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The Role of Project Management Practices in Project Success: The Mediating Role of Coworking Space

by

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(Sana Farooq)

Abstract

The purpose of this research is to examine how project management practices contribute to the success of entrepreneurial ventures and what practices have the greatest impact on the performance outcome. The model developed during this analysis relates the key dimensions of any project management to the success of the entrepreneurship, and it can be concluded that the successful planning, execution, monitoring and control of the venture performance lead to the overall positive influence on the performance of the venture. This model was tested using a quantitative research design because a structured survey was conducted on the entrepreneurs dealing with small and medium sized enterprises. Data like reliability analysis, correlation and regression analysis were evaluated using statistical analysis to test the relationship between the proposed framework. The findings indicate that, the activities of project management are those that significantly forecast the success of an entrepreneur although planning and monitoring are the most effective. It is also revealed that the successful application of projects due to the discipline enhances operations and sustainability of new ventures. These findings have important implications on the business people and show that through following the standardized project management practices, it is possible to improve the business decision-making processes, resource making and overall business performance. Policy makers and supporting institutions also find the paper informative since it throws more light into the necessity of the presence of capacity building interventions which aid in the improvement of project management skills within the entrepreneurial environment.

Keywords: Project Management Practices, Startup Success, Co-working Space, Transformational Leadership, Knowledge-based Startups, Innovation, Dynamic Capability Theory.

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Abbreviations

CWS	Coworking Space
DCT	Dynamic Capability Theory
EIWB	Employee Innovative Work Behavior
IP	Intellectual Property
KM	Knowledge Management
MVP	Minimum Viable Product
NTBFs	New Technology-Based Firms
OAC	Organizational Ambidextrous Culture
PM	Project Management
PMPs	Project Management Practices
PS	Project Success
PMI	Project Management Institute
PLS / SmartPLS	Partial Least Squares
RBV	Resource-Based View
SMEs	Small and Medium-Sized Enterprises
SEM	Structural Equation Modeling
TLS	Transformational Leadership Style

Chapter 1

Introduction

The chapter provides a preliminary history to the research, thereby describing the background of the study, and with a chosen specialization on the principles of essential fulfillment criteria and the important thing factors influencing mission success in the scenario of startups. It underlines the theoretical importance of the study, which justifies the applicability and need of the studies. This failure also presents the objectives and questions of the study, explains significant terminology, and the limitations of the study.

1.1 Background

The immediate evolution of new technologies and the increased competition in the market have shifted the way organizations are functioning today and has shown them tend towards more structured and orderly way of strategic realization. In this respect, the practice of project management has played the key role of uncertainty management mechanism, improved coordination, and performance of the whole organization (Özsoy and Sezgili, 2024).

As businesses, in particular SMEs, apply innovative processes, and need to separate in a highly competitive market, the urgency to have efficient project management increases (Abdulrahman and Abdal, 2019). The existing literature shows a juncture to the increasing organizations in a project economy where most of the

activities carried out in organizations are in project form rather than day-to-day activities. By 2027, the population of individuals who are employed in project-related activities throughout the world will have approximately 88 million individuals, and the economic value will be nearly USD 20 trillion (Nieto-Rodriguez, 2021). Despite this growth, it is argued that only 35 percent of the projects of the world lead to success and consequently to wasted resources, failure to achieve their goals and reduce competitiveness. Such poor success rate illustrates the necessity to engage potent and well-integrated project management practices (Alyali, nd). Because of the importance of systematic management practices, the following key constructs should be given a high priority in this paper and they should be considered as the main considerations in the proposed research model: The planning is the point at which the direction to be followed by the project is described and may help the firms allocate resources efficiently. The fact that poor planning is always associated with delays and cost overruns of the projects and there is need to explore how it leads to the success of entrepreneurs.

Implementation involves carrying out of activities that had been planned. The entrepreneurial world directly influences the quality of the execution of a business in the way of developing a product, efficiency of operations, and responsiveness to the market. However, there is little empirical evidence that has been developed on its impact on SMEs. Follow-up also makes possible the adjustments required and enables to stay on track of the course towards the project objectives. It has been found that one of the most significant causes of international project failure is poor control systems, and this creates a distinct gap of understanding this issue within the framework of the scenario of the entrepreneur undertaking. Entrepreneurial ventures can be characterized in terms of ability to provide value, to be innovative and competitive in order to survive and prosper. Despite the abundance of literature regarding the question of environmental and financial conditions, less literature is available on the role of internal managerial practices, namely the project management practices, in the outcome of the entrepreneurship.

Nonetheless, project management is a widely-researched topic in large companies but the research problem to be investigated is the impact of the practices on success of entrepreneurial projects, particularly in a developing or rapidly changing

business setting. The research materials are inclined to explore unilateral aspects of project management, rather than synergistic approaches and a shortage of studies on the SMEs despite their vulnerability to project failure. In addition, there is a small possibility of using empirical literature to connect project-related capabilities with the measures of perceived success of entrepreneurs. It is these gaps that make the need to come up with a holistic model to consider the synergistic effect of project planning, project implementation, and project monitoring on the outcome of the entrepreneurship.

The way of controlling your mission that involves keeping your mission together and in tract and other things that you are supposed to include in your mission are numerous as indicated. The isolation of duties, time and reports by the mission control enable the manager to handle them in a manner that they will all be accomplished within the time. A time Monitoring will help us to see how a whole lot of time are hereby wasted on particular project with the aim of making sure we get to be productive and work can be billed in the A time Monitoring will assist us in observing how a vast amount of time is in this manner squandered on selected project with the view of ensuring that we get to be productive and work can be billed in the appropriate manner. Project scheduling, we would wish to revise a schedule and to have the responsibility organized according to the assignment cut-off date. Reporting of progress and contacting stakeholders as well as communication between people in the crew would allow clean guidance and comments, which is a potent instrument of reducing risk factors and offering clarity. (Key features of project control, 2024).

The concept of projects is not a novelty; this fact is evidenced by the fact that the construction of grandiose structures, the Great Pyramids of Giza, are thousands of years old. It can be ascertained on how the projects were realized several thousands of years ago up to the time of the foundation of the first-rate pyramids of Giza (Packendorff, 1995).

In the past, all through records have been a vital part of groups although their use changed to the confined industries such as production and engineering industries (Packendorff, 1995; Turner, 2016). Nevertheless, it was only in the early 20th

century that project management (PM) emerged as a discipline (Trokic, 2015). Project Management Institute considers the project as a time-restricted project that is implemented to create a unique good or service (Project Management Institute, 2013).

Despite the extensive research that has been conducted on best project outcomes in the project management discipline, an evident literature void on the project success in smaller sized companies particularly the start-ups have been observed. The failure or the success of startup projects is ambiguous as the definition of success can be subjective and there are a great number of factors that can determine the out-comes of the projects. The efforts to quantify the project success have resulted in the questions of how strategies can be employed to enhance success and why projects fail. Innovation and entrepreneurship may work together to generate new project which is most likely to be defined as startups. A comprehensive conceptualization of a startup is not a universally agreed-upon concept, but in the academic literature, startups are generally thought of as small and young organizations whose communication is informal. Recent literature is seen through the prism of the project perspective, and the start-up phase is a temporary process itself. Although they play an important role in the socioeconomic development of countries and the appearance of larger corporations, the application of project management concepts in the startup setting is still under-researched.

A startup passes through numerous challenges during the early stages of its development that in most instances result in low survival rate. Consequently, the enhancement of the project management practices that are adjusted to the start-up environment can be characterized as extremely crucial. A start-up is a set of physical world activities. Simultaneously, there is a great deal to us: the engine is running, we are acquiring new customers and serving our already existing ones; we are tuning, trying to make a better product, the ways of marketing and operations; we are steering, wondering whether and when to pivot. The entrepreneurs have the responsibility of balancing all these activities (Trokic, 2015)." The project management services open the door to the experience of people who will help you propose, implement and introduce efficient work of any size and complexity. The following offers are quite essential in ensuring that initiatives are kept within track,

and they are kept within check where time, money, first-class standards and the likes talk on the sources and counter hazard as posed in parent 2 (Khan et al., 2023; Alyali, nd).

Coworking is a nomenclature that has different meanings and descriptions of previous lecturers. This paper will define the concept of coworking space in reference to the definition of (Howell et al., 2022). Workstations are subscriptions that individual and groups of other companies can use in Collaborative workspace and are referred to as coworking space (Howell et al., 2022). Such an ecosystem is helped by coworking space to create an environment where creative professionals work together to initiate projects, exchange knowledge, technologies, and community. Contrary to the models of traditional desks-sharing, coworking spaces are the places where values may be shared and a sense of belongingness is achieved between the involved parties. Coworking space also provides a friendly environment where this creative community may help each other to jumpstart projects, exchange information, knowledge, and also provide and share new technologies. This is in contrast to the business concept of desk-sharing where the working partners are not only sharing the space but also sharing some values and are part of the same working community (Leforestier, 2009).

Coworking is also not comparable to other collaborative work areas that do not contribute to economic value development e.g. art galleries and symposiums (Taha, nd). The moderating and mediating variables are important components of establishing the effectiveness of project management practice in small businesses. Being adaptable and resilient as an entrepreneurial attitude can have a positive moderator that will assist in enhancing the linking of PM techniques and success. This kind of attitude allows startups to be in a position to pivot accordingly in the case of a problem. Conversely, bad mediators that may undermine the project success can be high turnover of the employees, lack of access to technology, or unstable economy (Franczak and Weinzimmer, 2022).

The Traditional and Agile project management methods have well-organized structures of small businesses and Medium-Sized businesses (SMEs). The contribution of SMEs to the social and monetary convenience as the whole-size contribution

has evolved into a primary instrument of the innovation and sustainability somewhere down the road of the ones agencies and society in the vast. The well-being of the community and SMEs is improved through the application of new and sustainable techniques of assignment management which are aided by the operations of the SMEs. The practices can be effective both theoretically, politically, and practically (Lima et al., 2024; Tereso et al., 2019). Entrepreneurship, as an engine of increase is discussed based on the financial, sociological, political, mental, and composite perspectives (Okijie and Effiong, 2024). Project control has also grown and has been capable of keeping pace with some of the organizational strategies, including sustainability and strategic planning to cut out what it wants, even though the reality is that hedging possibility of destiny. Its miles clearly show that the old mechanistic approach to the fulfillment of projects in the form of reducing the latter to a pure correlation with the normal core, time and price supply cannot be relied on: a new variable in the equation of social development charge launch is necessary. In the majority of cases, the accomplishments of a challenge within a sustainable enhancement frame-work enhance value advent, and an essential element is the effect, relevancy, efficacy and efficiency in disclosing this courting (Moreno-Monsalve et al., 2023). Project control has also grown and has been capable of keeping pace with some of the organizational strategies, including sustainability and strategic planning to cut out what it wants, even though the reality is that hedging possibility of destiny. Its miles clearly show that the old mechanistic approach to the fulfillment of projects in the form of reducing the latter to a pure correlation with the normal core, time and price supply cannot be relied on: a new variable in the equation of social development charge launch is necessary. The success of a challenge within a sustainable enhancement framework in the majority of cases enhances value advent, and the key element is effect, relevancy, efficacy, and efficiency in disclosing this courting (Zuzek et al., 2020).

A recent article by (Ciric Lalic et al., 2022) discusses the implication of the agile, conventional, and hybrid project management approaches in a successful project. The results demonstrate that agile approaches presuppose much more positive contribution to the dynamics and readiness of the team in the future, than traditional ones. The article emphasizes the tendency to apply the project management

strategies on the grounds of the specifics of the project.

1.2 Gap Analysis

Although project planning is said to be one of the keys to effective project management, empirical evidence shows that there are contradictory results concerning project planning and project success especially when it comes to the projects of entrepreneurship and small business ventures. Some researchers note that detailed planning enhances the degree of clarity, resource allocation, and output (Mir and Pinnington, 2014), and others do not think that extensive planning is detrimental to the flexibility in altering circumstances (Permana et al., 2020). Even though this has been identified, there is little empirical evidence on the role of project planning with respect to project success within an entrepreneurial venture which by its nature are operated with limited resource base as well as under a fluctuating market environment. This creates a certain gap which requires investigation.
The direct relationship between project success and project execution has not been well established especially in SMEs and entrepreneurial projects, but execution of the project contributes to the effectiveness of project activities. The available literature has a tendency to focus on issues of implementation within large organizations (Joslin and Müller, 2016), so there are gaps in the literature regarding the performance of the executions in small and high-growth companies. The consequences of the quality of the execution to the success of the project could also greatly differ in the case of the business because of the inadequate staffing, fluctuating needs of consumers, and reduced delivery time. The current gap shows that there is need to have empirical research concerning the practice of execution in entrepreneurial environments. Controlling and monitoring processes are required to ensure that the project does not go off course, and a research study conducted on a worldwide basis shows that, the major cause of project failure is lack of proper monitoring (Project Management Institute (PMI), 2021). Despite the fact that such practices have been investigated in relation to large scale and complex engineering projects (Padalkar and Gopinath, 2016), there have been few studies on monitoring mechanisms of business ventures and in relation to small

business projects. Considering that the entrepreneur is likely to be operating with little structure and few systems of regulations, it is essential to determine what implication monitoring and control have on the outcomes of projects. It is a huge gap in current studies.

Most of the past studies consider one project planning, execution, or monitoring (Bjorvatn and Wald, 2018). There is little empirical evidence that has attempted to simultaneously test these constructs on a single integrated model especially on entrepreneurs. The absence of such holistic models is a barrier to the theoretical development of the project management literature and its applicability by the entrepreneur who needs such practices to run in parallel. Therefore, there is a need to establish a single model that would explore the interplay between planning, implementation and monitoring to establish the net effect of the same in the project success. Unlike in the big firms, there has been little research on the project success on the entrepreneurial firms. Among the criteria of success with which entrepreneurs must contend, there are speed-to-market, innovation, customer acquisition, and resource optimization (Turner and , 2017). However, such differentiations are barely distinguished in the literature. This translates to the lack of adequate empirical information on how the project management practices impact the success of the project in the new or small venture that is the basis of this study.

Overall, the role of project management in startups is theoretically grounded, yet, nevertheless, there is a high chance of creating a more concretized empirical study, situation study, and methodological novelty to create a comprehensive picture of its actual impact (Gandomani et al., 2020). Lastly, the majority of analyses on these variables have been prepared and conducted in developed countries without much attention given to new ventures in a developing economy like Pakistan. The characteristic of such ecosystems is the fact that they are normally characterized by scarcity of resources, issues with regulation, and institutional support evolving over time.

This geographical distance limits the applicability of world research studies; it shows the need to have local research studies addressing the challenges and opportunities peculiar to startups in these regions. The proposed in-depth model seals

these gaps by the proposed research relating the project management practices to the startup achievements, the intervening variable, the co-working space, and the moderating variable, the leadership style. It contributes to the theoretical knowledge and practice particularly in the under-researched environment of entrepreneur start-ups in emerging economies, evolving institutional support. The physical distance restricts the applicability of international research and indicates how the need to conduct regional research is required to address the particular challenges and opportunities of startups in these regions. These gaps will be bridged by the proposed study that will provide the in-depth model that will interrelate project management practices and the success of startups, discuss the mediating role of coworking space, and examine the moderating role of leadership style. It contributes to both theory and practice particularly in the under-studied context of the entrepreneurial start-up in newly-emerging economies.

1.3 Problem Statement

The success of projects of startups is highly unpredictable because they operate in the environment with scarce resources, lacking knowledge of the working process, and the situation on the market is constantly changing. Although efficiency, decision-making, and control are mentioned as the benefits of Project Management Practices (PMP) in well-established companies, they have not been introduced in start-ups, in a disorganized or even absent manner.

