial alignment, innovative ideas, and the culture of an organization as potential mediators, other competences like training of the employees and different styles of leadership can also be explored. Moreover, the study suggests that inclusion of different moderators such as size of the firm along with it's age, the sector that the industry is in, the amount of competition in the market, and also the inclusion of BMI in firms can be taken up for further research to have a further look (Latifi, Nikou, & Bouwman, 2021).

1.3 Problem Statement

Over the years, scholars have done extensive research on organizational improvisation and come up with various reasons for its need (Cunha, Cunha, & Kamoche, 1999). In wake of environmental volatility, previously made plans may not remain relevant and hence the entrepreneurs will need to create a context that supports and facilitates organizational actors to improvise in order to maintain the firm's performance (Stockhinger & Werner, 2022). Shortage of time for problem solving and grasping available opportunities swiftly can become expensive and impractical to go through with the long procedure required for formal planning. For this reason, providing the employees an environment where they are encouraged to bring forward new innovative ideas and solutions to improvise can be a game changer. However, such improvisation may require bringing about changes in the internal structure and business architecture (Cao, 2013). Hence, the business model innovation may mediate firm improvisation effects on the firm's performance.

For business model innovation to work, the firm must utilize the available resources in unique ways to increase their chances of spontaneous acts becoming successful rather than focusing solely on the plans that they may have made (Liu et al., 2018). The intellectual capital is accepted as most valuable resource of production, ensuring the formation and development of creative and intelligent enterprises (Shchepkina, Meshkova, Goigova, Maisigova, & Tochieva , 2022). This makes the efficient utilization of intellectual capital a critical success factor for the firms. Therefore, studying intellectual capital in the capacity of a moderator helps understand the impact it will have on the firm performance if the intellectual capital of the company is utilized in an effective manner. Intellectual capital is considered to consist of the workers and team members of an organization which can help an organization in terms of customer service and in

turn provides beneficial results for the firm performance of the company (Engelman, Fracasso, Schmidt, & Zen, 2017).

1.4 Aim of the study

This research aims at understanding the influence that organizational improvisation has on firm performance via business model innovation as a mediator while intellectual capital and innovation climate as moderators.

1.5 Research Questions

Based on the discussion above, the following research questions are addressed in this research.

1. What is the relationship between organizational improvisation and firm performance?
2. Does business model innovation mediate between organizational improvisation and firm performance?
3. What is the role of intellectual capital as moderator between the relationship between business model innovation and firm performance?
4. How does innovation climate as a moderator affect the relationship between business model innovation and firm performance?

1.6 Research Objectives

1. Examine the direct relationship between organizational improvisation and firm performance.
2. Does business model innovation mediate the relationship between organizational improvisation and firm performance?
3. To assess the moderating role of intellectual capital on relationship between business model innovation and firm performance.

4. Ascertain the moderating role of innovation climate on relationship between business model innovation and firm performance.

1.7 Significance and scope of the study

This research focuses on organizational improvisation, business model innovation, intellectual capital, and innovation climate and their relevance to improving firm performance in Pakistan within the IT industry. An increased interest in the firm performance of high-tech industry globally motivates us to focus on the IT industry within Pakistan. The 21st century has brought with it a significant evolution in the IT industry all over the world. In the US, IT firms account for nearly 32% of the market based on the list of firms by S&P 500 Index (Okafor, Adeleye, & Adusei, 2021). Keeping in mind the numbers, there is little to no doubt about the immense growth in the IT industry over the last decade. Tech companies have grown to such an extent that their performance has become prominent enough to effect the economic trajectory which has a huge effect on the overall national security and consequently, on the citizens (Henry-Nickie, Frimpong, & Sun, 2019).

The study's findings could be significant for Pakistan's economic development, as improving firm performance is crucial for economic growth. By understanding the factors that influence firm performance, Pakistani firms can develop strategies to enhance their competitiveness and meet the changing demands of the market. The study highlights the importance of investing in human resources and developing a skilled workforce for long-term economic development. The findings could be valuable for policymakers, business leaders, and other stakeholders interested in promoting Pakistan's economic growth. The innovation climate is usually considered as the particular work environment of the organization with innovative techniques to accomplish the

goals and to fulfill the timelines (Agnihotri, Yang, & Briggs, 2019). Innovation climate consists of encouraging and inspiring environment that is created for the employees to foster a healthy, friendly and high-morale environment. In such a work climate, the employees can utilize their creative ideas to come up with innovative solutions for the problems that already exist whilst also coming up with newer products or services which can help enhance the performance of the organization (Newman, Round, Wang, & Mount, 2020). Studying innovation climate as the moderator helps understand the impact it has on firm performance which can help the Pakistani IT industry further utilize it for their benefit (Kheng & Mahmood, 2013). The findings of this study could have practical implications for firms looking to enhance their operations and achieve sustainable growth (Latifi, Nikou, & Bouwman, 2021). The study's holistic approach and focus on multiple factors can help researchers and practitioners understand the complex interrelationships between these factors and their impact on firm performance. The findings could be applicable to a broad range of firms and have policy implications for promoting economic development and growth. The study's use of empirical methods and statistical analysis provides a rigorous approach to understanding the relationships between the proposed variables and firm performance.

The knowledge that employees have along with the skills they possess count as some of the most important factors that can affect the performance of an organization. It was also noted that three factors of intellectual capital played a vital role in strengthening the business model to make it more innovative so that the work done by the employees improves which then provides a greater performance for the organization (Subramaniam M & MA, 2005). Studying intellectual capital as a moderator will help maximize the human resource of the organization by providing them the right conditions if it has a greater impact on firm performance.

Potential areas of application for this research are also valid for the Pakistani IT sector. The study's findings could have implications for business strategy, human resource management, innovation management, economic development, and organizational development. The research could inform decisions about resource allocation, recruitment, training, development, and retention of employees, as well as strategies for managing innovation, investment, and adaptation to changing circumstances.

This study uses the dynamic capability theory lens, to examine the relationship between organizational improvisation, firm performance with business model innovation as the mediator and, intellectual capital and innovation climate as the moderators.

1.8 Structure of the thesis

The thesis is split into six chapters. Chapter 1 provides a quick overview of the topic along with the variables and their contribution in organizational improvisation literature. It is followed by research questions, objectives and aim of the study. It also provides the aim/significance of the study. Chapter 2 consists of the vast amount of literature that was previously available on the variables as well as the theoretical framework for this study. This chapter aims to provide the concepts relating to organizational improvisation, business model innovation, firm performance, intellectual capital and innovation climate. Lastly, the chapter creates and proposes a research framework that serves as the foundation of the research. Chapter 3 provides the research methodology and research approach which is used to collect the data. It also comprises of the data collection technique used along with the sampling technique. Research participants and the data analysis technique that has been to evaluate the collected data is also included. Finally, the ethical considerations pertaining to it have also been concluded in this chapter. Chapter 4

explains the data analysis and empirical findings. Chapter 5 presents a detailed discussion on the implications of the study. Chapter 6 provides the conclusion, limitations and a direction for future studies.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter researches of various researchers have been discussed in which variety of variables are included such as organizational improvisation, business model innovation, firm performance, innovation climate, and intellectual capital are involved. The chapter connects the research to the current discourse in the OI literature, aiming to bridge gaps and expand on previous studies. Additionally, it provides theoretical underpinnings used in the research.

2.2 Organizational Improvisation

The basic concept of improvisation involves the dealing of individuals or an organization with unforeseen condition. Different researchers have described the concept of improvisation, such as for individuals like fire fighters who always have an unprecedented condition of fire and they are also responsible to go beyond limits to save the people as well as the burnt property (Wenyu (Derek) DU, Junjie Wu, Shanshi Liu, & Hackney, 2018). Similarly, a musician also improvises with the tunes and music to create a new version (Barrett & Peplowski, 1998). (Weick, 1998) have further investigated the improvisation in different organizations to tackle with unprecedented business situations without affecting the financial condition of the organization.

Organizational improvisation is also referred to as the ability that a company has to deal with unforeseen instability caused in its environment and how quickly it is handled whilst coming up with more innovative solutions to the problems that are achieved through utilization of the resources they have on hand (Kung & Kung, 2019; Arias-Pérez & Cepeda-Cardona, 2022). The most essential resource that an organization has for a proper and instantaneous feedback is knowledge. Available resources like the on hand inventory along with how the knowledge moves

along in an organization are vital to show that organizational improvisation as shown in studies before (Mamédio *et al.*, 2022; Wang *et al.*, 2019).

Similarly, improvisation is defined as the intentional blending of designing and executing a new production. This can occur at the individual, team, or organizational level. One of the key characteristics of organizational improvisation (OI) is extemporaneity, where some aspects of the action are not pre-planned (Cunha et al., 2017: 560; Miner et al., 2001: 314). While the degree of pre-design in improvisation can vary, some design occurs during the execution of the action. Novelty is another defining feature of OI, and it can range from completely new actions to novel adaptations of existing routines or knowledge (Cunha et al., 1999; Moorman & Miner, 1998b). The level of novelty is not as important as the presence of some new action that was not previously designed. This distinction is maintained in contemporary research.

Organizational improvisation can be termed as a novel action against unpredicted or unprecedented situations in any organization. Some of researchers have described key aspects for understanding the improvisation in any business or an organization. Archer (2009) has described that the improvisation process involves certain actions by utilizing the available opportunities to counter the challenging situation in any organization. Hadida (2015) has described that organizational improvisation includes a structured or organized plan to cope with unexpected circumstances in an organization which are not expected to be occurred in daily routine work in an organization. According to Hadida & Tarvainen (2014), improvisation in an organization represents the involvement of responsible authorities to deal with unforeseen situations without a proper planning or it can also be termed as on spot decisions for the betterment of organizational activities by availing the resources and opportunities. According to Moorman & Miner (1998), organizational improvisation plays a role of game changer in any organization such as during

new startups by a company, and any advancement in facilities or services for improvement of organization etc. Since all such practices involve the unforeseen conditions and the responsible authorities of organization has to deal with such conditions by taking situation specific actions to counter the effect of that unexpected scenario. Crossan & Cunha (2005), has also conducted research on the organizational improvisation and stated that it is such a condition in which innovative and situation friendly unplanned ideas take place by utilizing the available opportunities and facilities. Magni & Provera (2009), describe that organizational improvisation is actually a creative and innovative approach to tackle with unexpected emergent conditions in any business or organization. She also explained that organizational improvisation act as the most prominent and effective problem-solving technique which has ability to decrease the loss and to sustain the current economic condition of any organization. According to Brinke & Wouters (2010), it is a normal condition that the market or organization faces turbulence either economical or technological due to lack of proper contingency management in any organization or a market place. He discussed some aspects of organizational improvisation including on spot tackling the unexpected conditions effectively. According to Charles & Dawson (2011), "the enterprise resource planning change" also work as improvisation act in any organization for unexpected resource shortage conditions in any business organization. It not only allows the responsible managers to plan the change mechanisms for managing the resources efficiently. According to Crossan, Cunha, Vera, & Cunha (2005), improvisation in any organization usually brings an autonomous scenario for the responsible authorities to act beyond the rules or specified action plans by utilizing the available resources to counter unforeseen conditions such as plummeting of the economical profile of an organization, or financial crisis of an organization in stock market etc.

Another study by Wenyu, Wu, Liu, & Hackney (2018), has conducted a comparative analysis of organizational improvisation with three different processes which are also involve to bring the change in any organization, such as experimentation, innovation and agile development. According to him, "organizational improvisation leads to an unplanned innovation", "organizational improvisation can be seen or observed to be an unplanned experimentation". And in terms of agile development, it is observed that organizational improvisation includes the unplanned reactions to the changes. According to Brown & Eisenhardt (1997), "organizational improvisation is a subset of experimentation and innovation". It can be observed by a scenario, such as an organization launches its prototype product to observe the behavior of customers and purchasing trend of market before launching the product in bulk. Such practices can be termed as innovative experimentation which are usually performed to tackle with market fluctuations in the product credibility and related concerns with economic benefits of the organization.

According to several theorists, novelty is a crucial aspect of organizational improvisation (OI) and can come in varying degrees. An organization can create and execute a completely new action pattern, which is considered absolutely novel (Berliner, 1994; Moorman & Miner, 1998b; Weick, 1998). However, they can also create and execute new action patterns to enhance existing routines or knowledge. Contemporary research acknowledges different levels of novelty but still requires the presence of some action that was not pre-designed (Cunha et al., 1999; Moorman & Miner, 1998b).

Different researchers have observed the organizational improvisation to be effective enough to counter the challenges in a business. Miner, Moorman, & Bassoff (1997) has conducted research on the effective organizational improvisation and observe two different scenarios and criteria, one of which describes that the performance of a product is concerned with its overall

effectiveness and second shows that during the process of improvisation in an organization the overall effectiveness of the act is concerned with the effective learning and coordination.

There are still many areas in which research on organizational improvisation (OI) is developing, particularly regarding the two defining features of improvisation: extemporaneity and novelty (Weick, 1998). One question that scholars have explored is whether there is a threshold that must be reached before an action can be considered improvisation. Some have suggested that improvisation is a continuum that ranges from low-level interpretations to modest embellishments to full improvisations, particularly as it relates to novelty. However, no such gradations have been established for extemporaneity yet (Ciuchta, O'Toole, & Miner, 2021).

Furthermore, time is a crucial component of extemporaneity, and it is essential to examine it as a process in its own right. Theoretical insights related to different concepts of time, such as clock time versus event time and linear time versus cyclical time (Weick, 1998). However, there is a lack of empirical research that investigates the implications of these insights. Entrainment, which involves the synchronization of actions and behaviors among team members, may offer a useful approach to exploring the connection between time and extemporaneity (Shipp & Richardson, 2019; Zellmer-Bruhn, Waller, & Ancona, 2004).

Improvisation is guided by a goal-oriented approach that limits and steers actions toward the accomplishment of desired results. Additionally, improvisation takes place when thoughts and actions happen concurrently. The temporal alignment of design and execution is the most commonly cited aspect of improvisation across various studies (Hadida et al., 2015; Miner et al., 2001; Baker & Nelson, 2005). Lastly, it is important to note that improvisation itself is not inherently valuable. While some earlier research has linked improvisation to positive outcomes, more recent studies suggest that the relationship between improvisation and performance is

dependent on various contextual factors. In other words, the degree to which improvisation is associated with gains or losses in performance is contingent on specific situational conditions (Hmieleski & Corbett, 2008; Hmieleski et al., 2013; Vera & Crossan, 2005).

Pavlou & El Sawy (2010), conducted research on organizational improvisation to develop a new product in the information technology field. He observed that organizational improvisation has a capability to collaborate effectively by using available resources for an unexpected condition in IT systems of an organization. According to Orlikowski & Hofman (1997), organizational improvisation enables change, addresses the adaptation of certain technology especially made for such unprecedented conditions, it also involves the cooperative environment to meet the needs of such condition. It is also observed that the utilization of available resources to meet the needs of emergent circumstances is also the key role of organizational improvisation. According to Pan, Pan, & Leidner (2012), who also observed the improvisation in an organization, and discussed that it plays a noteworthy role for the development of "crisis response system" and "cross team collaboration" to ensure the effectiveness of improvisation within an organization.

It is vital to distinguish organizational improvisation from other resourceful behaviors such as bricolage, effectuation, and trial-and-error learning. While improvisation often involves bricolage, it differs in that it requires the convergence of planning and execution and can be planned as a strategy for achieving specific goals (Baker et al., 2003). On the other hand, bricolage can occur without improvisation. Additionally, improvisation differs from trial-and-error knowledge in that it does not allow for going back to an initial state and starting over, emphasizing the path dependent nature of improvisation (Hmieleski & Corbett, 2006).

2.3 Firm Performance

In any organization the employers usually work for the accomplishment of specified goals by providing their ultimate output to improve the efficiency and performance of entire organization/firm. Firm performance is a key indicator of an organization for its development and economic growth in the market or industry. According to Sun young Sung, Jin Nam Choi, & Kang (2015), the basic reason of working of employees in any of firm or organization, is to achieve the work objectives by utilizing the available opportunities and resources and offer their services to efficiently work for the betterment of an organization. Larkin, Pierce, & Gino (2012), have also conducted research on the firm performance and its related attributes which defines and discusses the factors that affect the performance of an organization or firm. He observed that the performance of a firm significantly depends upon the efficiency of employees. He discussed that if the employees work more efficiently in any of the organization; it will ultimately increase firm performance. Subramony (2009), also conducted research to determine the characteristics of firm performance and observed that the work efficiency of employees and their willingness to perform work activities plays a significant role in the improvement of performance of any organization. He also observed that the firm performance is significantly affected by the commitment of employees with the job because the more they will be committed to their career or job, the more it will increase the performance of an organization. However, if the employees have less commitment to their job or organization then it will decrease the performance of entire organization/firm. So, he also suggested some basic modifications in organizational policies such as to provide incentivized payment policies, appreciating the employees and taking care of their personal needs etc. The incentivized payment policies can be termed as percentage incentives in the pays of the employees after a specified time interval. It is just a psychological technique

being adopted by the business industry or organizations, which attracts the employees to work more diligently and accurately to get more incentives in return to their extra ordinary diligent services to the firm or organization (Osiyevskyy, Shirokova, & Ritala, 2020). Appreciation of employees is another factor which majorly affects the performance of an organization or firm, which is another social technique to keep the employees motivated regarding their work activities, organizational goals and objectives. Every employee works hard to get the appreciation which is a necessary component to keep them committed to their organization as well as to their job. It is also important for the higher authorities of an organization to take care of the needs of employees so that the employees can work in a specific organization pleasantly. Katou (2009), performed research to determine the impact of efficiency of employees on the firm performance and observed that efficiency of employees significantly impacts the firm performance. He observed that the efficiency of employees depends upon the different factors like wage discrimination, and lack of commitment of employees towards organization etc. According to him, wage discrimination is the most common factor which occurs because of insufficient wages corresponding to the assigned work and may also occurs due to gender discrimination of wages like men are paid appropriately but women are not being paid or facilitated in the organization similar to men. Lack of commitment of employees is also a major factor which affects the performance of a firm or organization (Katou, 2009).

Improved firm performance has been noted where exploration and exploitation have been utilized as strategies. Exploration has been associated with providing different methods whilst exploitation has been used for more effective methods. It is suggested that firms should utilize both in order to maximize their performance (Osiyevskyy, Shirokova, & Ritala, 2020).

According to Paul & Anantharaman (2003), the motivation of employees and their competence to perform the work activities assign to them also plays a significant role in the performance of firm or organization. It not only facilitates the employees to work accordingly as well as beneficial for the employer for the betterment of organizational performance. According to Tsui, Pearce, Porter, & Pripoli (1997), the willingness of the employees to perform organizational work activities/tasks is the most important factor which affects the performance of an organization or firm. Wright, Gardner, Moynihan, & Allen (2005), have conducted research on the firm performance and its influencing factors and observed that the loyalty of employees with the organization is the most important component of high firm performance. The more the employees will be loyal to the organization, the more they work efficiently and significantly affect the performance of an organization or firm. The loyalty of an organization is also investigated by Batt (2002), who observed that it is the key role that loyalty plays which significantly affects the working mechanism of organization, successful goal achievement rates and also the performance of a firm. According to Siegrist (1996), the imbalance in reward and effort in any organization would lead to poor firm performance. Because the employees who work in an organization usually look for appreciation in terms of rewards or incentives, the reason behind such practices of employees is that it keeps them motivated towards the work and also decreases the emotional distress. The performance of a firm is affected due to their improper fulfillment of work and gain expectations of the employees due to which they lack interest in performing the work activities within that specific organization which does not offer them the return of their services. IT and firm performance has been a topic of debate for countless years. Although there have been a number of researches done on this topic, they have not been consistent. In the 80's and early 90's, the researchers did not find a significant relationship

between IT and productivity, which brought forward the idea of productivity paradox. It was initially brought to light by Brynjolfsson (1993) which suggested that IT has little to no positive or negative impact on productivity growth. However, more recent researchers have utilized new data and methodologies that have shown evidence of a more positive relationship between IT and firm productivity (Martínez-Caro, Cegarra-Navarro, & Alfonso-Ru, 2020). According to Boshoff & Allen (2000), when the employees are not satisfied with their organizational characteristics regarding their payments, which produces a distress in the employees, reduces their motivation and morale of working efficiently, most commonly it will lead to the job turnover attempt by the employees. The employees are intended to turnover their job from a specific organization to such an organization in which they get paid according to their work efficiency, task performing experience and effective utilization of resources to complete the work activities. It will ultimately affect the performance of firm or an organization. Bowen, Gilliland, & Folger (1999), also conducted research on similar perspective to determine the reasons of job turnover intensions by the employees which significantly affects the performance of firm or organization. She observed that the employees want to work in an encouraging environment in both financial as well as working, because it will maintain their interest in job and ultimately affects the performance of firm or organization. The productivity of a firm can be enhanced by fulfilling its social responsibility towards its employees, such as providing a safe working environment, health facilities, equal opportunities, and encouraging employee involvement (Frank & Obloj, 2014). There is empirical evidence suggesting that the cost of corporate social responsibility (CSR) initiatives may lead to long-term benefits for both social and financial performance. Such initiatives may also yield benefits such as enhanced employee satisfaction, morale, and productivity, as well as building a positive reputation for the firm. Conversely, irresponsible

actions by firms may erode stakeholder confidence and lead to conflicts (Saha, Shashi, Cerchione, Singh, & Dahiya, 2019). In 1990, Robert Kaplan and David Norton developed a model known as The Balanced Scorecard. It helped divide the financial and non-financial indicators for performance of a firm. It provided a more substantial means to measure firm performance goals (Horváth, 2004). It allowed for the mission and strategy of the firm to be set in categories for easier measurement. The BSC divided firm performance into four main categories: financial perspective, internal business perspective, customer perspective and innovation/learning perspective (Taouab & Issor, 2019). A firm that performs well brings profits for the firms which are both long-term and high in value. It helps create wealth and provides increased prospects for employment. Likewise, a higher profit margin will contribute to increased production, better performance in terms of products and more satisfied employees. This cannot be made possible without a significant method to measure the process. For this reason, measurement of firm performance is essential for implementation of an effective system within the firm for managing it (Taouab & Issor, 2019).

2.4 Business Model Innovation

Business model innovation is a technique which is beneficial to create and enhance the value of a business in a respective market (BCG, 2022). In the recent years, business model innovation has got a significant attention of the researchers for improvement in any organization by using innovative business techniques as well as includes the personal aspects of employees to ensure the success of implemented model. According to Spieth, Schneckenberg, & Ricart (2014), the business innovation model describes that how an organization usually works and creates a value in the market. Morris, Schindehutte, & Allen, (2020), describes that the value of an organization usually depends upon their products/services or activities performed by it and also depends upon

the developments in standards of an organization. Clauss (2017) has also conducted the similar research on the business model innovation and observed that the business model innovation is used widely to promote the standards of organization in terms of its value among the customers, suppliers and stakeholders. Johnson, Christensen, & Kagermann (2008), have conducted a similar research and observed that the business innovation model is surrounded by three different approaches such as value proposition, value capture, and value creation. According to him, value proposition best describes about the channels of provision of services or products by an organization and it also involve the clients to ensure their satisfaction by the services or products provided by the firm. According to Osterwalder & Pigneur (2010), value creation is an approach which describes the mechanism of value generation in an organization as well as among the suppliers, stakeholders and customer. Baden-Fuller & Haefliger (2013) has discussed that value capture is an approach which describes about the mechanism of an organization of making profit. These approaches and dimensions of business model innovation are usually considered as the most important components, which defines the interdependencies of an organization of a business (C. Zott & Amit, 2008). According to Casadesus-Masanell & Ricart (2010), the advancements in technologies are the most common change which used to occur in any organization or firm, due to which the business innovation model lacks the satisfaction and does not result in the significant market and organizational performance. The new technologies and advancements bring change in the already existing traditional values of creation and capture, due to which the organizations need to innovate the business model with respect to time and technological change (L. Achtenhagen, L. Melin, & Naldi, 2013). So, the researchers usually consider the business innovation model as the innovation in working mechanism of an organization or business which entirely changes the way of doing business, generating profit, and

creating value among the stakeholders and customers. According to Massa & Tucci (2014), business innovation model is entirely based on the reconfigurations of business dimensions such as value capture, creation and proposition. It is also considered as business innovation model innovate the conventional product or services of an organization or business to an advanced and technological state. According to Bock, Opsahl, George, & Gann (2012) business model innovation utilizes the existing opportunities and resources to redefine and redesign activities of an organization to ensure the maximum output of employees and the maximum value of the business or organization.

It is also suggested that by utilizing organizational improvisation and experience-based learning, organizations can potentially develop their creative abilities. This paper posits that organizational improvisation can enhance organizational creativity in three distinct ways. Firstly, organizational improvisation presents an opportunity for organizations to kick start the creative process. Such improvisation often arises when an organization faces a crisis, which could be a new challenge or an unanticipated opportunity (Fultz & Hmieleski, 2021). Such scenarios tend to introduce new information to the organization on an impromptu basis, which can compel the organization to be more attentive and responsive to real-time events. This real-time information can originate from within the organization or from external environmental factors (Vera et al., 2014; Jiao et al., 2017).