Such disconnection causes greater delays within a project, rise of the budgets, and failure to reach the performance targets- all of which have been repeatedly linked with low project success rates in new ventures (Sukaik, 2024; Vreko et al., 2023). They are typically quite likely to fail, as the insufficient resources, lack of clear goals and the rapid dynamism of the market make them highly susceptible. Despite their high levels of innovativeness, majority of the startups experience issues concerning control of cost, time, quality and scope as the major dimensions of projects hence usually leading to failure or underperformance of a project. Project management (PM) frameworks are not always relevant or applied effectively in a

startup setting, even though they have been effective in well-established organizations. Such underutilization is premised on an inadequate understanding of how the structured PM strategies might be adapted to the needs that startups have (Sukaik, 2024).

This research is aimed to examine the relevance of project management in order to improve the success of start-up projects. It targets to identify effective methods of operation, practices, and best practices that can enable startups to achieve the goals of their project and enjoy a sustainable development. The analysis will identify the value offered by project management in overcoming the challenges that are characteristic of startups and supply the real-life value to the entrepreneurs, investors, and project managers in order to enhance the performance of the startups and their sustainability (Vreko et al., 2023).

Startups play a very significant role in fuelling financial growth, innovations, and jobs. However their unique operating conditions such as limited finances, absence of organized processes, dynamic market requirements and high degree of uncertainty is a significant roadblock to successful projects. There is statistical data with a simple trend according to which a significant number of new entrepreneurs fail during the initial years of operation, most of them were not plotted, risk treatment was bad, and the implementation was inefficient (University and Kotler, 2023). The main constraint of the challenge control in the SMEs is the lack of property and skilled human resources, yet the solution of such issues can lead to better development and innovations (De Almeida Parizotto et al., 2020).

The thesis aims to overcome the critical test of revolutionary project manipulate reactions by taking part in the investigation of feasibility of up-establishment of a PMaaS consulting company. An assistant such as the utilization of PMaaS corporations is of immense scale to the expansion of their initiative which is material to the regulation of issue liabilities efficaciously. Outsourcing the knowledge of the project management to a professional advisory service is one of the means by which, companies can attain green operation and strategic success. This will equip them with the abilities to enhance a highly flexible and customized response that would be suited to his or her peculiarities (Alyali, nd). The distinction between

the strategy and equipment employed at the period of the launching phase and people employed at any period in the business operation will have to be developed to classify the usage and value of the task control at the various levels of the begin-up. (Ahmed, 2022).

1.4 Research Questions

This study is intended to provide answers to the following questions:

i. Does the Project Management Practices have a significant impact on the success of startup projects?

ii. Does Coworking Space mediate the relationship between Project Management Practices and startup Project Success?

iii. Does Transformational Leadership Style moderate the relationship between Project Management Practices and startup Project Success?

1.5 Research Objectives

Objectives of the study are as follows:

RO1: To examine the impact of project management practices on the Project success.

RO2: To examine the mediating role of Coworking space in the relationship between project management practices and project success.

RO3: To examine the moderating effect of Transformational Leadership Style on the relationship between Project Management Practices and Project Success.

1.6 Hypotheses

i. Project management practices have a significant positive impact on the Project success.

ii. Project Management practices have significant positive impact on coworking space.

iii. Coworking space have significant positive impact on project success.

iv. Coworking space mediates relationship between project management practices and project success.

v. Transformational leadership style moderates the relationship between project management practices and project success.

1.7 Research Underpinning

The paper is pertinent to the growing need of the framework project management strategies in the entrepreneurship and small business environments. The literature has shown that inadequate management practices in projects have been a key factor that has led to project failure in most parts of the world (Project Management Institute (PMI), 2021). However, the current literature has covered big entities, which indicates that not much is known on how project management practices can influence the success of projects in small and emerging firms (Turner and , 2017). With this connection, the research will be able to provide empirical data that will complement the current data on the performance of the project within the resource-limited conditions.

The coworking spaces are also a major contributor of the mediating role. Although the notion of coworking spaces is getting more familiarized as a location of teamwork, knowledge sharing, and entrepreneur efficiency (Bouncken and Reuschl, 2018a), its role in strengthening the success of the projects is lacking in the literature. The gap developed in this paper will focus on demonstrating how coworking spaces can be considered an enabling process in which the project management practices are translated into positive project outcomes.

In addition, there is a moderating influence of transformational leadership which contributes to another theoretical contribution. Transformational leadership has been linked to improved motivation, innovation, and performance of employees

(Bass and Riggio, 2006a), and little has been understood on its connection with project management capabilities in the entrepreneurial setting. The research introducing this moderating influence introduces the theory of leadership to the study of project-based environment and contributes to the overall understanding of the leadership behavior as an origin of the increased efficiency of practices related to project management.

It has been found that project management innovation (PMI) can lead to great improvements in the success of the project. As an example, research on software development companies in Pakistan has shown that PMI has a positive influence on the results of the projects, and the impact is supported by the governance systems and high-performance work practices (Zaman et al., 2022). Also, effective strategic management practices are reported to improve the productivity of businesses of small and medium-sized enterprises (SMEs), support better decision-making and distribution of resources, which, in turn, enhance the implementation of projects and business development (Zaman et al., 2022). The contribution of project management to the development of knowledge startups is of particular interest since such businesses are extremely dynamic and rely on innovation. Planned management procedures may significantly enhance innovation competence, operational effectiveness, and overall performance (Sukaik, 2024). In the latest research, the importance of PM skills and knowledge management (KM) processes as a crucial factor in the success of knowledge-intensive startups has been noted (Shahzadi et al., 2021). With technology-based startups, balancing innovation objectives with healthy project management initiatives have been demonstrated to amplify the transformation of ideas into market-based answers, and consequently, competitiveness and sustainability (Sukaik, 2024).

In addition, proper project estimates especially on timelines and budgeting are essential towards the capability of a startup to attract investing as well as operationalizing its vision. The use of project management methods in this regard has been found to benefit project feasibility because research has shown on smartphone-app startups (Khan et al., 2023). It is also important whether governance and innovation are applied to project management: a systematic review demonstrates that the integration of project management enhancements,

well-developed project governance frameworks, and outstanding performance team methodologies considerably enhance project results even in a changeable or unpredictable environment (Zaman et al., 2022). Practically, in software startups, 40 real-case-based research has shown that effectuation logic (decisions made on available resources and with iterating feedback) with MVP cycles and customer engagement is replacing more and more project regimes that enforced the success of the project when the methodology adapted to the entrepreneurial logic (Nguyen-Duc et al., 2021). This Study conclude that in the case of entrepreneurial start ups, success is achieved by project management practices that are both structured and flexible with planning that is iterative, governance that is responsive and communication that is anchored by stakeholders. The practices facilitate risk awareness, resource optimization, output in innovation, and uncertainty resilience.

1.8 Theoretical Underpinning

This study expands theoretically to congruent areas of project management, entrepreneur, and knowledge management. Project management in knowledge-based startups is necessitated by the fact that these types of enterprises rely much on intangible resources such as innovation, intellectual capital and expertise, which are adaptive. This study adds to the theoretical knowledge by analyzing the importance of structured PM structures in determining the success of any startup by situating project management in context-sensitive and dynamic, knowledge-intensive settings. According to (Turner and Müller, 2005) PM has to change to suit the characteristics of every project environment to cross the line. With all the variables held constant, the study can be theoretically grounded on a number of established frameworks such as the resource-based theory (RBV), Dynamic capability theory, contingency theory, systems theory, and the social capital theory. Nonetheless, inter- linkages project management practices are a construct that must be examined in order to examine coworking space, leadership style, and startup project success, hence the foundation of this research mostly lies in Dynamic Capability Theory (DCT). DCT offers a higher level framework to explain how entrepreneurial startups, which exist in uncertain and dynamic environments,

can strategically exploit and reorganize internal ability like project management practices in order to attain sustained competitive benefit and project achievement (Teece and Li, 2022). Dynamic Capability Theory assists in account of the cumulative and interdependent influence of structured project practices, spatial collaboration (coworking), and adaptive leadership on the overall accomplishment of entrepreneurial project. Project management practices in the context of the startup are not purely procedural but strategic routines that facilitate flexibility, innovation and learning in the uncertain market settings. Such dynamic routines enable startups to discover opportunities, capitalize on them with execution brilliance and reorganize resources when necessary (Barreto, 2010). On the theoretical level, such a phenomenon as Entrepreneurial task control (EPM) is extremely new, hence, nevertheless, there is still a need to study it and contribute to the body of literature. On one side, project achievement has been studied towards the years, and normally within the scope of large organizations. Alternatively, the literature is weak in as much as the study of assignment fulfillment and CSFs in begin-ups is involved. The success of management practices (PMPs) that are applied to entrepreneurial startups could theoretically be conceptualized through the prism of more than one lens. Among the remarkable ideas, there is the Dynamic capabilities principle, according to which organizations should continuously integrate, create, and redesign inner and outer skills to respond to swiftly changing situations.

The current study is theoretically divided on the basis of Dynamic Capability Theory (DCT) as it offers an all-encompassing approach to understand how startups can adapt, learn and reorganize resources in order to succeed in a project in the uncertain and highly changing environment. The reasoning to support this is that DCT suggests that companies have to maintain, integrate, and renew their internal capability in order to react to market and technological changes (Teece et al., 1997). Within the framework of startups, where uncertainty and aid constraints are typical, dynamic talents comprising of strategic mission control assists startups to correspond their constrained resources to opportunities in the marketplace, thereby enhancing success. Whilst task control practices are considered to be consistent with dynamic abilities, they enable agility, perception of integration, and expedited execution to be significant in startups (Teece et al., 1997).

1.9 Operationalize Definition of Variables

1.9.1 Independent Variable: Project Management Practices

Startups Project Management Practices involve the systematic and fluid application of tools, techniques and methodologies to the unpredictable and rapidly changing environments of startups. Such practices encompass agile models, iterative design, risk detection and risk mitigation, strong involvement of stakeholders, and adaptable planning systems (Blank and Dorf, 2012).

Considering the usual limitations with which startups can work, including financial and human resources, uncertain market, and changing customer demands, a successful project management process is a necessity. It enables startups to reduce waste by building Minimum Viable Products (MVPs), enables them to learn fast by using feedback loops, and pivot easily when the market sends signals (Ries, 2011).

1.9.2 Dependent Variable: Project Success

It is dependent variable since it can be seen that the challenge fulfillment could be operationalized in to three main components these are transport on time, whole work within specific price range and meet the needs of mission. Then, in case any of the assignments satisfies these 3 fundamental needs, then this mission is a success. The rule is the operationalization process, which provides the rule of the development or adoption of devices to layout survey (Raymond and Bergeron, 2008). Project achievement is a multifaceted phenomenon that is not limited to such traditional measures as time, budget, and compliance with scope. It also includes the accomplishment of strategic objectives, the innovation output, and the proper management of intangible knowledge resources (Naseer et al., 2022). This success is in both the delivery of deliverables and the integration and utilization of knowledge to generate long-term value. This comes along with an increase in innovation power, greater competitiveness in the market, and facilitation of ongoing learning and organizational growth (Naseer et al., 2022).

1.9.3 Mediating Variable: Coworking Space

In this paper, coworking will be mentioned as the collaboration and the exchanging of the office with the individual who are present alone under the precondition of the existence of mutual relationships founded on spontaneous or mediated approaches in a temporary-set or permanent workspace (Orel and Dvoulet, 2020). Coworking incorporates the element of working at home and working office (Bouncken and Reuschl, 2018a).

The recent times have seen the rise of a new environment of working. Coworking is one such phenomenon that is sweeping across the entire globe and is characteristic of urban areas and is simultaneously drawing more practitioners and scholars. One of the pioneer researchers who attempted to conceptualize coworking was. According to his studies, the existence of coworking is characterized as pure co-presence of professionals who work beside other unaffiliated professionals at a fee (Spinuzzi, 2012a). Nevertheless, in more modern days, scholars have been adding more elements to the concept of coworking, which implies that coworking space has more to offer to its occupiers than just office space (Kessler, 2017). The coworking and coworking-space emerged as the effect of the sharing economy (Bouncken and Reuschl, 2018a; Bouncken et al., 2020a; Blagoev et al., 2019) and is especially propagated by technology. Coworking is one of the trending topics in the organization science and entrepreneurship sphere because it is a relatively new trend that is destined to revolutionize the way our work is organized. Consequently, many researchers established the definition of Coworking and elaborated on the numerous ele67 Lars Görmar ments by shedding light on the locations of coworking, the coworking-space (Waters-Lynch and Duff, 2021).

Generally, coworking place is a term employed to refer to places, which allow coworking. Googling reveals that coworking is part of a spectrum of space with a diversified focus and structure, which implies the abundance of pages about coworking in coworking-spaces (with a focus on knowledge-based work), innovation labs and reliable (with a focus on craftsmanship), incubators (with a focus on helping highly innovative start-ups) or cafes. This issue was addressed by (Parrino, 2015) and stated that there are various categories of spaces in the name of shared

workspaces. Thus, one of the main aspects is that shared workspace definition must not be limited to shared work-spaces (Merkel, 2015, 2019). In (Spinuzzi, 2012b) study on the coworking-space literature stream ((Schl chtermann, 2022) the definition of coworking also was assessed.

1.9.4 Moderator Variable: Transformational Leadership-Style

It has moderator variables which influence the asset or supervision of the relationship between the dependent and independent variables (Baron and Kenny, 1986; Cohen and Cohen, 2003). Since this study is a moderating one, the question that arises is the effect that the style of leadership may have on the impact that the project management practices would have on the project success. The new style of leadership is the transformational leadership, which encourages intellectual stimulation, empowerment of the followers, idealized influence, inspirational motivation of the followers and innovative development. Transformational leadership style is an accepted leadership style that is popular. These leaders are very highly regarded, admired and they have good ethical standard and moral values. Transformational leaders are visionary as they portray the future state and are very determined with their goals. Under transformation leadership, workers are targeted to deliver an outstanding performance that exceeds the expectations. The outcomes of these leaders are favorable at the personal and organizational levels in the areas of positive team com- position and work effectiveness, high degree of satisfaction and subordinate performance (Zaman et al., 2022). The style of leadership is the trend of behaviors and strategies that leaders always rely on to direct and motivate teams and manage them. Some of the popular leadership styles include transformational, transactional, and laissez-faire (Gul Abbasi, 2018). Affecting nature of leadership has been debated in various circumstances. As an example, (Chellani, 2019) investigated its moderating effect on the relationship between role stress and organizational commitment and failed to establish any significant moderating effect. Nonetheless, the other researchers have found out that transformational leadership can reduce the adverse effects of stress on

employee's health and performance, proving that it is a moderator (Gul Abbasi, 2018).

Chapter 2

Literature Review

2.1 Introduction

Project Management (PM) has become a strategic science that is crucial in startups especially the knowledge-based ones, which are in the highly uncertain and rapidly changing environment. These startups are typically small in terms of finances and people, time, and the existence of intense competition in the market because of their shortcomings in terms of intellectual resources and the emphasis on digital technologies. On this note, PM allows organization, prioritization and disciplined action and this in a way is vital in coping with complexity and survival and growth. This literature review is a critical review of the scholarly literature and practical applications of PM in knowledge startups, such as frameworks, methods, leader behaviors, knowledge management, collaborative ecosystems, and implementation issues. Start-up project management is a process of being organized and managing the projects till the end.

2.2 Project Management as a Strategic Framework in Startups

As (Ahmed, 2022) remarks, project management is increasingly turning into one of the strategies rather than an arsenal in the startup with the tight schedule

and scarce funds, it will assist in decision-making and keeping the vision and operational tasks in the same place since the inception of the idea until the point of implementation and expansion. Project management is commonly used in the knowledge-based startups which are very reliant on innovation and learning to address multiple uncertainties simultaneously. The new technology-based firms (NTBFs) (Dreczkowska and Mroewski, 2019) consider opportunity discovery as a project; the entrepreneurial leaders are resource allocators that are dynamic. In these firms, project management is not only beneficial in creating products, but it also offers strategic adjustment in the form of the continuous feedbacks as well as the process of learning that are essential skills in uncertain environments.