The second way in which organizational improvisation can enhance organizational creativity is by enabling the integration of knowledge. This process involves fusing the organization's existing knowledge with newly acquired real-time knowledge, which gives rise to a fresh set of organizational behaviors adapted to specific contexts. Since this knowledge is context-

dependent, it may only apply to local situations (Xue & Sun, 2019). The third benefit of organizational improvisation is that it can help organizations overcome path dependence. Through improvisation, external knowledge can inject new ideas into the organization and create variability that challenges the organization's established mental model. This, in turn, sparks creativity by breaking away from the organization's conventional ways of thinking (Koryak et al., 2018; Mahmoud et al., 2016). By integrating external knowledge with the organization's existing knowledge, improvisation can enrich the organization's knowledge base and resources. This process can introduce fresh perspectives into the organization and reconfigure its experiences and behaviors, thus helping it avoid getting stuck in a "path lock." Given the increasingly fast-paced business environment, many scholars suggest that improvisation is becoming more crucial for fostering innovation within organizations. It can enable managers to continue adapting to external changes and create products that remain competitive in the market (Miner, Moorman, & Bass off, 1997).

2.5 Intellectual Capital

The concept of intellectual capital has been emerged by the major contribution of (Edvinson, 1997; Sullivan, 1999). According to Edvinson (1997), the intellectual capital is a set of intangible assets for any organization or business, such as the goal achievement competencies of the employees, the capabilities of employees to perform the work activities of organization or firm properly, and available resources to improve the performance of organization and value creation of a firm/organization. However, according to Sullivan (1999), the intellectual capital is depending upon the human knowledge, abilities to perform work properly, and skills to improve the output, experience and competency along with better management of customer relationships. According Kim, Yoo, & Lee, (2011), the intellectual capital is termed as one of the non-

monetary assets which ultimately provide the financial and economic benefit to the organization/firm. According to Li & Chang, (2010), who conducted the research of intellectual capital and stated that human resource capital is one of the main components of the intellectual capital having set of skills, work abilities, attitude towards customer, and their competencies which in return improves the value of an organization/firm. According to Halim (2010), the education of employees and workers also plays a significant role in their creativity, development of skills, increasing their capability of performing work activities properly and their knowledge of dealing with external stakeholders for financial and economic benefits of an organization/firm.

Intellectual capital of any organization or a business is an exceptional resource either in terms of expertise of employees, their skills, knowledge and any other intangible due to which the organization and business can flourish to its maximum level and able to improve the income and profits to the business or organization (Chen J. , 2021). According to Kianto, Lerro, Ritala, Spender, & M, (2014), intellectual capital can also be considered as the representation of skills by the employees, the relation of employees or staff with the customers and the structure of organization etc. Khalique, Bontis , Shaari, & AHM (2015) discussed that the intellectual capital is actually a value addition to the organization or business, and also represents the trust worthiness in business, social values, innovation in organizational products or services which can be proved beneficial for the organization and business. According to Marzo, SZambon, & E, (2016), “Intellectual capital is a static aspect of knowledge”, non-measurable, passive, and have potential ability to produce the value of an organization either in terms of finances or in terms of human resource, and customer dealing & care. Survilaitė, Tamošiūnienė, & V, (2015), has also discussed the similar aspects about the intellectual capital of an organization and stated that “intellectual capital is an intangible resource which is difficult to measure but beneficial to create

the value of an organization". Singh B & MK (2016) stated that "Intellectual capital is actually the collection of knowledge stocks which exists within or outside the organization". According to Buenechea-Elberdin (2017), intellectual capital can also be termed as the organizational structural capital, customer relational capital and human resource capital. The structural capital actually consists of supportive work environment and organization infrastructure including organizational data basis and processes which can influence the employees and motivate them to work (Wu I-L & JL, 2014). The customer relational capital is usually considered as the relation of staff, organizational workers and employees with their customers. It can help the organization in terms of customer attention towards their business as well as their relational and behavioral aspects which ultimately affects positively on the business and improve the sales and financial value of the organization (Engelman, Fracasso, Schmidt, & Zen, 2017). The human resource capital, which is also a major constituent of intellectual capital, termed as the ability of employees and workers of improving the business in any aspect, bringing the innovation for the benefit of organization or business (Iturrioz C, Aragón C, & L, 2015). According to Hsu L-C & C-H (2012), the structural capital represents the organizational knowledge to manage all the work activities properly, to handle the organizational processes and the flow of data, wisely among the staff and employees of organization/firm. Cabrita MDR & N (2008), have also conducted the research on intellectual capital to explore its influence and its characteristics and stated that the intellectual capital has three major constituents, but the most significantly affecting constituent is the customer relational capital, which actually depends on the interaction of employees of organization with external stakeholders and customers of the organization.

2.6 Innovation Climate

Anderson, Potočnik, and Zhou (2014) suggest a comprehensive definition that combines creativeness and innovation:

"The utilization of creative and innovative outputs within a working environment consists of processes, results, and the attempts made to develop and then Creativity and innovation at work are the process, outcomes, and products of attempts to develop and present newer and better ways of doing something. The stage of creativity within this process is in reference to generating ideas and the innovative processes include the following stage where implementation of ideas can lead to higher quality of products and work flow. Both creativity and innovation can happen at an individual level but also possibly at the level of a team or even company level to provide benefit."

Managing the innovation process in organizations should be systematic and cohesive. This requires strategic governance and direction, such as the development of an innovation strategy, forming an innovative organizational structure and climate, and fostering internal and external alliance for innovation. Therefore, exploring the organizational climate is not an independent task as it is linked to interconnected concepts such as leadership, resource allocation, and collaboration (Olsson, Paredes, Johansson, Roese, & Ritzén, 2019).

Organizational climate is a significant factor that influences innovation within an organization. It has been suggested that in order to promote innovation, it is essential to establish a psychologically safe and supportive environment that encourages employees to take risks and be proactive (Parzefall, Seeck, & Leppänen, 2008). Research studies have demonstrated that creating a supportive innovation climate can enhance employees' innovative work behavior by

increasing their openness to coming up with new ideas and also encouraging them to proactively explore new opportunities (Kheng & Mahmood, 2013).

Multi-level studies done recently have found that singular innovative work behavior is positively associated to group-level elements such as leadership style, supportive coworkers (Afsar & Masood, 2017), and support for innovation, which shows us the importance of considering innovation climate at varied levels. Despite this being a broad concept, there are very limited studies that have taken up the initiative to study cross-level issues such as this one (Chen, Farh, Campbell, Wu, & Wu, 2013). Being flexible, more creative and being more open to innovation are some of the cultural factors that promote innovation within an organization. Additionally, innovation-oriented cultural norms include the inclination to look for quick and non-bureaucratic resolutions, the idea of being expected to create new products continuously, and the encouragement to move towards unconventional ideas. These cultural values not only foster innovation but also enhance an organization's flexibility to innovate (Stock, Six, & Zacharias, 2013). Further studies show that the innovation climate of a firm is directly related to innovative work performance by the employees. In essence, for more innovation by employees the innovation climate of the organization needs to be enhanced (Shanker R. , Bhanugopan, Heijden, & Farrell, 2017). When an organization fosters a culture that actively promotes innovation and risk-taking in the firm, employees feel invested and are far more probable to attribute their successes to their voluntary contribution in any of the innovative activities (Afsar & Badir, 2014).

Researchers before have conducted studies that suggest that the climate or environment of a firm can moderate the level of efficiency of employees on the end result (Agnihotri, Yang, & Briggs, 2019). Innovation climate in a firm allows the employees to form a more inductive and positive

attitude to accept a change as an opportunity which helps them utilize IT to work on knowledge management within the organization. By incorporating a extensive variety of knowledge from numerous sources, they can advance innovative attitudes and methodical market perceptions, which allow the preparation of inspired and market-oriented ideas on product innovation (Kim & Kankanhalli, 2009). A broad range of information from various sources can be integrated by them to help develop innovative outlooks and methodical market awareness, which will then set a precedent for more resourceful and market-oriented views for them (Bianchi, Croce, Dell'Era, Benedetto, & Frattini, 2016). An innovative environment is focused on tasks and encourages employees to use new ideas to solve problems and accomplish tasks. This emphasizes the importance of knowledge management activities such as integrating, transferring, and applying knowledge (Cai, Liu, Huang, & Liang, 2017).

2.7 Hypothesis Development

2.7.1 Organizational Improvisation and Firm Performance

Based on previous studies, organizational improvisation conforms to both positive and negative conclusions. Cunha et al. (1999) devised that the most suitable outcome if considered to be flexibility, knowledge, inspiration and finally, affective outcomes. On the other hand, some of the negative outcomes include prejudiced learning, amplification of promising actions, addictive behavior towards improvisation, opportunity traps and heightened anxiety. According to Vera and Crossan (2005), improvisation itself in not directly linked to outcomes that are deemed innovative. Various studies have concluded that improvisation and performance appear to have a relationship that is ambiguous. Researchers conducted a study that shows that there is negative correlation between improvisation and firm performance while using some moderating factors but the presence of a direct relation between the two has yet to be proven. Previous studies have

dissected the relationship between improvisation and performance by utilizing new product success groups and new product development as the main measure of conduct (Vera & Crossan, 2005). There is no study so far that has explored organizational improvisation and firm performance as variables and conducted a study between their relationships. It has been brought to light that the capability to adapt to new situations and also be able to provide a fast response to changing environment, as seen in improvisation, can ultimately provide affirmative benefits for firm performance. For that reason, it is suggested that studying the direct impact that organizational improvisation has on firm performance can provide beneficial results (Arshad & Hughes, 2009). Previous studies done on entrepreneurship have often focused on the noteworthy connection between resource based improvisation and firm performance. Scholars such as Hughes et al. (2018) have discovered a direct impact of improvisation to firm performance. Hmieleski et al. (2013) argued that improvisation works as a pivotal behavioral strategy for firms operating in unstable, uncertain and fast-paced environments. Similarly, Hmieleski and Corbett (2008) have found that improvisation increases performance, specifically when entrepreneurs have shown high levels of self-efficacy. The main idea behind these studies suggests that improvisation is closely linked to performance, specifically under certain conditions, thereby supporting the main assumption that improvisation can be beneficial for, and even considered a form of, opportunity exploitation (Fultz & Hmieleski, 2021).

H1: Organizational Improvisation positively relates to Firm Performance

2.7.2 Mediating Role of Business Model Innovation in Organizational Improvisation and Firm Performance

C. Zott & Massa (2011) have conducted the research to investigate the mediating role of business model innovation in the firm improvisation and its performance. The business model innovation is based upon the sequence and schedules of work objectives and value creation processes in any organization. It significantly affects the mechanism of organizational improvisation such as dealing with the unforeseen circumstances in the business, also utilizes the skills of employees to tackle with such uncertain situations. It significantly influences the creation of value of an organization by dealing with all the issues by utilizing the available resources and assets of an organization. This will ultimately affect and influence the firm performance. According to (Chesbrough, 2010), the innovation in business model has its own importance at organizational level because all the work activities are supposed to be implemented and performed by utilizing the business innovation model techniques and its strategic key goals for either operational or economic benefits of the organization. The business model innovation also influences the organizational improvisation such as it describes the methods and mechanism to deal with the unexpected circumstances in a productive manner by creating the value of organization and it significantly improves the performance of organization or firm, by efficiently managing all the work activities and loads by following the key activities mentioned in the business innovation model (Chesbrough, 2010). According to J. Karimi & Walter (2016), the business model innovation has different aspects such as value capturing, and value proposition on the basis of which any organization achieve the goals and objectives. It stimulates the method of utilizing the knowledge of employees to successfully and efficiently manage the unforeseen issues on the spot; it helps to bring innovation in the value creation approaches followed by the employees to

demonstrate their capabilities of improving the work outputs for the betterment of organization which ultimately improves the firm performance.

H2: Business Model Innovation acts as a mediator between Organizational Improvisation and Firm Performance

2.7.3 Moderating effect of Intellectual Capital on business model innovation and firm performance

According to Subramaniam M & MA (2005), the knowledge of employees (human resource) and their skills are the most crucial factors which influence the performance of organization. He observed that three different constituents of the intellectual capital are increasingly influencing the business model to create any innovative model to improve the work patterns of employees which ultimately leads to the improvement in the firm performance. Anand N, Gardner HK, & T, (2007), has also observed the moderating effect of intellectual capital on the firm performance and observed that the performance of firm/organization significantly affected by the consistent innovative efforts of employees to achieve the work goals and accomplish the scheduled timelines. He also observed that the intellectual capital depends upon the capability of employees to perform the work activities accurately, and skills of the employees to innovate the mechanism of performing any task to improve the firm/organizational performance. According to Fleming L & O (2004), the intellectual capital is usually related with the knowledge of employees, their capabilities to perform well while performing the tasks of organization, and their ability to generate the value of organization in the competitive business market. The intellectual capital usually represents the organizational as well as external stakeholder relational skills which are required to innovate the business model of any organization due to which the entire performance of firm/organization is significantly affected. According to Zahra SA, Sapienza HJ, & P, (2006),

the intellectual capital is depending upon the organizational or structural capital, which is necessary to improve the business model by utilizing innovative means, the human resource capital which is also influenced by the innovation in business model. Because the recruitment of human resource is also one of the major constituents of business model which needs to be done with proper expertise to involve the skilled, efficient and innovative mindset employees which can significantly affects as well as improves the firm performance.

H3: Intellectual Capital moderates the relationship between Organizational Improvisation and Firm Performance such that the relationship is strengthened by Intellectual Capital

2.7.4 Innovation Climate and its moderating effect on business model innovation and firm performance

Innovation climate can be termed as the organizational environment towards the achievement of innovative goals and also towards the development of innovative work strategies which can improve the performance of organization or firm (Yutian You, Zhongfeng Hu, Jiawei Li, & Wang, 2022). According to van der Vegt, van de Vliert, & and Huang (2005), the innovation climate is usually considered as the particular work environment of the organization with innovative techniques to accomplish the goals and to fulfill the timelines. Based on the study done by Newman, Round, Wang, & Mount (2020), the innovative climate is considered as the motivating and influencing climate for the employees to increase their morale of work and providing them work friendly environment. In such an environment, the employees can brain storm about the new and innovative solutions for already existing problems as well as any innovative product or service development for the improvement of firm performance. Balkar, (2015), has also conducted research on the innovative climate of any organization or firm, and observed that the innovative work climate and environment not only improves the performance

of employees or workers but also keep them motivated and satisfied with their work which ultimately leads to improve the firm performance. According to Aslan & Ate¸soglu (2021), the innovative climate of any organization is responsible for the creativity and innovation in the product or services of firm. Liu, Wang, & Chen (2019), described that the innovative climate of any organization or firm increases the capability of employees to bring the positive and innovative change/improvement in the firm performance. Not only has this but the creative climate of any organization increased the sense of responsibility of workers/employees to work with committed motivation for the benefit of firm or organization.

According to Cheng, Liu, Zhou, Che, & Han (2021), the innovative climate of any firm improves the efficiency of workers to work independently for the benefit of firm and also leaves a positive impact on the performance of organization. Ramos, Man, Mustafa, & Ng (2014), has also conducted the research on innovative climate and observed that providing a free hand to the employees to think innovatively while working in the guidance of collaborative staff, significantly impacts the performance of organization or firm. According to Dawkins, Tian, Newman, & Martin (2017), it is a psychological fact that whenever the employer believes on the employee for working efficiently and bring something new due to innovative work climate provided to them, the employees also feel empowered, motivated and encouraged to do something new to achieve the goals and work targets for the betterment of organization or firm. According to Zweber, Henning, & Magley (2016), the innovative work climate in any organization plays a significant role in the indirect improvement in the performance of employees due to motivated and encouraging work environment. It not only increases the efficiency of workers but also increases the performance of organization in the entire business market. The innovative climate also significantly affects the business innovation model

management of the organization to bring the innovative change or improvement in the firm performance.

Shanker, Bhanugopan, Van Der Heijden, & Farrell (2017), have also conducted the research on the business innovation model improvement and observed that the innovative climate moderates the business innovation model with significantly affects the performance of organization or firm. They discussed that innovative climate is the major constituent of the business model being adopted by the organization, it stimulates the business model innovatively and improves the output of the employees and workers due to positive work environment where they can freely discussed their ideas without being suppressed by the higher authorities. They also observed that due to provision of innovative climate in any organization the performance of firm/organization has significantly affected and improved and also improves the level of motivation of workers which is another most valuable asset of the incredible firm performance. Litchfield, Ford, & Gentry, (2015), have discussed about the effect of innovative work climate on the performance of organization and stated that the motivation and commitment of employees towards the job. The firm plays a vital role in bringing the innovation in product or services which is afterwards processed under the innovative business model and has a strong influence on the performance of firm.

According to Jaiswal & Dhar, (2015), the innovation climate of organization significantly unfolds the mechanism of improvement among the capabilities of employees and their level of performance. As an employee or a worker usually works with dedication and diligently when he/she is satisfied with his/her working environment job and organization. According to them the organization should adopt a business model technique moderated by innovative climate to significantly influence the performance of employees and workers which ultimately leads to

improvement in the performance of firm or organization. They also observed that whenever, the employees are encouraged to speak out with their innovative plans and ideas for the betterment of organization, those organizations ultimately lead to their highest level of performance in the business market. Zhou, Yang, & Zhou, (2021), have also conducted the research to identify the moderating effect of innovative climate to the organizational model for business and observed that the business model has its own importance in the progress and the performance of the organization or firm because all the activities of an organization are being circulated around the business model. While, the business model significantly is being moderated by the innovative climate because the more the work environment and the organizational climate will be innovative, the more it brings innovation in the business model due to which all the work activities affected significantly. Leyer, Hirzel, & Moormann, (2021) have discussed that the innovation climate in any organization is one of the major component towards the better performance. It significantly moderates the business model to bring innovative changes either in the working patterns or in dealing with employees as well as the external stakeholders. This innovative business model is not only helpful to keep the employees motivated with the innovative changes, which helps to maintain their commitment to their organization as well as career. All these aspects collaboratively influence the ultimate outcomes of employees which improves performance of organization or firm in entire market.

H4: Innovation Climate moderates the relationship between Organizational Improvisation and Firm Performance such that the relationship is strengthened by Innovation Climate

2.8 Conceptual Framework

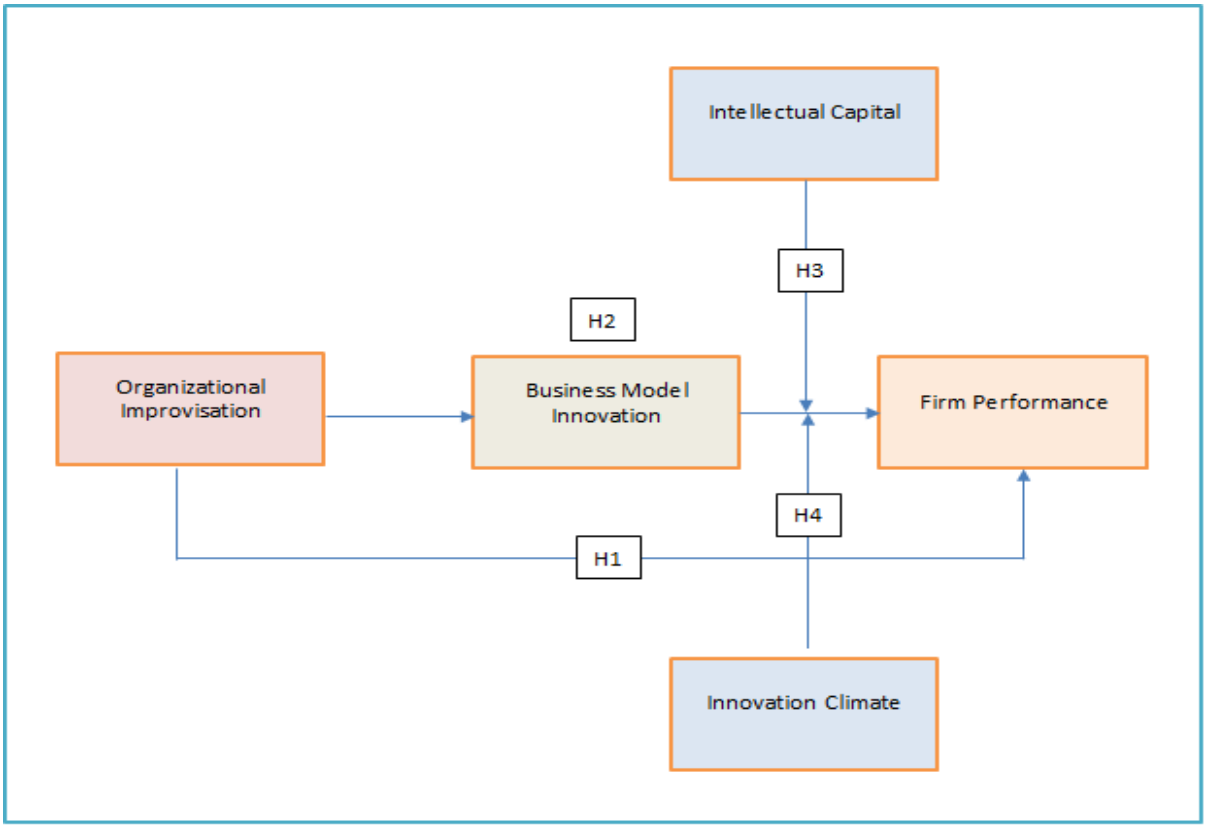

Figure 3.2: Conceptual Framework

H1: Organizational improvisation positively relates to firm performance

H2: Business model innovation acts as a mediator between organizational improvisation and firm performance

H3: Intellectual capital moderates the relationship between organizational improvisation and firm performance such that the relationship is strengthened by intellectual capital

H4: Innovation climate moderates the relationship between organizational improvisation and firm performance such that the relationship is strengthened by innovation climate

Chapter 3: Research Methodology

3.1 Research Philosophy

It is crucial to recognize the philosophical basis for research since all research studies are founded on fundamental ontological, epistemological, and methodological assumptions that impact the research process, as noted by Hunt (2014) and Creswell (2014). In order to determine the connection between OI and FP, a suitable philosophical foundation must be established. Objective ontology and positivist epistemology may be utilized to measure the association between OI and FP, which assumes that the phenomena is not influenced by social actors and is interpreted within a social context.

3.1.1 Epistemology

Epistemology answers the question of "how"- How is gaining knowledge of the world a possibility? (Hughes & Sharrock, 1997). It refers to the conditions set by researchers which help them gauge knowledge (HUNT, 2014). Epistemology consists of two major streams: positivism and interpretivism (Petty, Thomson, & Stew, 2012).

The interpretivist approach maintains that individuals' perceptions and explanations shape their understanding and interpretation of social reality, which is subjective in nature. As per this view, diverse perspectives lead to the construction of different reasoning and explanations of various experiences or circumstances within the setting of social reality (Petty, Thomson, & Stew, 2012). On the other hand, researchers that follow a positivist approach contain their experiences and information away from their research. They follow the assumptions that researchers can separate their observation and experience results in a more realistic, rational and organized way to obtain factual information (Petty, Thomson, & Stew, 2012). The utilization of objective facts in this

approach makes it the more suitable scientific evidence for quantitative research methods (Abu-Alhaija, 2019).

The present research utilizes a quantitative research design, which is grounded in positivist epistemology that assumes research findings can be observed and measured. To adhere to this perspective, highly structured data collection techniques such as questionnaires are employed, and the resulting data is analyzed using statistical tools (Marzo G, Stefano Zambon D, & E, 2016).

3.1.2 Ontology

Ontology pertains to the understanding of the fundamental nature of reality, including whether entities exist objectively or are merely a product of one's perception or cognition (Holden & Lynch, 2004). Assumptions made in ontology tell us how one views and explores the matters of research (Marzo G, Stefano Zambon D, & E, 2016). It covers the ‘what’ of the phenomena – What information or knowledge exists concerning a particular thing or object? In terms of corporate sector, it includes corporate events, firms, administration and work environment (Marzo G, Stefano Zambon D, & E, 2016). Ontology provides us with reasoning with a knowledge base to substantiate the nature of reality.

There are two primary categorizations of the ontological perspective: objective ontology and subjective ontology. The subjectivist approach, which is the first ontological approach, emphasizes the significance of social actors' views and their subsequent activities in shaping social reality (Marzo G, Stefano Zambon D, & E, 2016). Conversely, the objectivist perspective upholds that social reality does not depend on social reality or the researcher and exists independently (Marzo G, Stefano Zambon D, & E, 2016).

This research aims at empirically testing firm performance with organizational improvisation while keeping business model innovation as the mediator and innovation climate, and intellectual capital as the moderators. This study is backed by the positivist theory. Positivism is a philosophical stance adopted by natural scientists who work with observable reality within society, leading to the production of generalizations. It focuses on the importance of considering pure data and facts in a general sense, with a strict focus on sidestepping the influence of human interpretation or bias. Positivist researchers are advocates of the fact that they will use a highly controlled methodology so they can pave way for replication (Gill & Johnson, 2010). The selection of a suitable research philosophy provides direction for the research design.

3.2 Research Method

There are two most common research methods being adopted by the researchers which are primary research method and secondary research method. The primary research methods are those in which a researcher utilizes his/her own collected data to achieve the results of research (Research, 2021). According to Gratton & Jones (2010), the primary research methods involves the collection of data from original source and self-research, by different techniques such as surveys and interviews to collect the data. According to Bouchrika (2022), the advantages of primary research method are that it involves the accurate data collection gathered by the researcher him/herself. Though, it is a time-consuming method but it is usually considered the most feasible method where the research needs to be represented the actual condition in the context of research aims and objectives (McCrocklin, 2018). Another most common research method is secondary research method, which involves the utilization of already existing literature and research data to conduct new research (Qualtrics, 2022). According to Insights (2022), secondary research method consists of the collection of data from a variety of sources such as

from previous researches, newspapers, websites research journals, books and any other public or government data, which is usually used to achieve the aims and objectives of research. Hox & Boeije (2005) described that secondary research method is a less time-consuming method which involves large number of data resources to conduct review research but sometimes it lacks the accuracy and relevance regarding the research.