2.3 Supporting Theory: Dynamic Capabilities Theory

The rationale behind this is that the ability of firms to combination, invent and reorganize the inner and external competencies is an essential element to the capability to respond to the highly dynamic environment (Dynamic Capabilities Theory (DCT), proposed by (Teece et al., 1997), DCT builds on the Resource-Based View (RBV) since it underlines the fact that the resources should not be considered only valuable but rather renewed and utilized constantly (van de Wetering et al., 2021). The theory is applicable to large extent to knowledgeable startups due to the necessity to act swiftly in response to the technological and market instability and lack of resources at their disposal. These startups are able to find opportunities, capitalize on them and re-align its resources to ensure that it is competitive (Teece, 2007). Project management is very vital in the development of such dynamic capabilities. Project management assists knowledge startups to develop organization routines that can facilitate innovation by structuring processes of learning, integrating, and adapting. The four basic knowledge processes which are related to dynamic capabilities, which are collection, incorporation, utilization, and realignment, are strengthened by the practices of project management ((Teece, 2007; Eriksson, 2013) dimensions of the sensing and seizing are operationalized

via project management) activities like environmental scanning, strategic planning and resource allocation. Such activities are essential towards the conversion of new opportunities into sustainable competitive advantages. This relationship is supported by the empirical research. To that end, Wang and colleagues (2022) discover that the dynamism capabilities of knowledge generate an unbelievable effect on organizational agility and, subsequently, startup performance, (Wang et al., 2022) Hanchi (2020) continues to say that the dynamic capabilities are achieved as the dynamic knowledge routines which include accumulation of knowledge, externalization of knowledge, internalization of knowledge and change of practices to a level in knowledge-intensive environments. This observation is extended by (Zahra and George, 2002) with the introduction of the concept of the absorptive capacity as dynamic capability as a signatory of the ability of a firm to acquire, internalize, transform and apply knowledge and is specifically pertinent to the start-up firms within the context of the innovativeness and the flexibility.

2.4 Dynamic Capabilities

The dynamic capabilities explain the capacity of a company to integrate, generate and adapt the external as well as internal competencies in order to respond efficiently to the rapidly evolving environments. These competences are the organizational potential to design the new and exploitable forms of competitive advantage that are established by the historical strategies and the new position in the market that are dictated by (Leonard-Barton, 1992).

2.5 Resource Based Value Theory

The intellectual basis of the RBV lies with Edith Penrose (1959) who focused on the role of the resources in enhancing or constraining organizational growth. She explained resources as physical objects with which a firm acquires, rents out, or produces to its personal consumption and people who participate with terms that make them part of the firm practically (Penrose, 1959). who also focused on

the role of resources in stimulating the growth of the organization or impeding them. The resource-based view (RBV) provides a sufficient resource to discuss how tangible and intangible resources of the firm may be utilized in the process of developing and sustaining competitive advantage. As a result, it has been widely used to explain the strategy choices of entrepreneurial firms to establish such an advantage (Zahra, 2021). Project management (PM) is a newer discipline with little theoretical basis. Over the last decade, many studies employed the ingenious parsimonious method of proving PM location as a technique of achieving a competitive advantage that is environmentally friendly. As part of the test, RBV to PM utilization may be useful in educating the teachers and the professionals of a superior level to understand how PM affects the method, and how PM creates a continuous aggressive advantage (p. 23). The existing paradigm, RBV, has been determined as a notable data-, demonstration-, and awaiting useful resource-based sustainable competitive advantage over 2 a long period (Din et al., 2022).

This paper evaluates the relationship between the useful resource-based precept and entrepreneurship and develops knowledge based on the limitations of useful resource-based absolutely idea and begins to respond to the critical questions in entrepreneurship. We project over the useful resource-based principle to the cognitive ability of man or woman marketers. Marketers have character-precise resources that sustain the popularity of fresh opportunities and resourcing of the venture. In the assistance of specialization in property, between the opportunity recognition and the opportunity to bundle those resources into a firm and consequently to the generation of varied outputs in the firm, which could be of high quality to the market, we contribute to discover the issues that initiate the striking location of entrepreneurship (Alvarez and Busenitz, 2001).

Given the differences between entrepreneurial project and large, more established businesses, its miles that the versions are important concerning the way in which the practicing entrepreneurs view resources and how they are considered using the RBV. This implies that to remain appropriate in the place of the entrepreneurship, the RBV might be required to reflect on whether or not other locations are wanted using marketers, as well, to be successful. Therefore, RBV theory confirms the idea that the practices of project management are not merely operational resources.

They may be instrumental in dealing with uncertainties when applied correctly, especially in startups, acting on limited resources in the most efficient way possible as well as having a long-lasting success (Kellermanns et al., 2016).

Therefore, the RBV theory confirms the idea that the project management practices are not only the operational means but the strategic resources. They could be helpful in uncertain situations, in working with limited resources in an effective way, and in having a sustainable success, when properly implemented, especially in the case of startups.

2.6 Challenges in Implementing Project Management in Startups

Nonetheless, startups continue to experience major problems when it comes to the integration of PM techniques despite the benefits. (Ahmed, 2022) identifies several numbers of impediments:

i. Inadequate finance and human resources.
ii. Inadequate project management knowledge
iii. Crossing the line between formal PM processes and the requirement of flexibility

These issues are acute in the case of new digital startups when it is often concentrated on product-market fit and survival in the nearest future. Besides, the traditional PM tools demand significant resources, and they cannot be available and used in small groups. To address this, Ahmed suggests that startups should view maturation of PM to occur gradually starting with lightweight agile tools and incremental processes, as the business levels out.

2.7 Integrated PM Practices for Startup Success

By taking a blend of all three pieces of paper, it is evident that knowledge startups must be strategic vision oriented and operationally agile. The PM practices have to integrate:

i. Opportunity recognition and flexible execution (Dreczkowska and Mroewski, 2019)

ii. Customer-oriented, adaptive methodologies like Agile and Lean (Ahmed, 2022)

iii. Collaboration and networking for knowledge and support (Lima, 2024)

These integrated practices create a resilient and responsive project management ecosystem that aligns well with the volatile and innovative nature of knowledge-based startups.

2.8 Project Management Practices and Coworking Space

Due to the ever-changing nature of generation and markets, organizations would like to employ the excellent undertaking management practices to effectively manage their labor. The execution of these practices will cease to display the comparable outputs in unheard-of types of work and specific companies. The experience employed by larger audiences may also produce some results when implemented in the small businesses. The scale-ups were also considered in the study, which can also be a startup that is already through a primary stage of maturation and has more complex structures and processes, and thus can enable us to examine the way of how the undertaking control practices interplay with the process of company evolution. This way, it could be observed that project management is considered to be an important consideration in this form of organizations. Such firms seem to be more agile.

To challenge the management, thus taking advantage of the leverage that is often availed through these processes. Such practice seems to be still present in the maturity of startups when there may be optimal an expansion in the standardization and complexity of project management practices and tools (Tereso et al., 2019). Project management is a strategic skill that cross link outcome missions. According to (Kerzner, 2017) project management is used to constrain resources of a company in a certain interest by using a steady budget and time to guarantee highly good overall performance and optimal customer relations. Project

management follows a certain list of degrees that make the articulation of the difficulty that will be achieved, who will perform the work, the milestone and who will approve, audit, disclose and verify the milestone (PMI, 2015).

Conceptualization of CWS by (Spinuzzi, 2012a) is that is an open plan area whereby human beings interact with the diversified unaffiliated human professionals on a fee basis. When offering a collaboration surroundings, (Capdevila, 2015) elaborated that CWS were the areas where the labor resources of an unbiased professional could supply their information willingly to the community with its restrictions loosened. Among the conditions of creating creativity, the interaction and the role of CWS to ease the process of professional innovation acquire the interest of the students. The price provided by CWS seems to be applicable to the sale of innovation strategies; in idea technology, promotion, and implementation (Amir, 2020). The need of Coworking Space has been growing within the context of open innovation (Bouncken and Aslam, 2019; Bouncken and Reuschl, 2018a; Rese et al., 2020). Collective operating costs are coworking space, in which unbiased knowledge workers combine their knowledge to create know-how and gain by this affiliation, working individually, together (Spinuzzi, 2012b).

The strong application of project management practices that comprise strategic planning, risk management, stakeholder involvement, and team organization have a positive influence on the project satisfaction in comprehending startups. Operating in innovation driven, and high paced working settings, such startups are often faced with unreasonable levels of uncertainty, limited resources and hyper volatile markets, and so, reliant execution of tasks is essential. The challenge control practices offer a scientific basis of controlling complexity and maximizing intention alignment, improving the verbal exchange, and sustaining manipulate over project effects. According to an observation through (Mir and Pinnington, 2014), it could be possible to have a strong fine relationship between maturity of task control practices and typical assignment overall performance particularly in knowledge intensive environment. It can be empirically proven: when Zwikael and Ahn (2010) multinational look at (701 tasks, seven industries, and three countries) found that, even moderate planning of chance control reduced the dreadful effects of task danger on performance significantly. Plans, danger control, management,

and stakeholder management were all significantly linked to mission overall performance in Saudi production SMEs; verbal exchange on my part alone showed no significant influence (Zwikael and Ahn, 2011). A completely creation look based in Pakistan established that planning sports, project control, human aid management, and schedule control positively related to success in assignments with making plans exhibiting the strongest effect (r=0.42).

In addition, (Joslin and M ller, 2015) concluded that 22.3 percent of the variety of assignment achievement was determined by the adoption of a sufficiently comprehensive challenge management technique. In North America, on the other hand, a survey found out that there is only a weak relationship between standard PM technique and challenge fulfillment, and the benefits depend on the context, governance, and methodology that are satisfactory (Joslin and M ller, 2015). The desire to have strong research connecting PM practices with success is identified by (Cooke-Davies, 2002) and the general work of Zwikael stresses the ideas of conversation and attention to blessing as the effective directions. During the meantime, sustainable management research in Malaysian manufacturing indicates that the incorporation of sustainability in the plan-making process acts as a mediator and an adjunct to the achievement results (Chow et al., 2021).

H1: The effectiveness of coworking space in entrepreneurial start-ups is significantly associated with project management practices.

2.9 Coworking Space and Project Success

Among 169 coworking space users, it is established that individual motivation to learn is the phenomenon that facilitates collaborative learning and eventually increases individual work performance within coworking environments (Oswald and Zhao, 2021). The transfer of knowledge and integration of external knowledge is also an issue related to coworking space (Del Sarto et al., 2023). The available literature has shown that spatial proximity helps the superior and more than one flows of know-how even when expanding frontiers on creativity and innovation. According to (Coradi et al., 2015), he above form of spatial proximity facilitated

the interactions between various actors, the interaction content, the frequency with which the face to face conversation occurred and the time the conversation was taken (Del Sarto et al., 2023). Network level, considerations as well matter, (Waters-Lynch and Potts, 2017), using the syntheses as the theses developed later, identify coworking space as a source of professional talent, in which informal interactions and networks of all sorts take place spontaneously to produce innovation and business model evolution (Waters-Lynch and Potts, 2017).

The original definition of Project Success fulfillment was to get an assignment done within the estimated time, cost margin and ideal (Atkinson, 1999). Nonetheless, the definition of the play station has changed over time and nowadays there are some institutions and researchers who have the us- age of various standards. Defining has been improved by the undertaking control Institute (PMI) to make it inclusive of the stakeholders of an assembly regarding their variousness (Han and Zhang, 2024). According to the British association of the undertaking control, the desires of gratifying stake-holders should be preserved in play station (Teece et al., 1997).

Same is not equal to but similar to assignment achievement which is an overall performance concept. It continues to alter its meaning and is perceived in many different ways (Baccarini, 1999). In the basic definitions, the achievement of the tasks was turned into success performance in a challenge or a mission, where desired consequences were achieved. However, these definitions that were entirely reliant on the so-called golden triangle (Haffer, 2009) were not enough, as the tasks that needed to be executed and the overall scope of actors involved in their implementation were too complicated (Beleiu et al., 2015).

Today, fulfillment is mostly considered on two scales, the first one being first-level success (primary) and the 2d-level fulfillment (Trocki, 2012). First-order achievement describes the amount of accomplishment of the goal of undertaking and it is varied in terms of fine, time and value. It is grounded on the idea of the commonly known golden triangle of the project. This kind of fulfillment is functional and is equivalent to the working overall performance of the challenge (2d-order achievement) and is embodied in aspects that are connected to the pleasure of

consumer needs, client recognition (Kerzner, 2004). This is where the level of the mere performance of the challenge is (Labedzki, 2022).

In the original definitions, success undertaking was defined as an implementation of a challenge or an assignment that was a hit and consequences preferred had been performed. Nevertheless, definitions that are available at the so-called golden triangle (Teece et al., 1997) have also been inadequate because of the complexity of activities and the wide range of participants in their implementation (Beleiu et al., 2015). Nowadays, the project success is specifically implied on the degrees, the first-level success (fundamental), 2d-level success (Trocki, 2012).

H2: There is a strong positive association between coworking space and project success in entrepreneurial startups.

2.10 Mediating Role of Coworking Space

Empirical research depicts that coworking space facilitate collaborative learning: people who are encouraged to learn are more likely to participate in group learning, and collaborative learning is a complete mediator association between motivation and consequent performance of individuals. When applied in the language of project management, it implies that planning and stakeholder communication, risk tracking, and joint learning practices are better internalized through the coworking-based collaborative routines (Oswald and Zhao, 2022).

There is an increased popularity of coworking spaces. At some point in literature coworking space are commonly referred to as collaborative environments. Nevertheless, the processes of the collaborative activities in the coworking facility are not investigated. According to the study, one of the primary collaborative activities in the coworking space is collaborative studying, and develops a theoretical model in which two independent variables are included: the character motivation to study and person paintings overall performance (Oswald and Zhao, 2022). Coworking facilities are designed in such a way that they are extremely open and inviting. The distinction is typical of humans of all levels of existence who have unique-one-of-a-type backgrounds and agreeable great economic functions: entrepreneurs, freelancers, artists, researchers, students, etc. Coworking

space is also flexible in the sense that tenants can rent an open space table whenever they like. The portable divans and tables in most coworking zones can be re-configured to meet new agencies and/or community events such as physical or online conferences (Cheah and Ho, 2019)

The coworking area is a gathering spot of thinkers and inventors. The assumption is that such a concentration of types of creativity will transform the perception into a cognitive frame that will pursue the creativity rather than repetitive general performance, and able to stimulate the innovative actions. The previous studies associated such innovative emulation to growth of innovative capacity. High degree of social climate allows innovative imitation between colleagues since there is much less relational conflict and hostility between the followers of the existing and the new approaches (Cheah and Ho, 2019). As seen in, (Kristensen, 2004) for example, workspace facilitated special degrees of an aesthetically inclined way. On investigating an interdepartmental mission team as a case study, the have a look at discovered that creativity may be placed at the location depending on the confinements of work spaces. The challenge transformed into resolved to permit certain mental methodologies nonetheless at the same time limits others as well. This, in turn, provokes emotions to enable or lessen the increase of creativity (Amir, 2020).

According to (Parrino, 2015) organizations need workplace flexibility that can help them achieve creativity. Coworking space, as a form of the continuum which includes running away of the traditional domestic workplace can be perceived in two aspects: First, as a working facility, where miles defined as an open-plan locations of work in which unemotional know-how individuals work, which typically is used by a cell, unbiased expert; and second, as (W Le., 2016) propose, it also involves expert work and its mechanism of interaction; that is, working by myself together in which collaboration occurs with unique backgrounds of specialists and specific approaches of the workplace director (Amir, 2020).

The current coworking is not what it used to be in the beginning when it was a simple desk share office during which neutral contractors were provided with an opportunity to work and be heard. It is lured by the notion of open property,

social communicating and higher education. The financial justification of firms that would choose coworking space is provided by Colocation, collaboration and shared assets standards (Cheah and Ho, 2019). The coworking areas are carefully designed in a way that they forge connections and to teamwork and communication among the tenants who have radically different backgrounds. The colleagues in the workplace operate in other industries and markets, and they have different tools and approaches to business. This heterogeneity can result in the occurrence of capacity partnerships and progressions at the peripheries (Cheah and Ho, 2019) The perceived value is created with the assistance of coworkers, and the physical weaknesses of society are rearranged with the help of the new features of CWSs (Lima et al., 2024). Emphasis on area, expertise, and layout, which make its customers more at ease and has a chance to serve customers, traders and enterprise associates or even paintings single-handedly in a prepared, expert environment in a less informal and social isolation than in the house office (Lima et al., 2024).