In this research the primary research method is used to collect the data by using questionnaire survey from the employees of different organizations as the participants of this research to achieve the aims and objectives.

In research there are three different approaches which are being adopted as quantitative approach, qualitative approach, and mixed approach. The quantitative approach is such a type in which different data collection techniques usually used including close ended questionnaire surveys, online interviews, and any other type of data which can be used to achieve the aims and objectives. In the quantitative research approach different statistical tests can be applied to quantify the responses such as to determine the frequency of responses and quantity of the participants who provide their valuable responses. According to Leedy & Ormrod (2001), the quantitative research approach involves the data collection which can be quantified and any statistical analysis can be performed on the data. According to Creswell (2002), the quantitative research approach involves the numeric data which can be quantify and analyzed by using statistical tools and techniques. Moreover, for such type of research approach there are different tools and techniques which are usually used for its analysis.

This quantitative research approach has further sub categorize such as descriptive research approach, Ex Post Facto research approach, quasi experimental research approach, and experimental approach. The descriptive research approach is usually adopted to understand a

situation, phenomena or a population and usually aims to measure and observe the variables of research. The Ex Post Facto research approach is usually adopted when the population groups with their qualities are being compared with any of depending variable. The experimental research approach is usually depending upon the experimentation to determine the aims and objectives of the research, while the Quasi experimental research approach also relates with the experimental approach and it aims to determine “cause and effect relationship” between any two variables (dependent and independent).

The descriptive research is further subdivided into survey research, observational research, correlational research, and developmental research.

The qualitative research is another type of research approach in which a researcher usually develops the level of knowledge from personal experiences of the participants as well as from different sources, data can be collected such as case studies, grounded theory study, ethnography study, phonological study, and content analysis study. In the case study qualitative approach, the research is to be conducted on a specific place or time that is the reason of its name “case study”, because it is case bounded. According to Creswell (2003) the grounded theory approach “researcher attempts to derive a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study”. According to Leedy & Ormrod (2001), phonological approach is “to understand an experience from the participants‟ point of view”. The ethnography approach differs from the case study because in the case study any specific place or event usually involves in the research but in ethnography study entire group or culture is usually observed to conduct the research. According to Leedy & Ormrod (2001), the content analysis study approach involves the analysis of any type of content such as books, films, newspapers, human communications, behavioral patterns, and audio-visual contents.

According to Tashakkori & Teddlie (2003) another research approach is the mixed method research approach which usually termed as the collective approach of qualitative and quantitative approaches.

The choice of research methodology/strategy is influenced by a specific ontological and epistemological perspective. Researchers who hold an objectivist view tend to use quantitative methods, while those with a subjectivist stance typically prefer qualitative methods (Creswell & Creswell, 2017). Additionally, positivist researchers employ quantitative methods to minimize the impact of their personal biases. Since the present study adopts objectivist ontology and a positivist epistemology, a quantitative research design is deemed suitable.

3.3 Sampling technique

Sampling technique is method which describes about the collection of responses/samples from the participants/the selected respondents from the population. There are three different sampling methods usually used in the researches, which are probability sampling, non-probability sampling, and mixed sampling (Mishra, 2021). In the probability sampling method, there are three different sub-categorized such as simple random sampling, cluster sampling, and stratified simple sampling. The simple random sampling is such a sampling technique in which every person from the selected population has equal opportunities to participate in the research.

To evaluate our hypothesis, we collected our data from the IT sector of Pakistan. The reason for choosing Pakistan as the location for research is because of the immense growth of IT within Pakistan. The questionnaire was thoroughly reviewed at every step of the way by academic experts to ensure validity of the content used. It was polished based on the feedback provided by them. We started off with pilot testing where we selected thirty five managers from IT companies at random and collected data from them. This was followed by making changes to the

questionnaire based on the responses from the data collected. Following this, we started our data collection process. Reliability was checked using Cronbach alpha, after which, we formulated a structured questionnaire which was then circulated to the IT companies within Pakistan. The IT industry was selected for the reason that it is one of the fastest growing industries not only in Pakistan, but the whole world. Inclusion of IT industries in developing economies helps enhance the ability and contributes towards continual growth (Afolayan, Plant, White, Jones, & Beynon-Davies, 2006). The IT industry in Pakistan if growing at a fast paced which is important for the growth of the economy. Currently there are more than 10,000 companies within the IT industry in Pakistan so it is considered a well-established sector (MOIT, 2023).

The unit of analysis is the top management of each firm. The reason for choosing top management is that they are the focal person for their company who are capable of commenting on the environment of the organization. Studies show that top management can help influence the employees to contribute more for better firm performance (Afsar & Umrani, 2020), so they are the best choice to help shed light on the practices in the organizations. We went ahead with the sub-class of probability sampling i.e. simple random sampling where we chose IT companies within Pakistan at random.

	Details
Location	Pakistan
Method	Structured Questionnaire
Sample Size	250

Table 2

All the companies that were contacted had an equal chance of being one of the respondents during the selection process. Random selection provided us with a large population which could be represented. Emails with the Google form which contains the questionnaire were sent out. The participants were informed of the goals of conducting the research along with the information that their participation is voluntary. In case they do opt to participate, anonymity will be ensured and they were given the option to receive the results. We chose already established firms that have 400+ employees and have been operational for more than 2-3 years.

Based on already conducted studies, there are 2 techniques that are used for selection of the sample size. Firstly, 200 sample size is considered to be a minimum based on SEM. Apart from that, sample size can be defined by the total number of parameters to be assessed, the total number of variables and finally, the required numerical strength. Based on the constructs of this model, the sample size was evaluated to be 200 minimum. We also used the Krejcie-Morgan table to calculate our sample size. We circulated 450 questionnaires of which we received 302 and finally filtered them to 250 valid questionnaires. The response rate was 62.5% which was calculated by dividing the total number of questionnaires with the valid responses and then multiplying that with 100.

3.4 Instrument and Data collection

The first part of the questionnaire consists of questions about the organization and the participants' time at the company such as the company name, number of years since establishment, name of industry it operates in, education level of employee and years of experience. A 52-item survey questionnaire as an instrument consisting of five variables was used to measure organizational improvisation, firm performance, business model innovation, intellectual capital and innovation climate. The questionnaire and scales are adopted and adapted

from previously recognized research studies, which is why their validity and reliability have already been verified. The questionnaires and studies mentioned below were used while designing the questionnaire.

Organizational Improvisation was measured using 7 items that were adapted from (Xue & Sun, 2019). Sample items from this section include "I deal with unanticipated events on the spot", "I respond in the moment to unexpected problems" and "I take risks in terms of producing new ideas in doing the job".

Firm performance was measured by using 5 items adapted from (Cragg, King, & Hussin, 2002). These included "Financial resources (liquidity and investment capacity)", "Public image", "Sales Growth", "Long term profitability" and "Client loyalty".

Business model innovation was measured using 9 items that were adapted from (Guo, Su, & Ahlstrom, 2016). The sample items include "Our business model offers new combinations of products, services and information" and "We frequently introduce new operational processes, routines, and norms into our business model".

Intellectual capital was measured by using 14 items adapted from (Beşkese & Haktanir, 2016). These were broken down into further categories of intellectual capital; "Human Capital", "Social Capital" and "Organizational Capital". Nearly all definitions of intellectual capital break it down to three main components although the term may differ in certain cases (Nazari & Herremans, 2007).

17 items were adapted from (Afsar & Umrani, 2020). One of the 17 items includes "This place seems to be more concerned with the status quo than with change." All the items in the questionnaire were assessed using the 5-point-Likert scale ranging from 1 (strongly disagree) to

5 (strongly agree). Previous studies have also made use of this scale. It has been used across various industries in Pakistan such as the banking, academia and information technology (IT) industry (Jamal, et al., 2021). Other countries have also utilized this across various industries (Ren, Jiang, & Tang, 2021).

3.5 Data analysis technique

SPSS has been used for data screening for this study. Herman's single factor analysis has been done to assess common method bias using SPSS. Principal Component Analysis has been used to check for communality to be able to measure the variance in the variables that are accounted for by all the components extracted. Next, in the structural model, regression analysis has been conducted. To test the mediated moderation, Process Macro has been used. Two models from the Andrew Hayes models have been used (Hayes, 2015; PROCESS Macro Model 15, 17). Composite reliability and SEM have been used to check the variables. Followed by, Average variance explained (AVE) to check the strength and reliability of factors underlying the variables.

3.6 Ethical considerations

Ethical considerations were kept in mind through the entire process of data collection, including before, during, and after. The researcher also took into account ethical issues arising from internet-mediated research (Saunders et al. 2016). Ethical principles that were upheld included integrity and impartiality of the researcher, high opinion of others, prevention of harm, protection of privacy for respondents, voluntary participation, confidentiality of data, and responsible analysis, reporting, and data management, as outlined by Saunders et al. (2016). The researcher ensured truthfulness and accuracy, respected the rights and dignity of participants, prevented mental, physical, and emotional harm, and maintained privacy and anonymity during data

collection, analysis, and reporting. It is necessary to perform any research because the respondents need security for the provided information if sensitive (Fleming & Zegwaard, 2018).

Informed consent was sought from organizations and participants, with detailed information provided in the information sheet to facilitate fully informed decision-making. Organizations were also informed that the research data would be used solely for academic purposes and that confidentiality would be maintained for both the organization and its employees. The results were reported responsibly, and the research work is original and free from plagiarism.

CHAPTER 4: RESULTS

In this chapter the quantitative analysis is done, and results are elaborated. A series of tests were run from descriptive analysis to reliability analysis. The results were then quantified and analyzed followed by Confirmatory factor analysis which was performed on AMOS and findings are displayed and discussed here. SPSS, and AMOS were used to analyze the data.

This chapter examines the research in detail, beginning with sample description, followed by variable description and the results of reliability, correlation, mediation and moderation analysis, CFA carried out using AMOS and hypothesis testing conducted with PROCESS on SPSS. Initially, the research focused on data consistency, outliers and multi-collinearity of the results. SPSS was used to evaluate the research hypothesis and conceptual model and present the findings. The survey questions were applied to prove the constructs' validity after being developed and validated prior to usage. The Heterotrait Monotrait Correlation Ratio (HTMCR) and Fornell-Larcker Criterion (FLC) were used to measure discriminant validity (Secundo et al., 2020).

4.1 Psychometric Properties

Descriptive statistics provide useful information about a dataset's central tendency, variability, and shape. Looking at the table, we can see that the data consists of 250 observations. The range of the data is between 1 and 5, with a mean of approximately 4.3. The standard deviation is around 0.05, which indicates that the data is relatively tightly clustered around the mean.

We began by examining the psychometric properties of the scale used in our study (Table 2). We looked at the factor loadings and the implications of such values; all were significant with $p < 0.001$ & $p < 0.005$ and $t > 13$, suggesting content validity (Nofirda et al., 2023). Bollen (1989) further confirms the one-dimensionality and convergent validity of the data. Additionally, we

investigated convergent and discriminant validity through correlation via Average Extracted Variance (AVE), which had to have a value higher than 0.70 as recommended by Hair et al., (2013) and Fornell & Larcker (1981). The AVE values for OI, FP, InC, BMI and ICa were 0.61, 0.635, 0.677,0.743 and 0.534 respectively; all of them demonstrated convergent validity to their respective constructs (Saoula et al., 2023). Furthermore, we calculated Cronbach's Alpha (α) for reliability - which had to be above 0.7 - with squared multiple correlations (R2) for each item being equal or greater than 0.5 in order to support reliability (Hussey et al., 2023). We also assessed Composite Reliability (CR); this was also higher than 0.70 ranging from 0.850-0.918 as per Kline (2010) and Gefen et al., (2000). Ultimately, AVE, Cronbach's alpha, as well as Composite Reliability confirm internal consistency and reliability according to Hair et al., (2010), Fornell & Larcker (1981), and Hair et al., (2018). Lastly, we examined discriminant validity through Table 3 in order to determine any differences between constructs present in our results. The kurtosis of the data is positive, which indicates that the data has a sharper peak and heavier tails than a normal distribution. Overall, we can conclude that the data is relatively homogeneous, with a narrow range and low variability. However, the data is skewed and has a non-normal distribution, which may impact certain types of analysis and modeling.

4.2 Correlation Analysis

Correlation analysis is used to measure the strong suit and course of the association amid dual variables. The output from SPSS will include a correlation coefficient, which ranges from -1 to +1, and a significance level, which indicates whether the correlation is statistically significant. The Correlation results show the correlation coefficients between the variables in your study. Each cell in the table shows the Pearson correlation coefficient, which measures the strength and

direction of the linear relationship between two variables. The asterisks (***) indicate statistical significance at the 0.01 level (2-tailed), as shown in Table 1.

Mean, Standard Deviation & Correlations

Variable	Mean	SD	1	2	3	4	5	6
OI	3.88	0.76	0.01*	0.82**				
FP	3.82	0.93	0.66**	0.04	0.67**			
ICA	3.87	0.95	0.27**	.507**	.481**	0.12*		
BMI	3.61	1.02	0.49**	.535**	.519**	0.22**	.734**	
InC	3.33	1.67	0.50**	0.22*	.203**	.188**	.443**	.442**
**. Correlation is significant at the 0.01 level (2-tailed)								

Table 3 Mean, Standard Deviation & Co-relation with Confidence Interval

In the research paper, the following table presents the means and standard deviations of various variables: OI, FP, ICA, BMI, and InC. The table also includes correlation coefficients indicating the relationships between these variables.

The variable "OI" has a mean of 3.88 with a standard deviation of 0.76. It shows a significant positive correlation with variable "FP" ($r = 0.82$, $p < 0.01$), indicating a strong relationship between the two. The variable "FP" has a mean of 3.82 and a standard deviation of 0.93. It is significantly correlated with both "OI" ($r = 0.82$, $p < 0.01$) and "ICA" ($r = 0.67$, $p < 0.01$). The

positive correlations suggest that higher values of "OI" and "ICA" are associated with higher values of "FP." The variable "ICA" has a mean of 3.87 and a standard deviation of 0.95. It shows significant positive correlations with "OI" ($r = 0.82$, $p < 0.01$), "FP" ($r = 0.67$, $p < 0.01$), and "BMI" ($r = 0.481$, $p < 0.01$). The variable "BMI" has a mean of 3.61 and a standard deviation of 1.02. It demonstrates significant positive correlations with "OI" ($r = 0.82$, $p < 0.01$), "FP" ($r = 0.67$, $p < 0.01$), "ICA" ($r = 0.481$, $p < 0.01$), and "InC" ($r = 0.534$, $p < 0.01$). Lastly, the variable "InC" has a mean of 3.33 and a standard deviation of 1.67. It exhibits significant positive correlations with "OI" ($r = 0.82$, $p < 0.01$), "FP" ($r = 0.67$, $p < 0.01$), "ICA" ($r = 0.481$, $p < 0.01$), "BMI" ($r = 0.534$, $p < 0.01$), and "InC" ($r = 0.443$, $p < 0.01$).These results suggest that there are strong positive correlations between Organizational Improvisation, Firm Performance, Business Model Innovation, Intellectual Capital, and Innovation Climate. These variables appear to be related in a complex way, with each variable having significant correlations with multiple other variables. It is important to note, however, that these results do not establish causation, and further analysis would be needed to determine the direction and nature of these relationships.

4.4 Factor Analysis

The table shows the commonalities for a set of variables before and after performing Principal Component Analysis (PCA) extraction. Commonality is a measure of the variance of a variable that is accounted for by all the components or factors extracted. The initial commonality is the proportion of variance in the variable that is explained by all the variables in the analysis. The extraction commonality is the proportion of variance that is explained by the components or factors extracted (Beynon et al., 2023). We can see that the construct was limited, demonstrating distinctiveness from other models (Hair et al., 2013).

FACTOR ANALYSIS

Factor Analysis	
Commonalities	
1.000	.814
1.000	.794
1.000	.800
1.000	.912
1.000	.744
1.000	.817
1.000	.757
1.000	.764
1.000	.726
1.000	.912
1.000	.744
1.000	.817
1.000	.757
1.000	.764
Extraction Method: Principal Component Analysis.	

Table 4 Factor Analysis

In this case, the variables represent different aspects of problem-solving and creativity in the workplace. The extraction method used is Principal Component Analysis. The table shows that the extraction process has reduced the initial commonalities for all variables, indicating that some of the variance in the variables is not explained by the components or factors extracted. The extracted commonalities range from .534 to .685, with the variable "I take risks in terms of

producing new ideas in doing the job" having the highest extracted commonality. This suggests that this variable contributes the most to the factor or component extracted by PCA.

Table 4 shows the explanation of each component and their variance extracted using Principal Component Analysis (PCA): The initial eigenvalues column shows the eigenvalues for each component before extraction. The "Extraction Sums of Squared Loadings" column shows the variance explained by each component after extraction, which is the sum of the squared factor loadings for each item on that component. The "Total" row shows the total variance explained by all components. The "% of Variance" columns show the percentage of variance explained by each component and the cumulative percentage of variance explained up to that component.

In this case, the first component explains the most variance (61.304%), followed by the second component (12.115%), and so on. Together, the seven components explain 100% of the variance in the data. Based on the provided table, the communalities for each item before and after extraction using Principal Component Analysis (PCA) are shown. The initial communalities for all items are 1.000, indicating that each item shares 100% of its variance with other items. After PCA extraction, the communalities range from .726 to .912. This indicates that the shared variance between each item and the other items in the set was reduced through PCA extraction, with some items maintaining a higher level of shared variance than others. The items with higher communalities (.814 to .912) suggest that they share more common variance with other items and may represent a more cohesive construct within the data set. To assess for common method bias, we consulted the research of Podsakoff et al. (2003) and Podsakoff & Organ (1986). We ensured anonymity in our survey, explained the aims of the study in the cover letter attached to the questionnaire, randomized item order, kept data confidential, and used previously validated measurement scales. We then carried out exploratory factor analysis to analyze unrotated factor

solutions and examine the number of factors. Harman’s one-factor test revealed that a single factor did not explain maximum variance; it only explained 31.37%. Additionally, we compared one-dimensional models with a measurement model and found that the latter fit better. Lastly, a common latent factor known as a first-order factor was added to measure values which are also used in the researchers' theoretical model. The variance between former indicators and later indicators with first-order factors were below 0.311 indicating common method bias was not an issue (Aguirre-Urreta, 2019).

Total Variance						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.291	61.304	61.304	4.291	61.304	61.304
2	.848	12.115	73.419			
3	.514	7.339	80.758			
4	.446	6.372	87.130			
5	.335	4.791	91.921			
6	.316	4.515	96.436			
7	.249	3.564	100.000			
Extraction Method: Principal Component Analysis.						

Table 5 Total Variance

4.5 Structural Model

Regression Analysis:

Linear regression model with one predictor variable "OI" (presumably "organizational improvisation") and one outcome variable shows that the predictor variable has a strong positive correlation with the outcome variable, as indicated by the high value of the correlation coefficient (R = 0.989). The coefficient of determination (R Square) suggests that 97.8% of the variance in the outcome variable can be explained by the predictor variable. The adjusted R Square considers the number of predictor variables and is equal to 0.978, indicating that the model is a good fit. The standard error of the estimate measures the average distance that the actual values fall from the predicted values and is equal to 0.095.

Regression Analysis						
Model		Sum of Squares	df	Mean Square	F	p
1	Regression	100.930	1	100.930	11225.114	.000[b]
	Residual	2.230	248	.009		
	Total	103.160	249			
a. Dependent Variable: FP						

Table 6

This ANOVA table shows the results of the analysis of variance for the regression model with the dependent variable FP and the predictor variable OI.

The table shows that the regression model is statistically significant ($F(1, 248) = 11225.114$, $p < .001$), meaning that the predictor variable OI is a significant predictor of the dependent variable

FP. The table also shows that the regression model accounts for a large amount of variance in the dependent variable, as indicated by the high R-square value of .978. This means that 97.8% of the variance in FP can be explained by the predictor variable OI.

The mean square for the regression model is 100.930, indicating that the predictor variable OI accounts for a significant amount of variance in the dependent variable FP. The mean square for the residual (or error) is .009, indicating that the variance in the dependent variable that is not accounted for by the predictor variable is relatively small. It clearly depicts the acceptance of hypothesis.

Process Macro:

We ran PROCESS Macro by Andrew Hayes (2015) to investigate the moderation and mediation effect (Hayes, 2015; PROCESS Macro Model 16). The results are provided in the Table. Moreover, the confidence intervals did not cross zero (- 0.05, - 0.01), which satisfies all requirements for a mediation and moderation in the model (Hayes, 2012).

For Process Macro model 16 of Andrew and Hayes was run to analyses moderating and mediating effect. In the model we are measuring the mediation Business Model Innovation on the relationship between Organizational Improvisation and Firm Performance and Moderation effect of Intellectual capital and Innovation Climate. As shown in Table 6.

The confidence level for all confidence intervals in the output is 95%. The values in the conditional tables for InC are the 16th, 50th, and 84th percentiles.

Path	Moderator	Mode	Indirect effect	Direct effect	Boot 95%	Results
			B(SE)	B(SE)	[LLCI, ULCI]	
Organizational Improvisation → Business Model Innovation				0.83(0.03) ***	[0.72,0.88]	Hypothesis accepted
Business Model Innovation → Firm Performance			0.24(0.06) ***		[0.13, 0.32]	Hypothesis accepted
Business Model Innovation → Firm Performance	Intellectual Capacity	Low	0.92(0.04) ***		[0.70,0.87]	Hypothesis accepted
		Mean	0.83(0.05) ***		[0.84, 0.70]	
		High	0.75(0.08)		[0.71, 0.84]	
Business Model Innovation → Firm Performance	Innovation Climate	Low	0.73(0.03) ***		[0.51, 0.72]	Hypothesis accepted
		Mean	0.88(0.46) ***		[0.12, 0.27]	
		High	0.26(0.04) ***		[0.14, 0.26]	
Significant at * p < 0.05, ** p< 0.01, *** p < 0.001, B: Coefficient; SE: Standardized effect LLCI: Lower limit of 95% confidence interval, ULCI: Upper limit of 95% confidence interval.						

Table 7

Table 7 presents the results of the analysis examining the paths, moderation, and direct/indirect effects on firm performance. The table is organized into several sections, each representing a different path and its associated results.

The first part of the table focuses on the path from organizational improvisation to business model innovation. It reveals that there is a significant indirect effect (B = 0.83, SE = 0.03, $p < 0.001$), indicating that organizational improvisation has a positive impact on business model innovation. The direct effect is also significant (B = 0.24, SE = 0.06, $p < 0.001$), suggesting a

direct relationship between these variables. Overall, these results support the hypothesis that organizational improvisation positively influences business model innovation.

The next section examines the path from business model innovation to firm performance. It shows a significant indirect effect ($B = 0.92$, $SE = 0.04$, $p < 0.001$), indicating that business model innovation has a positive impact on firm performance. The direct effect is also significant ($B = 0.83$, $SE = 0.05$, $p < 0.001$), indicating a direct relationship between these variables. Therefore, the hypothesis that business model innovation positively affects firm performance is supported.

The subsequent sections of the table explore the moderating effects of two variables, namely intellectual capacity and innovation climate, on the relationship between business model innovation and firm performance. For intellectual capacity, the results indicate that at low levels, the indirect effect ($B = 0.73$, $SE = 0.03$, $p < 0.001$) is significant, suggesting that the relationship between business model innovation and firm performance is influenced by the level of intellectual capacity. However, at mean and high levels of intellectual capacity, the indirect effects are not significant.

Regarding the innovation climate, at low levels, the indirect effect ($B = 0.88$, $SE = 0.46$, $p < 0.001$) is significant, indicating that the relationship between business model innovation and firm performance is moderated by the level of the innovation climate. However, at mean and high levels of the innovation climate, the indirect effects are not significant.

Overall, these findings provide support for the hypotheses that organizational improvisation positively influences business model innovation, which in turn positively affects firm performance. The results also suggest that the relationships between business model innovation and firm performance are moderated by intellectual capacity and innovation climate.

Please note that the coefficients (B), standard errors (SE), and bootstrapped 95% confidence intervals (LLCI and ULCI) are provided for each effect. The significance levels are indicated as follows: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Composite Reliability and SEM (Structural Equational Modeling)

Component loadings show the relationship between each variable and the underlying factor. In the table, the variables are labeled OI_1 through OI_7, FP_1 through FP_5, IC_SC1 through IC_SC5, IC_OC1 through IC_OC4, IC_HC1 through IC_HC5, BMI_1 through BMI_9, and IC_1 through IC_17. The numbers in the table represent the loadings, or how strongly each variable is associated with the underlying factor. For example, OI_1 has a loading of 0.735 on its factor, indicating a relatively strong relationship. Composite reliability is a measure of how reliable the composite score for each factor is. A composite score is a weighted average of the variables in the factor, with the weights determined by the factor loadings. A high composite reliability indicates that the composite score is a good representation of the underlying factor.

Average variance explained (AVE) is a measure of how much variance in the variables is explained by the underlying factor. A high AVE indicates that the factor is a good explanation for the variables. Overall, the results provide information on the strength and reliability of the factors underlying the variables, which can be useful in interpreting the results of a factor analysis or SEM. The results show Good convergent Validity of AVE > 0.5 for all the variables.

The component loadings, composite reliability, and variance explained for the different variables in the study. The table is divided into sections corresponding to each variable, providing information on its loadings, composite reliability, and average variance explained (AVE).