H3: Coworking space have significant positive impact on project success. H4: Coworking space plays a significant mediating role in the relationship between project management practices and project success.

2.11 Moderating Role of Transformational Leadership Style

Empirical evidence has demonstrated that transformational leadership leads to the development of intrinsic motivation, diminished burnout, and improved work performance in an organizational context (Costa et al., 2023). Transactional leadership (that is contingence-rewards-based and management-by-exception) in conversely has a less significant effect, largely on task performance, and less connection to innovation or engagement (Thanh et al., 2022).

In the meantime, laissez-faire leadership is always associated with decreased engagement and does not allow innovative work behavior (Thanh et al., 2022). More so, the full-range leadership models verify that balancing the high transformational

behaviors with the effective transactional elements result in more effort, satisfaction, and effectiveness in relation to the passive-avoidant styles (Garz n-Lasso et al., 2024).

As various professionals have discovered, transformational leadership goes a long way to determine the success of a plan initiative. Even though the focus on leadership is quite inadequate in the general plan, the perspectives through the prism of permanent organization can visualize transformational leadership as one of the frontal perspectives (Saeed et al., 2023). Based on the same logic, the trust on leader and work engagement are theorized as mediating variables between transformational leadership and innovative work behavior. Serial mediation studies have confirmed that transformational leaders build trust, which in turn builds engagement, and eventually, innovation (Li, 2022). Various researchers and scholars have studied transformational leadership and have identified it as one of the skills of the manager but they desire additional research that can be found in literature of project success (Mujkić et al., 2014). The management trend is tremendously powerful not only at the organization but also at the workforce. The style of leadership is also associated with the achievement of the venture.

The transformational leadership implanted by (Burns, 1978) stirred the curiosity of the students of the picture in the past few many years. Transformative leaders can also influence individuals to share their expectancies, perceptions, and intentions to meet ordinary objectives through their vision and personality (Cherry, 2010). I suppose that leaders that utilize a transformational method. This type of leadership is characterized through inspirational motivation, nurturing, wondering, personalized assist, and overall exemplary management as a function model that others will emulate is described more effectively than those who use transactional or laissez-faire patterns.

The construction of the transformative leadership must be regarded as, exceptionally helpful, more important than the results of the classical corporate and improvement implements, to respond to the development needs of the so-called trendy leaders, who perceive and constantly monitor various state of affairs. The outcomes of the organization and changes can be a feat of success and this depends

on leadership. Specifically, the imperial forms of trust such as the institutional form of organizational trust or act reliability will be especially responsive to the leaders who will be active in developing and sustaining corporate trust (Ellonen et al., 2008).

The followers will be willing to take extra role behaviors where the transformational leaders are believed to be trusted, loyal, respectful and loved, and organizational members who feel that there is a mission and a mission of the organization are likely to work effectively (Fareed and Su, 2022). A transformational leader with heightened emotional intelligence is able to establish and nurture a corporate culture in which all employees are committed, loyal, and assured in their organization (Kouzes and Posner, 2002), and make certain that every undertaking is quality and customer-focused (Caroline et al., 2016).

The hypothesis proposed is the transformational leadership will achieve more in-depth engagement, creativity and performance as compared to the transactional leadership and laissez-faire leadership will perform poorly compared to the others.

H5: The relationship between project management practices and project team performance is moderated by leadership style.

2.12 Research Framework

The proposed model combines the variables of project management practices, entrepreneurial orientation, and project environment variables to study their effect on success of project in knowledge-based startups.

The framework enables us to gain a clear picture of how all the structured management processes, culture of the startup and contextual influences are related to shaping the outcomes of projects by looking at both direct and mediated relationships.

The research framework is reacting and is in the form of variables relations; the independent variable will be project management practices, dependent variable

project success, coworking space mediator and transformational leadership style moderator.

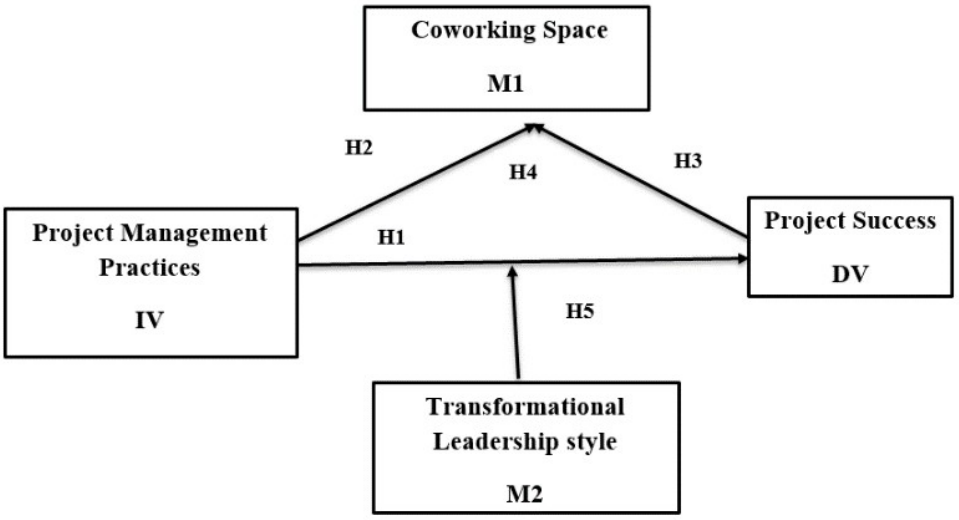

FIGURE 2.1: Conceptual Framework

Chapter 3

Research Methodology

3.1 Introduction

In this chapter, the methodology of the research used in this study is presented and includes the research design, target population, methods of sampling used, data collection methods and data analysis methods. In this paper, I will discuss the role of project management, Knowledge start-ups can be made more successful through management and among the significant project management practices are planning, risk management, stakeholder engagement and monitoring and control. It also examines how these practices play in the success of a venture in knowledge-based startup environments. The organizational agility is also viewed as a possible moderating factor in the study since the mediating effect of Coworking space and adaptive project management approaches is also considered.

3.2 Research Philosophy

The type of research philosophy used in this research is the positivism research philosophy in which reality is factual and can be quantified and best characterized using empirical research. Positivism is overused with respect to quantitative studies when the authors test the hypotheses which are known and use the statistical method to evaluate the interaction of the variables (Saunders et al., 2015). Positivist paradigm is valid since this research study does not only aim at testing and

testing the effects of Project Management Practices on Project Success but also test the mediation and moderation effects, the paradigm is adequate as it enables systematic measurement, objectivity and generalization of results.

Positivism is also supported by the deductive type of testing theory, where the researcher can modify the existing theoretical base like the Dynamic Capabilities Theory with a view of giving testable hypotheses, and in a systematic manner can test the causal relationship.

3.3 Research Approach

The analysis of this study is deductive built on the positivist philosophy. According to Saunders et al. (2015), contend that a deductive methodology assumes that theories are already known, formulates hypotheses, and then investigates the hypothesis through empirical evidence. The strategy is appropriate as the research model has its foundation on the earlier research on project management, coworking setups, and transformational leadership.

The deductive method enables the researcher to:

i. derive hypotheses from existing theories,
ii. use quantitative data to confirm or reject these hypotheses,
iii. generalize the findings to a broader population.

This structured approach is consistent with studies that aim to validate theoretical relationships rather than explore them inductively.

3.4 Research Design

This paper adopts a quantitative research framework, which is in line with the aim of testing empirically the relationship between variables in the use of numerical data. The cross-sectional design will be used because data will be gathered at one moment in time among startup companies and coworking environments, which will be suitable in evaluating the existing perceptions of project management practices,

coworking space process, leadership style, and project success. The design is suitable when a researcher would wish to establish statistically significant associations as opposed to changes over time that would be established in longitudinal or time-lagged studies. The cross-sectional and quantitative approach enhances the ability to generalize results and adjust with earlier empirical research in the domain of project management and entrepreneurship, which allows acquiring data efficiently and with the help of the applicable statistics using limited time and resources. (Al Humdan et al., 2024) defines the research design as, the researcher's intended approach for identifying and collecting data, as well as the steps taken in order to get the answers they need. This involves research type, study settings (including work, environment, and respondent level), and time horizons (where, when, and for how long will the study take place). Moreover, how long it takes to get the data, if there are ethical concerns, and what kind of unit of analysis (individuals, teams, organizations, etc.)

The questionnaire will consist of validated project management practices scales (Project Management Institute (PMI), 2021), project success measures, coworking space and transformational leadership style. Structural Equation Modeling (SEM) will be used to test the direct, mediating and moderating effects by analyzing data. The major data collection instrument is a structured questionnaire, the focus of which is on professionals engaged in knowledge-based startups. The survey will contain close-ended questions with Likert scale to be used to provide consistency and easy analysis. The design favors in the process of measuring vital project management aspects; project planning, risk management, stakeholder engagement, communication, and monitoring and control and their role in determining the success of the project. The research philosophy on which the study was made was Positivism research philosophy which makes research objective and empirical evidences. The scientific research resulted in positivism-a school of thought as presented by (Park et al., 2020), which emerged to dominate research in late 19th and early 20th century. The general principle is that one should use direct and objective observation and measurement in a bid to get scientific knowledge. Positivists have it that we can come to know the world through scientific processes which are methodical and rigorous and that there exists one unique reality

which exists notwithstanding our senses. The positivist approach also supports the use of a deductive reasoning process, where hypotheses are developed based on established theories and existing literature, and then tested using empirical data. This theoretical perspective aligns with the study's quantitative research design and enables the generation of generalizable results that can contribute to theory building and practical application within the area of project management.

By adopting a deductive approach, the study tests hypotheses derived from existing literature and theoretical models. The cross-sectional design enables data collection at a single point in time, offering a snapshot of current practices and outcomes in knowledge-based startups. The results aim to contribute to a better understanding of how effective project management can enhance project success in dynamic and knowledge-intensive environments.

3.5 Population and Sampling

The research problem in this study is to identify the target population in the form of professionals that work in the area of knowledge-based startups and include project managers and team leaders, coordinators, and team members who are active in the process of executing projects and making decisions. These people are chosen, due to their first-hand exposure to the practices of project management, as well as due to their understanding of what goes into success of the project in a startup setting.

The individuals involved in this study included project managers, team members, and founders working within entrepreneurial startups located in coworking space. A representative sample was drawn from startups operating in key urban centers such as, Islamabad, and Rawalpindi to ensure the applicability of results to a wider entrepreneurial context. The selection focused on individuals actively engaged in managing or participating in project-based work within coworking environments. This approach ensures relevant insights into how project management practices influence project success, particularly considering the mediating role of coworking space and the moderating influence of leadership style.

3.6 Time Horizon

This analysis adopts a non-longitudinal design and there is a preparation phase involved in it. The survey was completed, piloted and the participants were engaged within two to three months. Data collection will be undertaken at one point in time after this period. Capturing respondents' current project management practices and perceptions of success in knowledge startups.

3.7 Unit of Analysis

The analytical unit of the given study will be participant employees of IT firms, coworking space and startup owners / founders in Islamabad and Rawalpindi, Pakistan. The study concentrates on these individuals by analyzing their perceptions towards leadership practices, behaviors involving innovation of work and how these influences affect outcomes in the organization especially project success and project success.

3.8 Population Sampling

The sample to be used in this research is the employees in this study working in the IT and software-development firms registered in the Pakistan Software Export Board (PSEB). These companies are the official IT industry of Pakistan, in which many technology and start-up related projects are implemented. Given that the practices of project management, coworking space, and leadership styles have a high level of applicability in this industry, employees working in project-related capacities, including project managers, team leaders, developers, analysts, and support staff at startups, would be the right people to be included in this study.

Nonetheless, gathering information on the whole population is not feasible since there are many registered IT firms and the employees are spread across various locations hence the need to have a representative sample. In accordance with the article by Kumar and Praveena kumar (2025), research sampling enables a

researcher to obtain relevant and valid information by avoiding contact with the entire population.

A pre-existing power analysis was performed using G*Power 3.1.9.4, a commonly used software to compute the power of statistical tests in social science, behavioral, and management research in order to derive the adequate sample size (Faul et al., 2009). The optimal sample size was estimated to be 271 individuals using linear multiple regression analysis, medium effect size ($f^2 = 0.07$), significance level $\alpha = 0.05$, and power = 0.95. A sample of 110-120 respondents was used to compensate the possibility of non-responses and incomplete surveys. This guarantees a satisfactory level of statistical strength and honest representation of the wider IT labor force in Pakistan.

3.9 Sample and sample Techniques

The sample is a representation of the complete population for the research, elucidating the 2 distinct methodologies: probability and non-probability (Mohd Shamsudin et al., 2024). The sample in the study represents a subset of the population that specialize in assignment managers, IT professionals, and crew members from various SMEs and Coworking space. Because of aid and time obstacles, the non-probability sampling approach changed into hired to choose respondents. Easy random sampling be- came used to avoid bias and provide a numerous and correct photograph of the population.

Using this technique, the research analyzed task management office obligations, information-pushed decision-making, and governance methods across a various institution of Startup and Entrepreneurial initiative individuals.

3.10 Data Collection

The current research employs a subset of non-probability sampling strategies through a concept known as comfort sampling in order to acquire quantitative

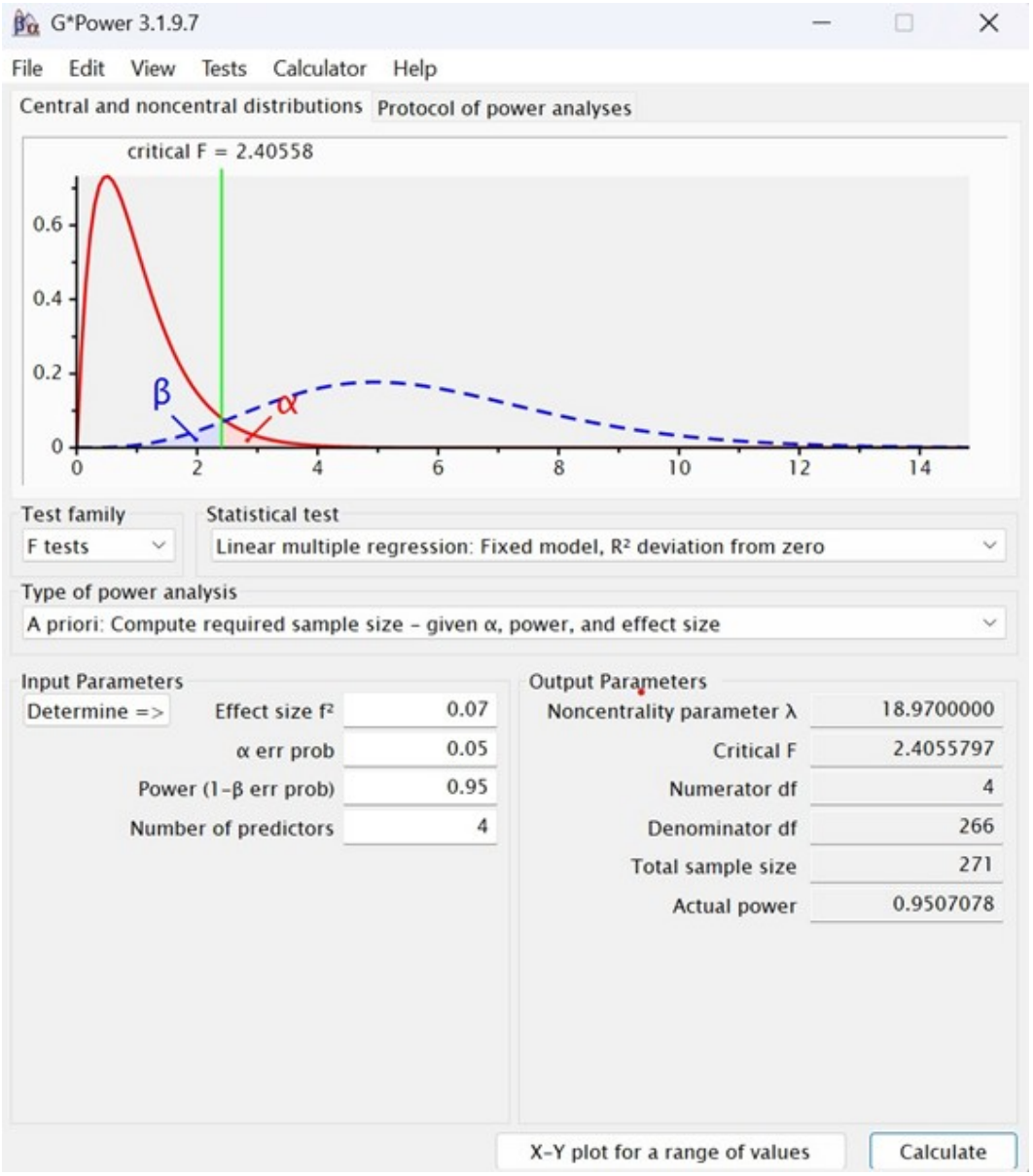

FIGURE 3.1: G*Power (power=0.95)

information. A survey form was employed in the research to collect data of extraordinary software program houses in the city of Islamabad and Rawalpindi. The informational was received through an internet Google survey and in-man or woman visit to coworking space that is in Rawalpindi and Islamabad.