The first variable is Organizational Improvisation (OI), consisting of seven items (OI_1 to OI_7). The table shows the component loadings for each item, indicating the strength of their

relationship with the underlying construct. Additionally, the table presents the composite reliability, which assesses the internal consistency of the variable, and the AVE, which measures the average amount of variance explained by the items. For example, OI_1 has a loading of 0.735, indicating a strong association with the underlying construct. The composite reliability for OI is 0.917, indicating good internal consistency, and the AVE is 0.61, suggesting that 61% of the variance in the variable is explained by its items.

The next variable is Financial Performance (FP), comprising five items (FP_1 to FP_5). The table provides the component loadings, composite reliability, and AVE for each item. Similarly, the composite reliability for FP is 0.897, indicating good internal consistency, and the AVE is 0.635, suggesting that 63.5% of the variance in the variable is explained by its items.

The table also presents the results for Innovation Climate (IC) and its sub-dimensions: Strategic Change (IC_SC), Organizational Change (IC_OC), and Human Capital (IC_HC). Each sub-dimension consists of four items. The component loadings, composite reliability, and AVE are reported for each item and sub-dimension. For example, IC_SC1 has a loading of 0.809, indicating a strong association with the Innovation Climate construct. The composite reliability for Innovation Climate is 0.967, and the AVE is 0.677.

Another variable is Business Model Innovation (BMI), composed of nine items (BMI_1 to BMI_9). The table presents the component loadings, composite reliability, and AVE for each item. The composite reliability for BMI is 0.963, and the AVE is 0.743.

Lastly, the table provides the results for the Intellectual Capacity (IC) variable, consisting of 17 items (IC_1 to IC_17). The component loadings, composite reliability, and AVE are reported for each item. The composite reliability for IC is 0.949, and the AVE is 0.534.

In a nutshell. the results show that all the variables showed high reliability and validity with Cronbach's alpha above 7. Moreover, the results include component loadings, composite reliability, and advanced variance explained (AVE) for several variables. The composite reliability values are generally high, indicating that the measures used in the analysis are reliable. AVE values for some variables show that the recommended threshold of 0.5, which may indicate that the variables are not measuring unique constructs. The component loadings show the strength and direction of the relationship between each variable and its underlying construct. The total values for each construct are also provided, indicating the overall strength of each construct.

Chapter Summary

In a nutshell, all the hypotheses were proved by the research depicting the positive relationship between moderators and mediators. In the following chapter we conducted a detailed examination of the research, starting with the sample description, followed by variable description, and presenting the results of various analyses. We evaluated the psychometric properties of the scale used in our study, focusing on factor loadings, content validity, convergent validity, and reliability. Additionally, we examined discriminant validity and explored the distribution characteristics of the data. Descriptive statistics provided valuable insights into the dataset, including the number of observations (N = 250), the range of data (between 1 and 5), the mean (approximately 4.3), and the standard deviation (around 0.05). These statistics indicated that the data was relatively tightly clustered around the mean, suggesting homogeneity. Our analysis of the psychometric properties revealed significant factor loadings ($p < 0.001$ & $p < 0.005$) with t-values above 13, indicating content validity. Bollen's confirmation of one-dimensionality and convergent validity further supported the reliability of the data. We also examined convergent and discriminant validity through Average Extracted

Variance (AVE) and found values above the recommended threshold of 0.70, demonstrating convergent validity to their respective constructs. Furthermore, we assessed reliability using Cronbach's Alpha (α) and Composite Reliability (CR), both of which surpassed the threshold of 0.70, confirming internal consistency and reliability. The correlation analysis allowed us to measure the strength and direction of the relationships between variables. The correlation coefficients indicated significant positive correlations between Organizational Improvisation (OI), Firm Performance (FP), Business Model Innovation (BMI), Intellectual Capital (ICa), and Innovation Climate (InC). These findings suggest strong positive relationships between these variables. Factor analysis provided insights into the underlying factors and their relationship with the variables. The extraction process reduced the initial commonalities, indicating that some of the variance in the variables was not explained by the extracted components. The extracted commonalities ranged from .534 to .685, with the highest commonality observed for the variable "I take risks in terms of producing new ideas in doing the job." This suggests that this variable contributed the most to the extracted component. The total variance explained by each extracted component in the factor analysis was presented, with the first component explaining the most variance (61.304%). The cumulative percentage of variance explained by all components was 100%. These results provide valuable information about the underlying factors and their contribution to the overall variance in the data. Furthermore, we conducted a regression analysis to examine the relationships between variables. The analysis revealed a significant relationship between Organizational Improvisation (OI) and Firm Performance (FP), as indicated by the high correlation coefficient (R = 0.989) and the coefficient of determination (R Square = 0.978). The standard error of the estimate was 0.095, suggesting a relatively low average distance between actual and predicted values. The ANOVA table confirmed the statistical significance of the

regression model and its ability to explain a large portion of the variance in Firm Performance. We also employed the PROCESS Macro by Hayes (2015) to investigate the moderation and mediation effects. The results indicated significant indirect effects and supported the hypotheses related to mediation and moderation. The confidence intervals provided further support for these effects, with no overlap with zero. Lastly, we assessed the composite reliability and validity of the variables using component loadings and the Average Variance Explained (AVE). The results showed high reliability and validity for all variables, with composite reliability values above 0.7 and AVE values exceeding the recommended threshold of 0.5. These findings support the strength and consistency of the underlying constructs. In summary, our analysis revealed significant relationships between variables, confirmed the reliability and validity of the measures used, and provided insights into the underlying factors. These findings contribute to a better understanding of the research topic and support the hypotheses put forth in the study.

CHAPTER 5: DISCUSSION

As per the requirement of the study, data analysis has been done to analyze the association between organizational improvisation, firm performance, business model d innovation, intellectual capital and innovative climate in Chapter 4. The current chapter explains and provides reasoning for the results. This is achieved by linking the findings of the current study with extant literature. The first part capitulates the objectives of the study related to the hypothesis. Next, the section comprises the debate of the conclusions and inferences with respect to preceding research on organizational improvisation, firm performance, business model d innovation, intellectual capital and innovative climate.

5.1 Discussion

In this research was done to find the impact of organizational improvisation on firm performance. The main purpose of this research was to observe the effect that organizational improvisation has on firm performance whilst understanding the mediating effect of business model innovation. It also includes two moderators, intellectual capital, and innovation climate to further understand the role they play. Current research has shown that organizational improvisation can have a positive or negative effect on firm performance when there is inclusion of other factors like business model innovation, intellectual capital, and innovative climate.

The results of the correlation analysis show that there are strong positive correlations between organizational improvisation (OI), firm performance (FP), business model innovation (BMI), intellectual capital (ICA), and innovation climate (InC). These variables appear to be related in a complex way, with each variable having significant correlations with multiple other variables.

The findings confirm hypothesis ***H1: Organizational improvisation positively relates to firm performance.*** The findings confirm the positive affiliation between organizational improvisation and firm performance. The results indicate that increased organizational improvisation leads to higher firm performance. Improvisational techniques are said to be dependent on the level of time pressure and uncertainty present in ordinary or non-routine situations (Webb and Chevreau, 2006), as well as the environmental stability or dynamism that the organization must deal with (Crossan et al., 2005). The firms working in IT industry are working in dynamic and somewhat volatile environment where situation changes rapidly. Hence, the entrepreneurs must assess their business conditions to determine the best course of action for maintaining fit while also using reasoned (either intuitive or rational) judgment in the strategic decision-making process. This is necessary to establish strategic fit with the current environmental conditions (Arshad, 2011) and this is where the role of improvisation contributes to the strategic decision making of entrepreneurial firms. Hence, there is a direct impact of organizational improvisation on firm performance. This is also in line with findings from existing studies (Vera & Crossan, 2005).

The findings confirm hypothesis ***H2: Business model innovation acts as a mediator between organizational improvisation and firm performance***. This hypothesis supports the fact that business model innovation mediates the relationship between organizational improvisation and firm performance positively. It gives us the idea that organizations that work on business model innovation to enhance their company and work towards its growth; organizational improvisation for any company leads it to better firm performance (Hadida, 2015). During the last few years, the entire world has had to make changes to their way of functioning and as a result, most companies have had to alter business models, leading to changes in the organization and how things function. This research can provide a basis where organizational improvisation can lead to

greater firm performance whilst keeping business model innovation as a means to help and assist this change.

The findings confirm hypothesis ***H3: Intellectual capital moderates the relationship between organizational improvisation and firm performance such that the relationship is strengthened by intellectual capital.*** The third hypothesis has also been supported which shows us that intellectual capital as a moderator plays a positive role in the relationship between business model innovation and firm performance. An intangible asset like intellectual capital allows companies to utilize their resources for maximum benefit. It can help enhance the value of a firm as it includes all the competencies that the human resource of the company includes (J. Karimi & Walter, 2016). With innovation in the business model, a non-monetary asset like intellectual capital can further push the organization towards increased firm performance thereby leading to much higher benefits.

The findings confirm hypothesis ***H4: Innovation climate moderates the relationship between organizational improvisation and firm performance such that the relationship is strengthened by innovation climate.*** The fourth hypothesis has been supported and it states that innovation climate as the moderator plays a positive role in the association between business model innovation and firm performance. An innovation climate provided to the employees can mean a positive and motivating environment where the employees are encouraged to use innovative methods to reach their goals. It also leads to more satisfied and happy employees (Allègre L. Hadida & Tarvainen, 2014). With a higher satisfaction level and more motivated employees, business model innovation will help lead to greater results for the company, hence, increased firm performance (Anand N, Gardner HK, & T, 2007).

Overall, the study shows us the results there are strong relationships between Organizational Improvisation, Firm Performance, Business Model Innovation, Intellectual Capital, and Innovation Climate. These relationships are complex and appear to be bidirectional, with each variable influencing the others. Further research is required to determine the direction and nature of these relationships.

CHAPTER 6: CONCLUSIONS

As per the study requirement, data analysis results have been presented and discussed in detail in the preceding chapters. The final chapter will provide an explanation, implications and contribution of the research findings based on the survey data gathered. To conclude the research, implications, limitations and future directions for forthcoming studies are provided.

It can be noted that previous studies have been conducted on the effects of organizational improvisation on firm performance but business model innovation as a mediator has not been used. The correlation analysis revealed strong positive relationships between Organizational Improvisation (OI), Firm Performance (FP), Business Model Innovation (BMI), Intellectual Capital (ICa), and Innovation Climate (InC). Overall, the findings of this study contribute to a better understanding of the relationships between the variables and shed light on the underlying factors that influence organizational outcomes. The results highlight the importance of Organizational Improvisation, Business Model Innovation, Intellectual Capital, and Innovation Climate in driving Firm Performance. It is important to note that these results provide valuable insights into the research topic, but they do not establish causation. Further research and analysis would be needed to delve deeper into the nature and direction of these relationships. The findings from this study have implications for organizations seeking to enhance their performance through improvisation, innovation, and the development of intellectual capital. By understanding the factors that contribute to successful outcomes, organizations can make informed decisions and implement strategies that drive performance and competitiveness.

In summary, this chapter provided a comprehensive analysis of the research, highlighting the significant relationships between variables, assessing the psychometric properties of the scale, and exploring the underlying factors. The findings contribute to the existing body of knowledge

and provide practical implications for organizations aiming to improve their performance. Further research in this area would be valuable to validate and expand upon the findings presented in this study.

6.1 Theoretical and managerial implications:

6.1.1 Theoretical Implications

The findings of this study contribute to the existing theoretical framework by providing empirical evidence of the relationships between key variables. The confirmation of the positive associations between Organizational Improvisation, Business Model Innovation, Intellectual Capital, Innovation Climate, and Firm Performance adds to the understanding of how these constructs interrelate.

Validation of Measurement Scales: The thorough assessment of the psychometric properties of the measurement scales used in this study enhances their validity and reliability. This validation provides researchers with confidence in utilizing these scales in future studies related to organizational improvisation, innovation, and performance.

Mediation and Moderation Effects: The identification and examination of the mediating role of Business Model Innovation and the moderating effects of Intellectual Capital and Innovation Climate contribute to the theoretical understanding of the mechanisms through which these variables influence Firm Performance. This study offers insights into the underlying processes and conditions that enhance the relationships between the variables.

Using the resource-based view theory as a lens for this study, the paper further amplifies the need for organizational improvisation to enhance firm performance. We chose our respondents based on the IT sector within Pakistan and accordingly the organizations focusing on improvisation using their available resources (business model innovation, intellectual capital,

innovation climate) have had a greater performance of their firms. The process of improvisation requires to an extent the utilization of the resources and opportunities available to deal with any challenge that may arise (Archer, 2009). It is also seen from the studies that organizational improvisation can be one of the most vital tools required for problem solving which can help minimize loss and also keep the company afloat in any economic state (Magni & Provera, 2009). The current study helps us identify that utilizing the already existing resources like intellectual capital and providing the employees with an innovative climate can help a company provide greater performance. The study adds to the existing literature by adding these two factors to that as well. When business model innovation is included, it helps increase the value of a firm in the market and provides even better performance for the firm (BCG, 2022). Business model innovation has been proven to provide value to an organization by using the resources available along with the assets (tangible and intangible) which will ultimately have an effect on the performance of the firm (C. Zott & Massa, 2011).