Each variable had been degree with the help of the proven scales of the questionnaire. An arranged questionnaire was used as a tool to accumulate primary data as it was to be measured The Role of Project Management Practices in the achievement of Entrepreneurial Startups (project success, project management practices, Coworking space, project success and transformational leadership style).

The survey form was based on a five-point liker scale. Participants were given a totally different access to the online survey forms. The survey become was provided with a cheap amount of time to be completed. The participants were reminded so that they could participate. A total of 350 survey form were distributed to employees working in knowledge- based startup projects. Out of these, 300 were properly completed and returned, yielding a valid response rate of approximately 85.7%, and these responses were used for the final data analysis.

3.11 Sample Characteristics

The total number of responses was 300. The demographics used in the surveys included gender, age, educational attainment, job experience, and organizational experience. The characteristics of the respondents from whose data were obtained are shown in the following tables.

3.11.1 Gender

Gender is an key element in demography. This underscores the importance of maintaining gender equality, since it is a critical component of demographics, reflecting the male-to-female ratio within a certain population sample (Simon and Hasan, 2025). The proportion of male respondents exceeded that of female respondents, since the majority of members initiating the projects were male. Table 3.1 displays the gender composition of the population, which indicates that males were 55.9%, while the female seems only to be 43.8% of the participants.

Table 3.1: Gender Distribution

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	0.3	0.3	0.3
Female	137	43.8	43.8	44.1
Male	175	55.9	55.9	100.0
Total	313	100.0	100.0	

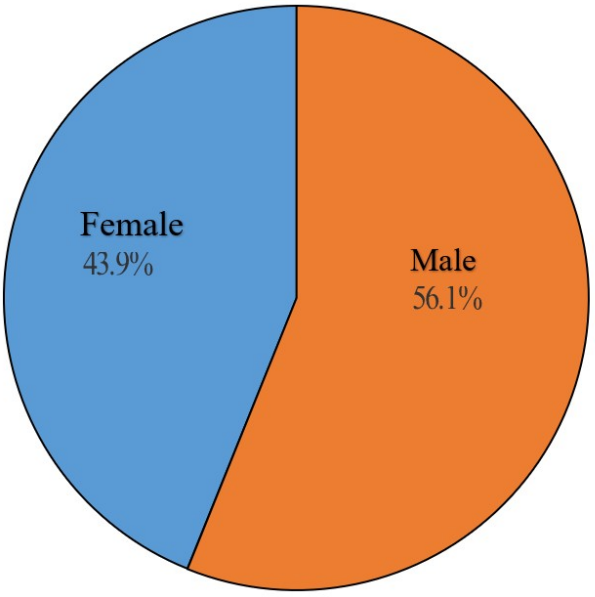

FIGURE 3.2: Gender

3.11.2 Age

Age is also a critical aspect of demography; nonetheless, some participants exhibit reluctance in disclosing their age. Rather than inquiring about the precise age, several age ranges were used to mitigate respondents' discomfort. Table 3.2 illustrates the sample composition concerning age groups, revealing that 18.5% of respondents were under 25 years, 54.0% were aged 25-34 years, 22.0% belonged to the 34-44, and 5.1% were over 45-55 years old. The review indicates a large number of responders are between 25-34 years age.

TABLE 3.2: Age group distribution of participants.

Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	0.3	0.3	0.3
25–34	169	54.0	54.0	54.3
34–44	69	22.0	22.0	76.4
45–55	16	5.1	5.1	81.5
Under 25	58	18.5	18.5	100.0
Total	313	100.0	100.0	

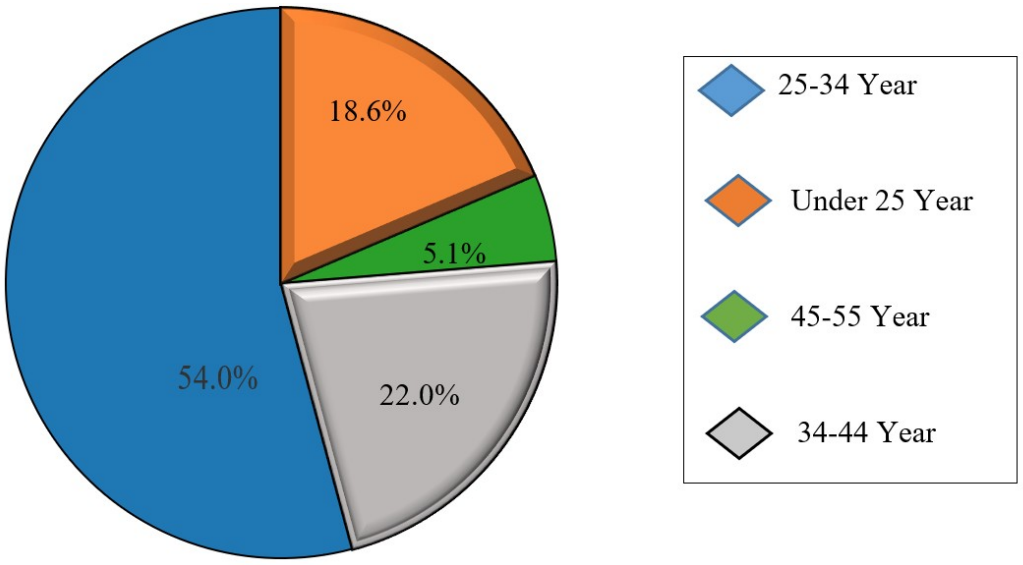

FIGURE 3.3: Age Group

3.11.3 Education

Education level is a crucial demographic factor, akin to age and gender, as it affords students opportunities to augment their knowledge, techniques, and skills, enabling them to compete globally. Education is vital for the success of any nation. The questionnaire referenced four distinct categories of degrees to collect educational data. Table 3.3 indicates that 31.0% of Participants had a Bachelor's degree, 31.3% possessed a Master's degree, and 24.6% had an MS/M.Phil, and 12.8% held a PhD. The rate of bachelor's degree holders has increased.

TABLE 3.3: Highest education level of participants.

Highest Education Level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	0.3	0.3	0.3
Bachelor's degree	97	31.0	31.0	31.3
Master's degree	98	31.3	31.3	62.6
M.Phil	77	24.6	24.6	87.2
PhD	40	12.8	12.8	100.0
Total	313	100.0	100.0	

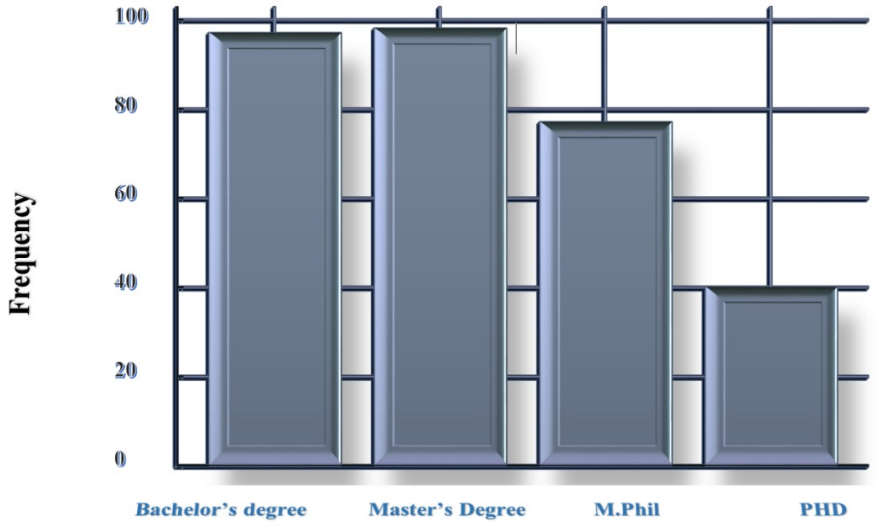

FIGURE 3.4: Highest Education Level

3.11.4 Experience in Organization

To gather data on the respondents' experiences specifically withing GPI project, four separate ranges were used for collection. Table 3.4 indicates that 20.4% of participants possessed less than 1 years of expertise, 29.4% had between 1 to 3 years, 33.5% had 4-6 years, and 16.3% had 7-10 years of professional expertise.

This shows that an important segment of respondents has fewer than three years of job experience in startup projects.

TABLE 3.4: Years of experience in project management or startups among participants.

Years	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	0.3	0.3	0.3
1–3 Years	92	29.4	29.4	29.7
4–6 Years	105	33.5	33.5	63.3
7–10 Years	51	16.3	16.3	79.6
Less than 1 Year	64	20.4	20.4	100.0
Total	313	100.0	100.0	

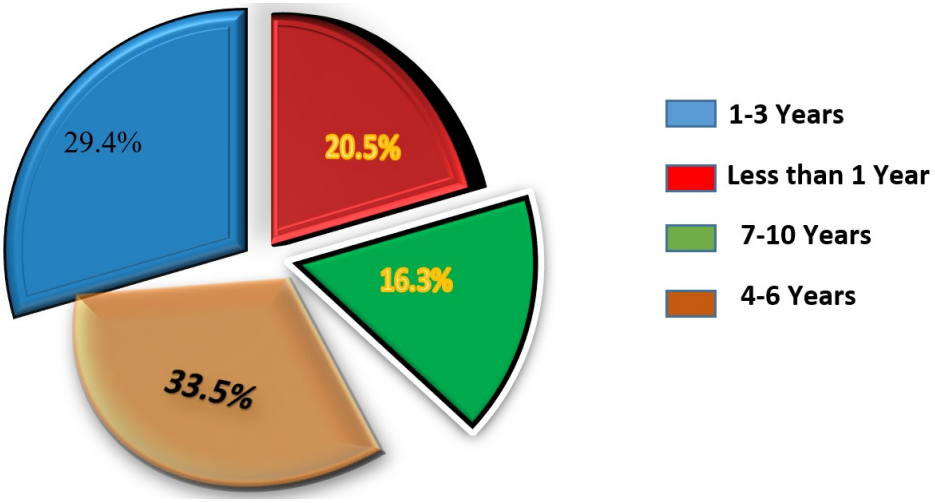

FIGURE 3.5: Years of Experience in Project Management or Startups

3.11.5 Current Role

The analysis of the current roles of respondents reveals that the majority hold leadership positions in their respective organizations. Specifically in Table 3.5, 31.6% of participants identified as Team Leaders, making this the most common role. This is followed by Project Managers, who make up 26.8% of the sample. Startup Founders or CEOs account for 19.8% , reflecting a significant entrepreneurial presence among respondents. Finally, Functional Managers represent 21.4% of the total. These figures demonstrate a diverse respondent pool with substantial representation from both strategic and operational leadership roles, relevant for assessing project management practices and their outcome on startup success.

TABLE 3.5: Distribution of Current Roles

Current Role	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	0.3	0.3	0.3
Functional Manager	67	21.4	21.4	21.7
Project Manager	84	26.8	26.8	48.6
Startup Founder / CEO	62	19.8	19.8	68.4
Team Leader	99	31.6	31.6	100.0
Total	313	100.0	100.0	

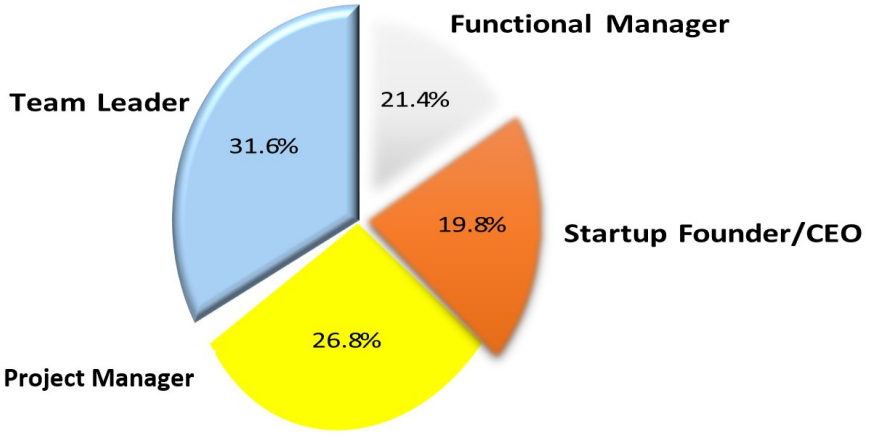

FIGURE 3.6: Current Role

3.11.6 Stage of Startup

The supply of respondents based on the stage of their startup highlights a broad representation across different phases of business development. In Table 3.6 the largest group, 21.7%, is in the Early Stage, indicating a strong presence of startups that are still developing their products or services and establishing their market fit. Growth Stage startups follow at 23.3%, reflecting businesses experiencing rapid customer acquisition and scaling efforts. 24.0% of respondents report their startups as Established but still Scaling, showing that they have a stable foundation but are working on expanding operations. Lastly, 30.7% of participants are in the Expansion Stage, signifying mature startups seeking to enter new markets or diversify offerings. This variety in stages confirms that the study captures insights from a wide spectrum of startup development.

TABLE 3.6: Distribution of respondents by Stage of Startup

Stage of Your Startup	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	0.3	0.3	0.3
Early Stage	68	21.7	21.7	22.0
Established but still Scaling	75	24.0	24.0	46.0
Expansion Stage	96	30.7	30.7	76.7
Growth Stage	73	23.3	23.3	100.0
Total	313	100.0	100.0	–

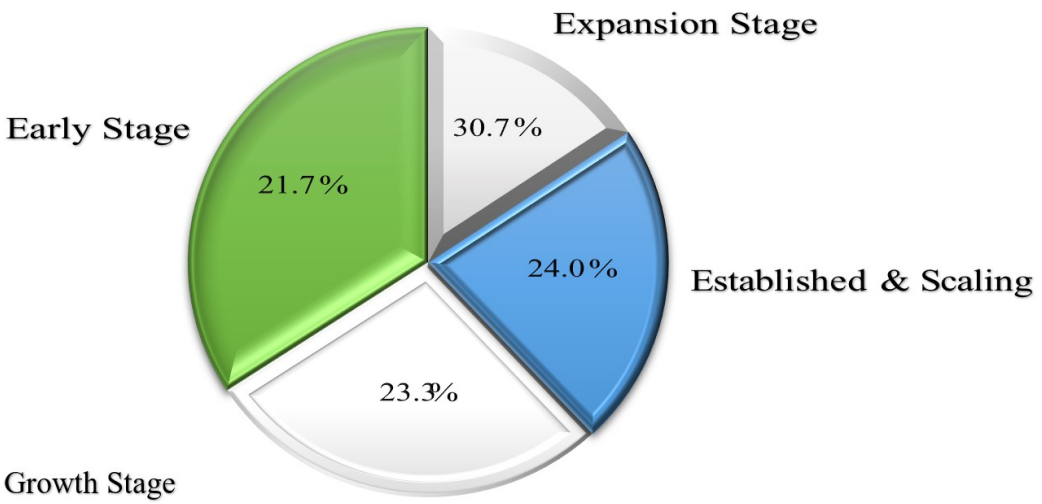

FIGURE 3.7: Stage of Your Startup

3.11.7 Startup Size

The level of the startup in the team members analysis reveals that most of the respondents belong to the small-scale startups. In particular Table 3.7, 25.9% of startups have 1-10 employees, which can be considered a lean characteristic of early or bootstrapped project, 25% of startups belong in the 11-50/employee range, which may be an indication of moderate team sizes that are typical of both growth and early scaling stages. Startups that have 50-100 employees constitute 24.9 and 23.6 percent of the respondents are in larger startups.

TABLE 3.7: Startup Size Distribution by Number of Employees

Startup Size (Number of Employees)	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	0.3	0.3	0.3
1–10	81	25.9	25.9	26.2
11–50	79	25.2	25.2	51.4
50–100	78	24.9	24.9	76.4
More than 100	74	23.6	23.6	100.0
Total	313	100.0	100.0	

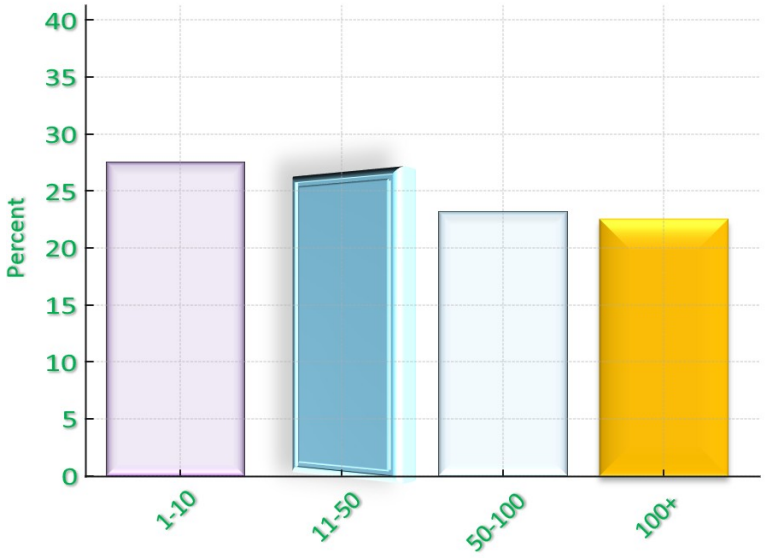

FIGURE 3.8: Startup Size Number of Employees

3.11.8 Number of Projects Managed or Participated In

The data on the number of projects managed or participated in indicates a varied level of project experience among respondents. In Table 3.8 the largest group, 19.8%, has worked on 1–2 projects, suggesting many participants are relatively early in their project management journey. 26.8% have been involved in 3–5 projects, reflecting moderate experience. Meanwhile, 23.6% have participated in 6–10 projects, and 29.4% have managed or taken part in more than 10 projects, indicating a significant level of expertise. This range of experience enriches the study by incorporating diverse perspectives on project management practices across different levels of involvement.

TABLE 3.8: Distribution of Projects Managed or Participated in

Number of Projects Managed or Participated In	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	0.3	0.3	0.3
1–2	62	19.8	19.8	20.1
3–5	84	26.8	26.8	47.0
6–10	74	23.6	23.6	70.6
More than 10	92	29.4	29.4	100.0
Total	313	100.0	100.0	

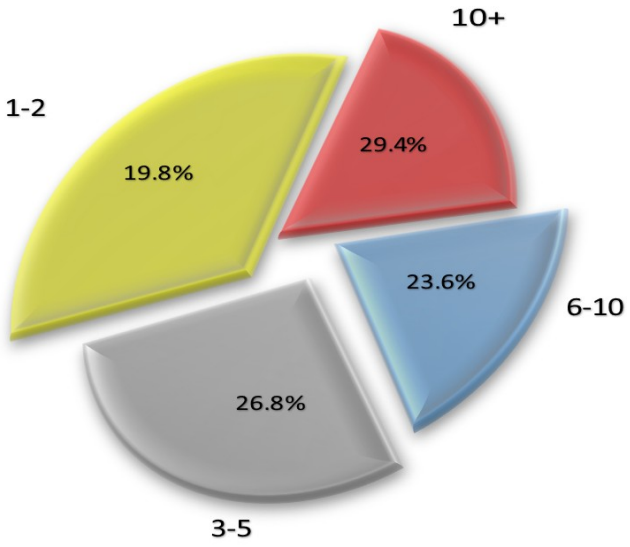

FIGURE 3.9: Number of Projects Managed or Participated in

3.11.9 Primary Industry

The delivery of respondents based on the primary industry of their startup reveals a strong concentration in Information Technology, which accounts for 37.1% of the total. This highlights the dominance of tech-based project in the startup ecosystem. The Education sector follows with 28.1%, indicating significant entrepreneurial activity in educational innovation. Healthcare startups make up 11.2%, reflecting interest in health-related solutions, while Media and Creative Industries represent 23.3%, showing a creative entrepreneurial presence. This industry diversity enhances the generalizability of the study by including insights from both technical and non-technical sectors.

TABLE 3.9: Primary Industry of Your Startup

Primary Industry of Your Startup	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	1	0.3	0.3	0.3
Education	88	28.1	28.1	28.4
Health care	35	11.2	11.2	39.6
Information Technology	116	37.1	37.1	76.7
Media and creative Industry	73	23.3	23.3	100.0
Total	313	100.0	100.0	

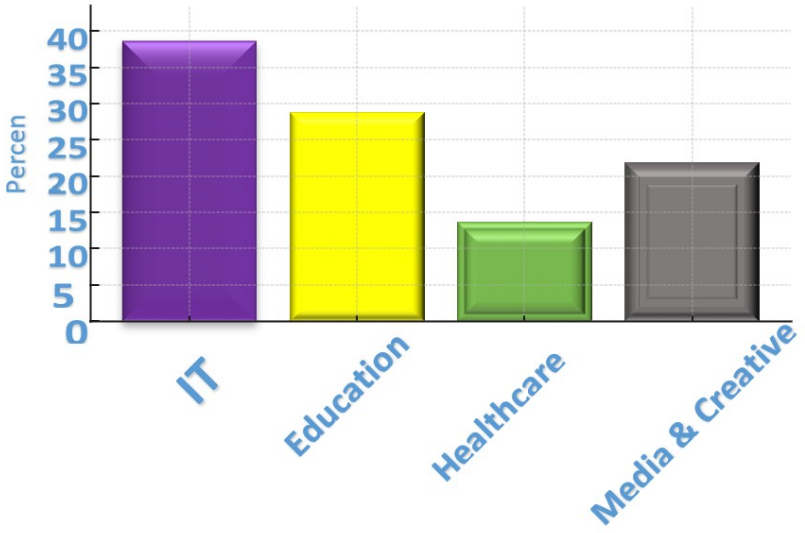

FIGURE 3.10: Primary Industry of Your Startup

3.12 Research Instruments

English is a compulsory subject in Pakistan starting from high school, so the survey questionnaire was prepared in English. Guidelines at the university level are also provided in English language. Given that the majority of participants were degree holders, they should not have had any difficulties comprehending the survey forms. All elements were assessed via a closed-ended survey forms. A Likert scale with five answer alternatives, varying from 1 = strongly disagree to 5 = strongly agree, was used to assess all constructs. The questionnaire was divided into two parts: the first collected population characteristics details like gender, age, experience, education, job role, startup size, and no. of employees, while the second focused on key variables Project Management Practices (independent), Project Success (dependent), Coworking space (mediating), and Transformational Leadership Style (moderating). Hard and soft copies of the survey were distributed to employees at coworking space and IT, with 350 questionnaires sent out and 313 responses received.

3.12.1 Project Management Practices

The 21-item scale developed by using (Ling et al., 2007) changed into used to measure PMP (project management practices) as the independent variable. The

scale consisted of 6 items and proven excellent reliability with a Cronbach's alpha value of 0.859.

3.12.2 Project Success

To evaluate Innovativeness as project success an 11-item size magnitude adapted with the aid of (Saeed et al., 2023) became used. This scale assessed Innovativeness as challenge requirement because the structured variable and confirmed desirable reliability with a Cronbach's alpha value of zero.

3.12.3 Coworking Space

The 20-item scale developed by (Kessler, 2017) was used to evaluate coworking space as the mediator. This scale showed good reliability, with a Cronbach's alpha of 0.873.

3.12.4 Transformational Leadership Style

To measure TLS (the moderating factor), we used (Donmez and Toker Gultas, 2017) 11-item scale. Illustrated acceptable reliability with a Cronbach's alpha value of 0.692. This questions for survey will be based on established measures from studies on Project Management Practices, Project Success, Coworking Space, and Transformational Leadership Style.

TABLE 3.10: Variables, Role, and Items

Variables	**Role**	**Items**
Project Management Practices	(Ling et al., 2007)	21
Project Success	(Saeed et al., 2023)	11
Coworking Space	(Kessler, 2017)	20
Transformational Leadership Style	(Donmez and Toker Gultas, 2017)	11

Chapter 4

Results

4.1 Data Analysis

This chapter is a continuation of the methodology presented in Chapter 3, where the data evaluation that was conducted concerning the study The Role of Project Management in Knowledge Startups Project Success: The Moderating Role of Coworking Space and the Moderating Role of Transformational Leadership Style is presented. The analysis starts by giving the demographic profile of the respondents, and this gives a background of the sample of the study. This is then accompanied by an analysis of the measurement model to guarantee reliability and validity of the variables.

Finally, structural model is investigated to examine the postulated relations between project management practices, coworking space, transformational leadership style as well as project success. The results are to be discussed in the framework of the research objectives that will serve as evidence to answer the questions of the survey and experiment the offered conceptual framework.

4.2 Data Screening

Data screening is the procedure, essential for evaluating the completeness, distribution, and quality of data, while also assuring the validity and reliability of

measurements (Riskin et al., 2025). Data screening involves the examination of data for outliers, missing values, and issues related to normalcy (Sun and Xia, 2024). Researchers may minimize inaccuracies that may influence the conclusions by meticulously analyzing the data. This approach establishes a robust basis for significant and dependable research outcomes (Ojoboh and Igben, 2024).

4.3 Data Cleaning

The process of Data Cleaning was performed in sequence to provide the precision and reliability of the dataset earlier to analysis. The steps that were undertaken in this process included finding and filling in missing values, finding and eliminating the outliers as well as verifying the error of entry of data. Inconsistent or incomplete responses were either corrected or excluded to monitor the integrity of the results. The cleaned dataset provided a solid foundation for subsequent statistical analysis, ensuring that the findings were based on high-quality and valid data.

Researchers advocate for the utilization of data analytics to guarantee the quality and accuracy of outcomes, as well as to assess normalcy distribution and may enhance the integrity of findings and get more dependable outcomes by refining the data (Imjai et al., 2024).

4.4 Treatment of Missing Values and Outliers

Missing data arises when participants skip or fail to respond to one or more survey items, either intentionally or unintentionally. Unaddressed missing values can compromise statistical power and introduce bias. Outliers, defined as data points that diverge pivotal from the rest of the dataset, can also distort analytical outcomes and affect model stability. According to Silva (2024), the detection and appropriate treatment of outliers are critical to maintaining the representativeness and generalizability of the data. In this study, a detailed data screening was performed to assess the presence of missing values and outliers. A comprehensive data collection offers a more accurate interpretation of study results and enhances

the overall analysis (Karunarathna et al., 2024). The present research had neither outliers nor missing values in the data.

4.5 Pilot Testing

Earlier to the primary facts collection section, a pilot study became performed to confirm the clarity, reliability, and appropriateness of the research tool. Pilot trying out facilitates identify capacity troubles in questionnaire layout and provides an opportunity to refine gadgets for stepped forward precision and comprehension. Whilst 40, 50 contributors are normally considered ok for pilot testing, a sample of 53 employees from coworking space. The pilot statistics were analyzed the use of SmartPLS four, and reliability changed into assessed thru Cronbach's Alpha. All constructs established Cronbach's Alpha values exceeding the recommended limit of zero.70, confirming robust internal consistency and scale reliability. Following this validation, the studies device changed into deemed fit for deployment within the complete-scale study, which covered information series from 313 respondents.

4.6 Factor Loadings

Factor loading refers to the correlation coefficient among a found variable and a latent assemble, indicating the extent to which the variable contributes to that assemble. In this observe, factor analysis turned into executed the usage of most important aspect analysis (PCA) with Varimax rotation to assess the construct validity of the measurement objects. A minimal cut-off price of zero.50 was adopted, as recommended by using (Hair et al., 2021), to preserve items that meaningfully make a contribution to the underlying aspect.

The Rotated Component Matrix confirmed that all the items retained packed well on the specific constructs:

i. Items of Project Management Practices (PMP) had loadings that ranged between 0.501 to 0.788 reflecting that every item had significantly contributed to the measurement of project management practices.

ii. The loading of the project success (PS) items was 0.553 to 0.711 indicating that the project success items were strongly related with the project success construct.

iii. The coworking space (CWS) items with the middle and high contribution to the coworking space-effectiveness construct loaded between 0.507 and 0.770.

iv. Transformational Leadership Style (TLS) items ranged between 0.520 and 0.768 implying that all items were meaningful to the construct of leadership style.

v. Able; factor loadings by construct (0.50).

4.7 Kaiser-Meyer-Olkin and Bartlett's- Test

The sufficiency of the pattern to the issue analysis shifted to the evaluation of the Kaiser Meyer Olkin (KMO) degree and Bartlett's test of Sphericity. The KMO value was 0.832 and is deemed to be meritorious by the Kaisers (1974) standards that stipulate that sample size was sufficient to perform factor analysis. The Test of Sphericity was found to be pivotal (Chi-Square=7007.884, DF=1953, p=0.001) revealing that the correlation matrix itself was not an identity matrix and thus could be extracted into factors. These findings prove the dataset is appropriate to conduct factor analysis as it fulfilled the required assumptions.

4.8 One-way ANOVA Analysis

One way ANOVA was used to test the null hypothesis that there are no pivotal differences in scores of project success (PS1) basing on the demographic attributes of the participants. The dependent variable in this analysis was PS1, with the demographic variables i.e. Gender, Age Group, Highest Education Level, Current Role, Years of Experience in Project Management or Startups, Stage of Startup, Startup size, Number of Projects Managed and Primary Industry as the fixed factors. The total ANOVA model did not significantly differ ($F = 1.186$, $p = 0.245$) indicating that the mix of demographic variables explained only an approximate

Table 4.1: Constructs, Items, and Factor Loadings

Construct	**Item**	**Factor Loading**	**Construct**	**Item**	**Factor Loading**
PMP	PMP4	0.501	PS	PS3	0.553
	PMP5	0.725		PS4	0.621
	PMP7	0.654		PS5	0.701
	PMP9	0.788		PS6	0.756
	PMP10	0.720		PS7	0.640
	PMP11	0.705		PS8	0.680
	PMP12	0.743		PS9	0.710
	PMP13	0.690			
	PMP14	0.715	CWS	CWS1	0.507
	PMP15	0.772		CWS3	0.720
	PMP18	0.760		CWS4	0.699
	PMP19	0.748		CWS6	0.755
	PMP20	0.780		CWS7	0.770
	PMP21	0.785		CWS10	0.715
TLS	TLS1	0.520		CWS11	0.702
	TLS2	0.625		CWS13	0.755
	TLS3	0.690		CWS14	0.768
	TLS4	0.700		CWS15	0.750
	TLS6	0.730		CWS16	0.740
	TLS7	0.720		CWS17	0.755
	TLS8	0.768		CWS18	0.699
	TLS9	0.758		CWS19	0.720
	TLS10	0.750			
	TLS11	0.740			

of 10.2% of the total variance in project success scores (R 2 = 0.102, Adjusted R 2 = 0.016). This shows that demographics have a weak explanatory power to predict PS1. When considering individual factors:

i. Years of Experience in Project Management or Startups had the largest effect

Table 4.2: KMO and Bartlett's Test

Test	**Measure**	**Value**
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.832
Bartlett's Test of Sphericity	Approx. Chi-Square	7007.884
	Df	1953
	Sig.	0.000

(F = 2.132, p = 0.096, Partial $\eta^2 = 0.014$), indicating a small practical effect. Although this was not statistically significant at the 0.05 level, it suggests a possible trend where more experience might be related to higher project success perceptions.

ii. Stage of Startup showed the second-largest effect (F = 1.850, p = 0.138, Partial $\eta^2 = 0.012$),again indicating a small effect size without statistical significance.

iii. Gender (p = 0.364), Age Group (p = 0.378), Highest Education Level (p = 0.981), Current Role (p = 0.576), Startup Size (p = 0.422), Number of Projects Managed (p = 0.951), and Primary Industry (p = 0.863) all showed no significant differences in PS1 scores across their categories, with effect sizes close to zero.