It was observed in previous studies that the moderating effect of intellectual capital on firm performance has been significant as such that organizations that have employees who put in innovative ideas forward and put in the efforts to get their work done and accomplish their goals. The results depend upon how capable the employees are in their innovation methods and ultimately the final results (Anand N, Gardner HK & T, 2007). Our study adds to this by proving that the employees of a company who are provided with the ability to bring forth innovative ideas and implement them have provided an edge to their company in terms of their performance.

Any type of innovation requires that the employees are given the chance to bring ideas to the table and then implement them eventually if they are suitable. Innovation climate is seen as the

environment provided by an organization to push forth innovation and also work towards the building up of the innovative strategies which can results in improved performance of an organization (Yutian You, Zhongfeng Hu, Jiawei Li & Wang, 2022). This study helps add to this notion that the type of environment provided to the employees helps determine the success of the organization. If the employees are provided with more freedom to exercise their innovative capabilities, the firm will reap the fruits with greater performance. Similarly, it is known to be a psychological fact that employees are prone to work more efficiently and have new ideas when they are provided with a more innovative environment at work. They feel driven and are more invested to reach their goals and align them with the goals of the company for better firm performance (Dawkins, Tian, Newman & Martin, 2017). Employees who have greater encouragement from their firms to practice innovation and then implement it are more likely to work towards making the organizations performance better. Similarly, organizations that understand the value of their human resource capital can further utilize it by empowering their employees to make better and innovative decisions in the interest of the company to help increase the value in the market and provide better performance.

Organizational Improvisation and firm performance have been studied whilst keeping business model innovation as the mediator which has not been done in the past. The impact of business model innovation has been added to assess the effect it will have on the relationship between OI and FP within the IT industry. The current study has utilized innovation climate and intellectual capital as the moderators to further study the effects of the variables. It provides future studies a chance to look at the same model in the context of other industries. Similarly, future researchers can study the effect of OI on FP whilst utilizing the available resources for maximum benefit.

6.1.2 Managerial Implications

This study has various managerial consequences which can help managers understand how they can enhance firm performance using organizational improvisation, business model innovation, intellectual capital and innovation climate. Businesses in the twenty first century need their firms to incorporate repeated innovative practices by including increased knowledge, creativity and polished skills of the employees (Dess and Picken, 2000). Enhancing organizational improvisation: Organizations can benefit from fostering a culture of improvisation within their operations. The positive association between organizational improvisation and firm performance suggests that promoting flexibility, adaptability, and creativity in decision-making processes can lead to improved outcomes. Managers should encourage employees to think outside the box, experiment with new ideas, and respond effectively to unforeseen circumstances.

Driving Business Model Innovation: The significant impact of business model innovation on firm performance highlights the importance of organizations continuously exploring and adapting their business models. Companies should invest in research and development, stay updated with industry trends, and proactively seek innovative approaches to create value for their customers. Strategic initiatives focused on business model innovation can lead to a competitive advantage and improved financial performance.

Harnessing intellectual capital and innovation climate: Organizations should recognize the pivotal role of intellectual capital and innovation climate in fostering innovation and driving performance. Intellectual capital, including knowledge, skills, and expertise of employees, should be managed and utilized effectively. Additionally, creating a supportive innovation climate that encourages risk-taking, collaboration, and idea generation can significantly enhance the relationship between business model innovation and firm performance.

Scale Validation and Reliability: The findings related to the psychometric properties of the measurement scales used in this study offer practical implications for researchers and practitioners. The validated scales provide a reliable tool for organizations to assess and measure constructs such as organizational improvisation, business model innovation, intellectual capital, and innovation climate. This enables organizations to evaluate their current state, identify areas for improvement, and track progress over time.

In summary, the theoretical implications highlight the contributions to the existing body of knowledge, including the validation of measurement scales and the understanding of mediating and moderating effects. The practical implications emphasize the importance of fostering organizational improvisation, driving business model innovation, harnessing intellectual capital and innovation climate, and utilizing reliable measurement scales. By considering these implications, organizations can make informed decisions and implement strategies that lead to improved performance and competitiveness. Firstly, the study tells us how organizational improvisation is important for greater firm performance. In times of uncertainty, the company needs to be able to recognize the available resources that they have so that they can effectively innovate. Even in normal circumstances, organizations need to remain aware of their assets, both tangible and intangible so that they can improvise whenever required in the fast paced times. Managers need to have an idea of the skill sets available to their company so that they can effectively utilize them. An organization that incorporates improvisation needs to have the relevant managers deal with any unexpected situations without having any proper plan available to them and they need to make quick decisions for the organizations advancement by using the resources and opportunities that are available to them (Allègre L. Hadida & Tarvainen, 2014).

Moreover, value creation for any organization also depends on the managers and employees of a firm. Business model innovation helps them create this value in the marketplace. This study helps understand how that can be identified and then implemented by the managers to add to the success of the firm. Value capture is considered a strategy which explains what the working of an organization has to be to make a profit (C. Baden-Fuller & Haefliger, 2013). These are the ones considered to be the most important components of business model innovation which futher describe the interdependencies of a firm (C. Zott & Amit, 2008).

Lastly, business model innovation comprises several elements, including value proposition and value capturing, which organizations leverage to attain their aims and purposes. This process encourages the utilization of employee knowledge to handle unexpected challenges promptly and effectively. It also fosters innovation in value creation methods adopted by employees, showcasing their ability to enhance work outputs for the organization's benefit, leading to improved firm performance (J. Karimi & Walter, 2016). This study also helps managers utilize business model innovation and its components to enhance the value of an organization by including the human capital that they have available and encouraging a more innovative culture in the company to ultimately provide better results and value for the firm. If the managers acknowledge the resources and talent available to them, they can transform their company or at least provide them a better chance of maximizing their performance.

6.2 Limitations of study

The limitations of this study include it being a cross sectional study which restricts it from viewing the firms at different times as they function. The targeted sector was Information Technology; any future studies should focus on different sectors to analyze the effect of these

variables. The study also has a limitation of being focused on the Pakistani population. Future studies should focus on other developing countries along with developed countries.

Future studies should also cater to longitudinal studies to provide a better analysis of an organization at different times. The author did not focus on other factors like business model implementation while reflecting on the link that connects both organizational improvisation and firm performance.

Lastly, this study should be directed towards diverse sectors to compare them and understand the impact of organizational improvisation more widely. The current research could not be prolonged further because of various processes. Due to limited resources, time, and access constraints, the research was conducted on a restricted scale using purposive sampling. However, future research should account for generalized research and utilize various sampling techniques to overcome these limitations.

6.4 Conclusion

This study provides the importance of how organizational improvisation has an effect on firm performance where business model innovation is a mediator and intellectual capital and innovation climate are moderators. It brings forth a mediation moderation model and provides a mechanism for organizations to understand how firm performance can be enhanced using organizational environment and the importance of the human capital in the firm. With a lot of uncertainty in the world today, firms are struggling to stay afloat because of their inability to respond to the unexpected changes in the turbulent environment. In such an environment, organizations are looking for different opportunities to strengthen their main skills and maximize the use of their available resources in terms of time and skills so they can keep the organization from failure. This study is focused on the IT sector of Pakistan because the digital era is at its

peak and it can help organizations use their resources for a better and stronger firm. Our study can help top management to look at their available resources which can be utilized and allow a more innovative culture in their firms so that the human capital available can further strengthen the organization whilst any improvisation or innovation is happening and foster increased value and performance for the organization. The result concludes a noteworthy relationship between organizational improvisation and firm performance, mediated by business model innovation with intellectual capital and innovation climate as the moderating variables. Future studies will also be able to add to this existing research.

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Appendix

The mediation of Business Model Innovation between Organizational Improvisation and Firm Performance with Intellectual Capital and Innovation Climate as the moderators.

This questionnaire is designed to evaluate the role of organizational improvisation and knowledge diversity on firm performance. There are 7 parts in this questionnaire which should take you approximately 15 minutes to answer.

Responses are confidential and will only be viewed by the researchers.

Please answer every question to the best of your ability. If you are unsure of an answer and cannot confirm with someone in your company, please provide your best estimate.

Company and personal information

1. Company Name
2. Number of years since its establishment
3. Number of employees
4. Your organization operates in (Name of industry)
5. Education level
6. Position
7. How long have you been serving in this company?
8. Years of experience in this company?

Would you like a summary report of the findings of this project?	
YES	NO

Organizational Improvisation

Select from the numbering below

Strongly Agree Strongly Disagree

1 2 3 4 5

I deal with unanticipated events on the spot.

1	2	3	4	5

I think on my feet when carrying out actions.

1	2	3	4	5

I respond in the moment to unexpected problems

1	2	3	4	5

I try new approaches to problems.

1	2	3	4	5

I take risks in terms of producing new ideas in doing the job.

1	2	3	4	5

I demonstrate originality in my work.

1	2	3	4	5

I identify opportunities for new work process.

1	2	3	4	5

Firm Performance

Very Strong Very Weak

1 2 3 4 5

Long term profitability

1	2	3	4	5

Sales growth

1	2	3	4	5

Financial resources (liquidity and investment capacity)

1	2	3	4	5

Public image

1	2	3	4	5

Client loyalty

1	2	3	4	5

Business Model Innovation

Part 6

Our business model offers new combinations of products, services and information.

Strongly Agree Strongly Disagree

1 2 3 4 5

Our business model attracts a lot of new customers.

1	2	3	4	5

Our business model attracts a lot of new suppliers and partners.

1	2	3	4	5

Our business model bonds participants together in novel ways.

1	2	3	4	5

Our business model links participants to transactions in novel ways.

1	2	3	4	5

We frequently introduce new ideas and innovations into our business model.

1	2	3	4	5

We frequently introduce new operational processes, routines, and norms into our business model.

1	2	3	4	5

We are pioneers of the business model.

1	2	3	4	5

Overall, our business model is novel.

1	2	3	4	5

Innovation Climate

Strongly Agree Strongly Disagree

1 2 3 4 5

How do you rate your organization's support of innovation?

1	2	3	4	5

Creativity is encouraged here.

1	2	3	4	5

Our ability to function creatively is respected by the leadership.

1	2	3	4	5

Around here, people are allowed to try to solve the same problems in different ways.

1	2	3	4	5

The main function of members in this organization is to follow orders which come down through channels.

1	2	3	4	5

Around here, a person can get in a lot of trouble by being different.

1	2	3	4	5

This organization can be described as flexible and continually adapting to change.

1	2	3	4	5

A person cannot do things that are too different around here without provoking anger.

1	2	3	4	5

The best way to get along in this organization is to think the way the rest of the group does.

1	2	3	4	5

People around here are expected to deal with problems in the same way.

1	2	3	4	5

This organization is open and responsive to change.

1	2	3	4	5

The people in charge around here usually get credit for others' ideas.

1	2	3	4	5

In this organization, we tend to stick to tried and true ways.

1	2	3	4	5

This place seems to be more concerned with the status quo than with change.

1	2	3	4	5

The reward system here encourages innovation.

1	2	3	4	5

This organization publicly recognizes those who are innovative.

1	2	3	4	5

The reward system here benefits mainly those who do not rock the boat.

1	2	3	4	5

Intellectual Capital (Social Capital)

Strongly Agree Strongly Disagree

1 2 3 4 5

Our employees are skilled at collaborating with each

Other to diagnose and solve problems.

1	2	3	4	5

Our employees share information and learn from one

Another.

1	2	3	4	5

Our employees interact and exchange ideas with

People from different areas of the company

1	2	3	4	5

Our employees partner with customers, suppliers,

Alliance partners, etc., to develop solutions.

1	2	3	4	5

Our employees apply knowledge from one area of the

Company to problems and opportunities that arise in

Another.

1	2	3	4	5

Intellectual Capital (Organizational Capital)

Strongly Agree Strongly Disagree

1 2 3 4 5

Our organization uses patents and licenses as a way to

Store knowledge.

1	2	3	4	5

Much of our organization's knowledge is contained in

Manuals, databases, etc.

1	2	3	4	5

Our organization's culture (stories, rituals) contains

Valuable ideas, ways of doing business, etc.

1	2	3	4	5

Our organization embeds much of its knowledge and

Information in structures, systems and processes.

1	2	3	4	5

Intellectual Capital (Human Capital)

Strongly Agree Strongly Disagree

1 2 3 4 5

Our employees are highly skilled.

1	2	3	4	5

Our employees are widely considered the best in our

Industry.

1	2	3	4	5

Our employees are creative and bright.

1	2	3	4	5

Our employees are experts in their particular jobs and

Functions.

1	2	3	4	5

Our employees develop new ideas and knowledge.

1	2	3	4	5