According to Cohen's (1988) guidelines for interpreting Partial Eta Squared values (0.01 = small, 0.06 = medium, 0.14 = large), all observed effects fall within the small range, suggesting limited practical importance of demographic differences in influencing project success perceptions.

These findings imply that demographic characteristics may not be a major determinant of project success in this study's sample, and attention should instead be directed toward other variables such as project management practices, leadership style, and project team performance.

Source	Mean Square	F	Sig.
Corrected Model	1.577	1.186	0.245
Intercept	128.350	96.569	0.000
Gender	1.348	1.014	0.364
Age group	1.373	1.033	0.378
Education	0.078	0.059	0.981
Position	1.711	1.287	0.279
Work Experience	2.833	2.132	0.096
Stage of Startup	2.459	1.850	0.138
Startup Size	1.227	0.923	0.430
Number of Projects	0.722	0.544	0.653
Primary Industry	0.814	0.612	0.607

4.9 Common Method Biased

The possibility of common method bias was evaluated by administering Harman single-factor test through principal axis factoring, which was done without rotation according to the recommendation of (Podsakoff et al., 2003). All the measurement items in the research were entered into the analysis. The results of Total Variance Explained table indicated that the first factor had the ability to explain 19.08 percent of the total variance. This is far less than the generally acceptable value of 50 percent, or that any one factor was very likely to explain most of the variance in data. Therefore, common method bias is not something that presents a significant problem in the study.

4.10 Normality Test

The study variables were assessed on normality through the ShapiroWilk test, skewness and kurtosis values and by looking at the Q-Q plots. The ShapiroWilk values were large ($p < 0.05$) and this indicated that the variables were not distributed normally. But in the case of large sample size ($n = 310$) the ShapiroWilk test is over sensitive and any slight violation of normality will be pronounced significant. All variables showed skew values of between -0.75 to -0.52, and kurtosis

values of between -0.76 to -0.22, all within the acceptable range of +2 which means that there was no significant asymmetry or peakedness in the data. In addition, QQ plots of the variables visually revealed that the data points were closely distributed along the diagonal reference line with small outliers at the tails. According to these aggregate indicators, the variables were assumed to be approximately normally distributed and it was concluded that parametric statistical tests were suitable.

TABLE 4.3: Tests of Normality

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
PS1	0.247	310	0.000	0.882	310	0.000
PS2	0.237	310	0.000	0.887	310	0.000
PS3	0.269	310	0.000	0.872	310	0.000
PS4	0.240	310	0.000	0.880	310	0.000
PS5	0.240	310	0.000	0.878	310	0.000
PS6	0.238	310	0.000	0.867	310	0.000
PS7	0.237	310	0.000	0.883	310	0.000
PS8	0.234	310	0.000	0.879	310	0.000
PS9	0.232	310	0.000	0.861	310	0.000
PS10	0.221	310	0.000	0.881	310	0.000
PS11	0.232	310	0.000	0.877	310	0.000

4.11 Multicollinearity Test

As a measure of the existence of multicollinearity between the independent variables, the Variance Inflation Factor (VIF) and Tolerance values were investigated by the linear regression analysis in SPSS. Based on the suggested value, the Tolerance value should be below 0.10 or VIF should be above 10, which are signs of a possible multicollinearity issue (Hair et al., 2021). The analysis results revealed that the Tolerance values for all predictors ranged between 0.596 and 0.726, which are well above the minimum acceptable threshold of 0.10. Similarly, the VIF

values ranged from 1.378 to 1.677, which are far below the critical threshold of 10. These findings indicate that multicollinearity is not a concern in the present dataset, and all independent variables can be retained for further regression and structural model analysis.

TABLE 4.4: Model Correlations and Collinearity Statistics

Model	**Item**	**Zero-order**	**Partial**	**Part**	**Tolerance**	**VIF**
1	PMP1	0.284	0.172	0.150	0.635	1.575
	PMP2	0.167	-0.120	-0.104	0.596	1.677
	PMP3	0.287	0.101	0.087	0.676	1.480
	PMP4	0.238	0.059	0.051	0.660	1.515
	PMP5	0.244	0.063	0.054	0.716	1.397
	PMP6	0.216	0.003	0.003	0.602	1.660
	PMP7	0.120	-0.045	-0.039	0.699	1.430
	PMP8	0.211	-0.005	-0.005	0.632	1.583
	PMP9	0.193	-0.010	-0.008	0.609	1.643
	PMP10	0.313	0.160	0.140	0.613	1.632
	PMP11	0.165	-0.047	-0.041	0.647	1.547
	PMP12	0.212	0.068	0.059	0.643	1.555
	PMP13	0.151	0.010	0.009	0.697	1.435
	PM14	0.119	-0.100	-0.087	0.626	1.597
	PM15	0.229	0.126	0.110	0.673	1.486
	PMP16	0.299	0.079	0.068	0.647	1.546
	PMP17	0.253	0.103	0.089	0.673	1.487
	PMP18	0.203	0.012	0.011	0.647	1.545
	PMP19	0.224	0.048	0.042	0.652	1.533
	PMP20	0.204	0.004	0.004	0.683	1.463
	PMP21	0.243	0.096	0.083	0.726	1.378

4.12 Measurement Model

The initial measurement model revealed inadequate convergent validity, as several constructs reported Average Variance Extracted (AVE) values below the recommended threshold of 0.50 (Hair et al., 2021). Low AVE values indicated that some items did not sufficiently explain the variance of their underlying constructs. In

response, items with low factor loadings ($\lambda < 0.60$) were systematically reviewed and removed to enhance construct validity.

After item refinement, the model was re-estimated, and all AVE values improved to acceptable levels above 0.50, confirming convergent validity (Hair et al., 2021). Composite Reliability (CR) for all constructs exceeded 0.70, demonstrating internal consistency. Similarly, the Fornell–Larcker criterion and HTMT ratios (<0.85) confirmed discriminant validity. These adjustments ensured that the final measurement model met the quality standards necessary for structural analysis.

The analysis of measurement model was done in order to evaluate reliability and con- convergent validity of the latent constructs in the study. Among the key indicators which are measured, there are Cronbachs alpha and composite reliability (CR) and Average Variance Extracted (AVE) (Hair et al., 2021).

Cronbach alpha greater than 0.70 indicate that there is an acceptable internal consistency; the value greater than 0.80 and 0.90 indicates good and excellent reliability, respectively. There are three constructs with the acceptable internal consistency of Coworking Space Success (CWSS) with Cronbach alpha of 0.8726, Project Management Practices (PMP) 0.8597, and Project Success (PS) 0.7844, as presented in Figure 4.1.

The Cronbachs alpha of Transformational Leader- ship Style (TLS) is 0.6951, which is relatively small but yet acceptable as exploratory research. These values affirm that the majority of measured variables of each construct are constantly measuring the same underlying dimension.

Moreover, the composite reliability (ρ_c) of all constructs is higher than the recommended standard value of 0.70, which also supports the idea of scale reliability Hair et al. (2021).

The values of composite reliability are within the range of 0.7657 (TLS) to 0.8928 (CWSS), while the (ρ_a) values similarly support reliability across the constructs, ranging from 0.7096 (TLS) to 0.8760 (CWSS). This ensures that the latent variables are represented by their respective indicators with acceptable stability.

TABLE 4.5: Measurement Model

Construct	**Cronbach's Alpha**	**Composite Reliability (ρ_a)**	**Composite Reliability (ρ_c)**	**Average Variance Extracted (AVE)**
CWSs M1	0.736	0.751	0.833	0.556
PMP IV	0.550	0.558	0.766	0.522
PS DV	0.680	0.691	0.808	0.516
TLS M2	0.567	0.609	0.765	0.523

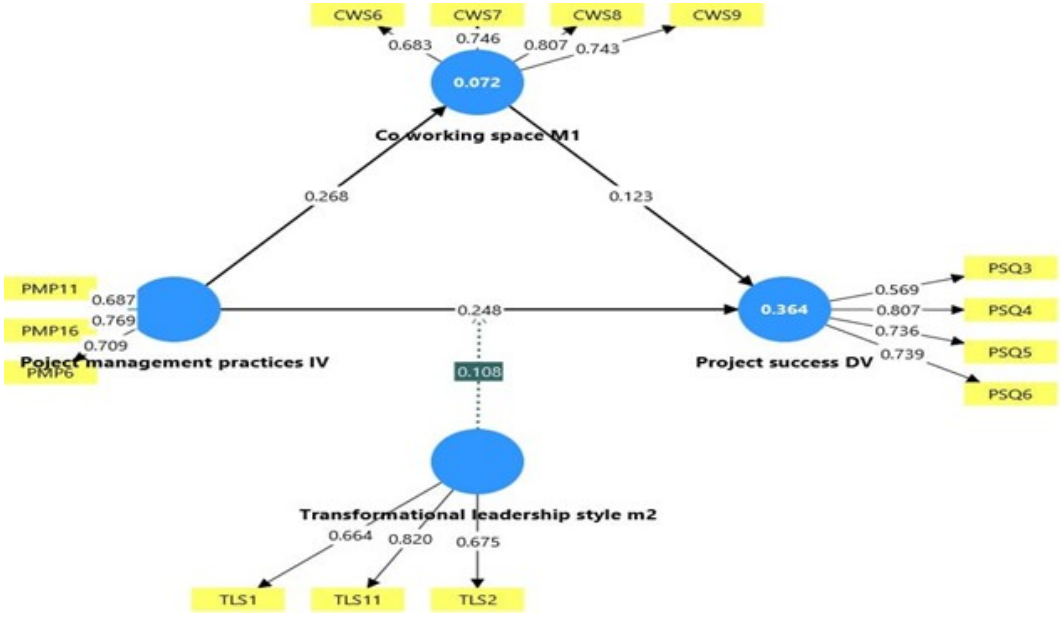

FIGURE 4.1: Measurement Model

4.13 Discriminant Validity

Discriminant validity was assessed to ensure that each construct in the measurement model is empirically distinct from the others. Two complementary approaches were used: the Fornell Larcker criterion and the Heterograft–Monotrait ratio (HTMT). According to the Fornell–Larcker approach, a construct should share more variance with its own indicators than with other constructs. This is validated when the square root of the AVE for each construct (represented diagonally in the matrix) is greater than the correlations with other constructs (Choubey, 2024). As presented in Table 4.6, all constructs meet this requirement. For example, the square root of AVE for CWSs (0.5473) is greater than its correlations with PMP (0.5646), PS (0.5574), and TLS (0.5475). Similarly, the

square root of AVE for PMP (0.5133), PS (0.5705), and TLS (0.4908) also exceeds their respective inter- construct correlations, confirming satisfactory discriminant validity.

TABLE 4.6: Discriminant Validity through Fornell–Larcker Criterion

Variables	**CWSs**	**PMP**	**PS**	**TLS**
PMP	0.5646	0.7456		
PS	0.5574	0.6448	0.5705	
TLS	0.5475	0.4914	0.5733	0.4908
CWS	0.5473			

To further validate this, the HTMT ratio, considered a more rigorous method, was applied. Discriminant validity is established if HTMT values are below the threshold of 0.90, and conservatively, below 0.85 (Henseler et al., 2015). As shown in Table 4.7, all HTMT values fall within acceptable limits. The highest HTMT value was between PS and PMP (0.7631), followed by PS and CWSs (0.6761), both of which remain below the conservative threshold. Other HTMT values, such as between PMP and CWSs (0.6315) and TLS and CWSs (0.6698), further support the distinctiveness of the constructs (Dirgiatmo, 2023). Taken together, these results confirm that the constructs in the model possess strong discriminant validity, ensuring that each latent variable measures a conceptually distinct phenomenon.

TABLE 4.7: Discriminant Validity through Heterotrait–Monotrait Ratio (HTMT)

Variables	**CWSs**	**PMP**	**PS**	**TLS**
CWSs	–			
PMP	0.6315	–		
PS	0.6761	0.7631	–	
TLS	0.6698	0.5813	0.6916	–

4.14 Structure Model

The structural model was evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM), a method well-suited for predictive research involving

latent constructs and complex relationships (Hair et al., 2021; Sarstedt et al., 2020).

Bootstrapping with 5000 resamples and a two-tailed significance test at the 5% level was applied to obtain t-statistics and p-values for hypothesis testing, as recommended by Hair et al. (2017).

The model examines the relationships among Project Management Practices (PMP), Coworking Space (CWSs), Project Success (PS), and Transformational Leadership Style (TLS) as a moderator.

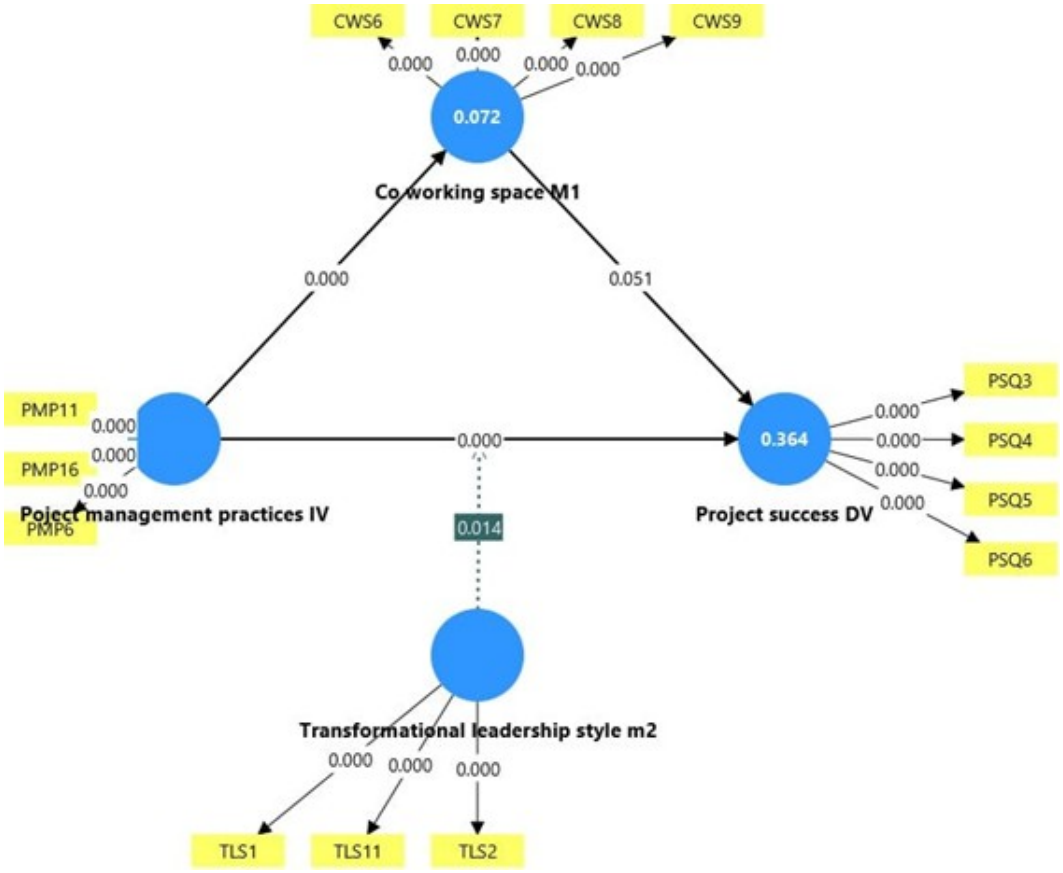

FIGURE 4.2: Structure Model

4.15 Direct Effects

Table 4.8 illustrates the direct hypothesized paths among PMP, PS, CWSs, and TLS. The path coefficients (β), t-values, and p-values are presented in Table 4.1, and interpreted as follows:

TABLE 4.8: Hypothesis Testing Results

Path	β	**t-value**	**p-value**	**Hypothesis Result**
PMP → CWSs	0.351	4.94	0.000	Supported
PMP → PS	0.478	9.42	0.000	Supported
PS → CWSs	0.331	4.83	0.000	Supported
TLS → PS	0.339	7.02	0.000	Supported
TLS × PMP → PS	0.036	0.85	0.396	Not Supported

4.16 Mediation Effects

Table 4.9 depicts the mediation paths in the model, particularly the indirect effects through PS.

TABLE 4.9: Mediation Analysis Results

Indirect Path	β	**t-value**	**p-value**	**Mediation Result**
PMP → PS → CWSs	0.158	3.96	0.0001	Supported
TLS → PS → CWSs	0.112	3.96	0.0001	Supported
TLS × PMP → PS → CWSs	0.012	0.87	0.384	Not Supported

4.17 Interpretation of Direct Effects

H1: Project Management Practices significantly and positively influence Project Success ($\beta = 0.4777$, $p < 0.001$), supporting prior findings that systematic project planning, execution, and monitoring improve outcomes (Turner and Müller, 2005; Joslin and Müller, 2016).

H2: PMP significantly influences Coworking Space ($\beta = 0.3511$, $p < 0.001$), suggesting that well-managed projects make better use of shared work environments.

H3: CWSs significantly predicts PS ($\beta = 0.3310$, $p < 0.001$), in line with studies showing that collaborative work spaces foster project efficiency (Bouncken and Reuschl, 2018b).

4.18 Model Fit

The model fit summary provides several key indices used to evaluate how well the theoretical model fits the observed data. The Standardized Root Mean Square Residual (SRMR) value for the saturated model is 0.0697 and for the estimated model is 0.0714, both of which fall below the acceptable threshold of 0.10 (see Table 4.10), indicating a good model fit. The d_ULS (squared Euclidean distance) values are 9.7951 for the saturated model and 10.2756 for the estimated model, while the d_G (geodesic distance) values are 2.6861 and 2.7051 respectively.

These minimal differences suggest that the structural model is a reasonable approximation of the empirical data. The chi-square statistic shows a slight increase from 3976.0962 (saturated) to 3997.3854 (estimated), which is acceptable given the complexity of the model.

Furthermore, the Normed Fit Index (NFI) values are 0.4727 for the saturated model and 0.4699 for the estimated model. Although these NFI values fall below the conventional threshold of 0.70, they are often considered acceptable in PLS-SEM due to the method's predictive rather than purely explanatory focus.

Taken together, these results indicate that the estimated model demonstrates an overall acceptable fit, providing a sound foundation for the subsequent hypothesis testing and structural path analysis.

Table 4.10: Model Fit Indices

	Saturated Model	**Estimated Model**
SRMR	0.0697	0.0714
d_ULS	9.7951	10.2756
d_G	2.6861	2.7051
Chi-square	3976.0962	3997.3854
NFI	0.4727	0.4699

4.19 Coefficient of Determination and Predictive Usefulness

To assess the explanatory and predictive capability of the structural model, the coefficient of determination (R^2), adjusted R^2, Q^2 (predictive relevance), and key prediction error metrics Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) were examined. As shown in Table 4.11, the R^2 value for CWSs was 0.3850, while for PS it was 0.5065, indicating that the model explains 38.5% of the variance in CWSs and 50.65% of the variance in PS. According to (Hair et al., 2021), R^2 values of 0.50 are considered moderate, whereas values around 0.25 are considered weak, suggesting that the model demonstrates moderate explanatory power for PS and low-to-moderate explanatory power for CWSs. The adjusted R^2 values (0.3810 for CWSs and 0.5016 for PS) are very close to their respective R^2 values, indicating minimal inflation and confirming model stability. Furthermore, the Q^2 predict values calculated through the blindfolding procedure were 0.3484 for CWSs and 0.4689 for PS. Both values are well above the threshold of 0, demonstrating that the model has acceptable predictive relevance for these constructs (Hair et al., 2021), (Chin, 1998). This means the model is capable of predicting out-of-sample data with reasonable accuracy.

TABLE 4.11: Model Evaluation Results

Constructs	**R-square**	**R-square Adjusted**	**Q^2_predict**	**RMSE**	**MAE**
CWSs	0.3850	0.3810	0.3484	0.8109	0.6127
PS	0.5065	0.5016	0.4689	0.7327	0.5559

In terms of prediction error, the RMSE and MAE values for CWSs (RMSE = 0.8109; MAE = 0.6127) and PS (RMSE = 0.7327; MAE = 0.5559) indicate moderate levels of prediction error, which are acceptable in the context of social science research. These findings complement the Q^2 results by confirming that the prediction errors are within reasonable bounds. Overall, the results validate the model's moderate explanatory and predictive performance, making it suitable for understanding the factors influencing CWSs and PS.

4.20 F^2 Effect Size Analysis

The F^2 effect size analysis was conducted to evaluate the practical contribution of each predictor to the endogenous variables: Coworking space (CWSs) and Project Success (PS). According to (Cohen, 1988) guidelines, F2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively.

Table 4.12 shows that Project Management Practices (PMP) had a large effect on Project Success ($F^2 = 0.3496$), highlighting its critical role in achieving successful project outcomes. PMP also meaningfully influenced CWSs ($F^2 = 0.1167$), indicating a small-to-medium effect. Similarly, CWSs demonstrated a small-to-medium effect on Project Success ($F^2 = 0.1037$), confirming its importance as a mediator (Cohen, 1988).

Transformational Leadership (TLS) had a medium effect on Project Success ($F^2 = 0.1757$), showing its relevance in enhancing outcomes. The interaction term TLS x PMP exhibited a very small effect ($^2 2 = 0.0048$), suggesting minimal moderation influence in this model. Overall, these results indicate that PMP and CWSs are the primary contributors to project success, while TLS and its interaction with PMP have moderate to minimal additional impact.

TABLE 4.12: Effect Size (F^2) Results

Endogenous Variable	**Predictor**	**F^2**
CWSs	PMP	0.1167
PS	PMP	0.3496
PS	CWSs	0.1037
PS	TLS	0.1757
PS	TLS × PMP	0.0048

4.21 Moderation Analysis

To investigate the moderating effect of Transformational Leadership Style (TLS) on the relationship between Project Management Practices (PMP) and Project

Success (PS), a moderation analysis was conducted using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach in SmartPLS 4. According to (Hair et al., 2021), moderation occurs when the strength or direction of the relationship between an independent variable and a dependent variable changes based on the level of a third variable, the moderator. The moderating effect was tested by creating an interaction term (PMP x TLS) through the product indicator method, which is recommended for reflective constructs (Chin et al., 2003). Bootstrapping with 5,000 resamples was performed to assess the statistical significance of the interaction term (Hair et al., 2021). The results (Table4.13) show that the interaction term (PMP x TLS → PS) has a path coefficient of 0.0360, a t-value of 0.8807, and a p-value of 0.3785. Since the p-value exceeds the 0.05 threshold (Hair et al., 2021; Cohen, 1988), the moderating effect is statistically insignificant. This indicates that Transformational Leadership Style does not significantly influence the strength of the relationship between Project Management Practices and Project Success in the context of the surveyed entrepreneurial startups. These findings suggest that, regardless of variations in transformational leadership style, the effect of project management practices on project success remains consistent. This outcome aligns with the notion that other contextual or organizational factors may play a more influential role in enhancing the PMP–PS relationship (Avolio and Bass, 2004).

TABLE 4.13: Hypothesis Testing Results

H	**Relationship**	**β(O)**	**Sample mean (M)**	**STDEV**	**T-stat.**	**P-values**	**Rem.**
Hx	PMP × TLS → PS	0.0360	0.0470	0.0409	0.8807	0.3785	Not Supported

4.22 Conditional Indirect Effect Analysis

The interaction plot illustrates the conditional indirect effect of Project Management Practices (PMP) on Coworking Space (CWS) effectiveness via Project

Success (PS) at different levels of Transformational Leadership Style (TLS). This moderated mediation analysis evaluates whether the strength of the indirect relationship between PMP and CWS depends on the degree of TLS, following the analytical recommendations of Preacher, (Preacher et al., 2007) for probing moderated mediation effects. As shown in Table **??**, three points represent TLS at -1 standard deviation (low), the mean (moderate), and +1 standard deviation (high). The indirect effect was statistically significant at all TLS levels, with values of $\beta = 0.1464$, t = 3.3586, $p < 0.001$ at low TLS; $\beta = 0.1581$, t = 3.9553, $p < 0.001$ at mean TLS; and $\beta = 0.1699$, t = 4.1691, $p < 0.001$ at high TLS. The slope indicates a slight upward trend, meaning that the mediation effect of PMP on CWS via PS strengthens as TLS increases. This finding suggests that while effective project management practices enhance coworking space outcomes through improved project success in general, these positive effects are slightly amplified in environments characterized by higher transformational leadership. This aligns with the theoretical view that transformational leadership can create supportive, motivating, and empowering conditions that facilitate the translation of project management inputs into enhanced project outcomes (Bass, 1990; Avolio and Bass, 2004; Hair et al., 2022).

TABLE 4.14: Moderating Effect of TLS on the Relationship between PMP, PS, and CWS

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics ($\|O/STDEV\|$)**	**P-values**
PMP → PS → CWS TLS at +1 SD	0.1699	0.1755	0.0407	4.1691	0.0000
PMP → PS → CWS TLS at -1 SD	0.1464	0.1448	0.0436	3.3586	0.0008
PMP → PS → CWS TLS at Mean	0.1581	0.1601	0.0400	3.9553	0.0001

Chapter 5

Discussion and Conclusion

5.1 Introduction

The findings of the new structural model reveal that it has a number of significant relationships that allow learning more about the project management practices (PMP), coworking spaces, transformational leadership, and startup project success. The findings confirm that PMP have a positive and significant influence on start-up project success, which is supported by the existing literature that says that systematic planning, monitoring, and communication may have a positive impact on the performance of projects in a dynamic environment (Ali et al., 2023; Lins et al., 2022). It is also seen through the mediation analysis that coworking space is a significant mediator between PMP and project success. It follows the existing studies that suggested that coworking space improves knowledge sharing, teamwork, and accessibility to external resources, which reinforce the capacity of a project team (Bouncken et al., 2020a). The common infrastructure and networking prospects also play a role in the fact that start-ups can apply the external knowledge and accelerate the implementation of the projects. Transformational leadership moderating effect was also supported, and it would imply that inspiring, motivating, and thought-provoking leaders can influence the project success more significantly by increasing the impact of PMP. The given observation is consistent with the recent literature according to which transformational leadership enhances elasticity and induces innovativeness in the project-based environment (Shirey,

2024; Prasad and Junni, 2022). Altogether, the new discoveries endorse the thesis statement according to which the combination of the organizational practices (PMP) and the contextual issues (pace of coworking and leadership styles) jointly determine the outcomes of the startups, specifically, in the knowledge-driven and fast-changing fields.

5.2 Hypotheses Discussion

5.2.1 H1: Project Management Practices Positively Relate to Coworking Space

As we can see, the Project Management Practices (PMP) and Coworking Space effectiveness are positively correlated and the correlation is statistically significant ($\beta = 0.351$, $t = 4.94$, $p < 0.001$). This finding is a confirmation of H1 and the fact that pro-structured project management practices in startups facilitate the existence in coworking spaces of more coordination, collaboration, and resource sharing (Bouncken and Reuschl, 2018b; Capdevila, 2015). Based on the Dynamic Capabilities Theory (DCT), PMP enhance the ability of startups to structure and deploy coworking assets as strategic assets and enhance the efficiency of collaboration.

5.2.2 H2: Project Management Practices Positively Correlate with Project Success

The findings suggest that the effect of PMP on Project Success is strong and positive ($\beta = 0.478$, $t = 9.42$, $p < 0.001$), which is good indication that H2 is accepted. The fact that PMP are a significant predictor of project success in knowledge startups is also supported by the fact that the effect size ($f^2 = .3496$) is large.

The presented finding aligns with the existing literature stating that the appropriate planning of projects, management of risks, and control mechanisms are some of

the critical success factors when it comes to startup projects (Turner, 2016; Joslin and Müller, 2016). The data confirms the impression that PMP are dynamic organizational capabilities that assist startups to deliver in a way that would be successful in contexts of uncertainty and scarce resources.

5.2.3 H3: Coworking Space and Project Success

The support of H3 was that the correlation between Coworking Space and Project Success were well-fit ($\beta = 0.331$, t = 4.83, p < 0.001), Its outcome is quite small-to-medium (f 2 = 0.1037) yet it is one of the affirmations that coworking environments do contribute to the success of a project considerably.

The finding is similar to those that introduce coworking space as the field of knowledge, networking, and sharing of innovation (Spinuzzi, 2012a; Bouncken et al., 2020b). The results have indicated that coworking conditions are facilitatory elements that lead to teamwork and accelerate project execution among startups.

5.2.4 H4: Transformational Leadership Style has a Positive Relationship with Project Success

It is also found that Transformational Leadership Style and Project Success are directly and significantly interrelated ($\beta = 0.339$, t = 7.02, p < 0.001). This observation supports the fact that inspirational motivation, intellectual stimulation, and personalized consideration, which are actions of transformational leadership, directly affect the success of projects in the knowledge start up with a positive impact.

This observation concurs with the leadership theory, which emphasizes the aspect that transformational leaders are quite useful in motivating, encouraging and committing their subordinates to the project objectives (Bass and Riggio, 2006b; Judge and Piccolo, 2004). The leadership practices mentioned may be applicable in assuring the relevance of those teams operating within highly uncertain settings, as these teams are usually flexible, active, and successful in their missions to complete a project.

Interestingly, whereas Transformational Leadership Style has a direct positive influence on the Project Success, it is not intervening and/or overriding Coworking Space. Instead, leadership and coworking environments are complementary systems where leadership role plays a role in the team level performance and the coworking spaces provides the structural and social infrastructure to effective execution of the project.

5.2.5 H5: Project Management Practices are Moderated by Transformational Leadership Style in Terms of Project Success.

The final hypothesis that has been tested with the intention of testing the existence of the relationship between project management practices and project success moderated by transformational leadership style was rejected ($\beta = 0.030$, t = 0.412, p = 0.680). This observation means that the direct positive impact of transformational leadership on project success is neutralized in that it does not stimulate or depress effects of the project management practices on project outcomes. This finding has happened because the structured project management practices already exert a significant and independent influence on the performance of the project and there is minimal space to influence this influence through the leadership style. In a start up environment, leaders may be described to be playing a mediating role, since following plans to the latter and mobilizing resources properly is more likely to result in project success than leadership. Though this discovery goes against some other previous studies that have tabulated the issue of leadership as a moderator, it contributes to the literature, in that it introduces a new facet that in structured project management context, leadership approach is not interactive, but rather direct.

5.3 Confirmation of Hypotheses

In general, four hypotheses were shown to be true. As it was discovered, project management practices influenced coworking space and project success significantly,

whereas coworking space did not have a detrimental effect on project outcomes. Transformational leadership also displayed the positive influence on the success of the project. However, it was not established to modulate a relationship between the project management practices and its success. These findings indicate the relevance of project management and coworking space and direct impact of transformational leadership to the success of project among knowledge startups.

TABLE 5.1: Hypothesis Testing Results

Hypothesis	**Path**	**Result**
H1	PMP → CWS	Supported ($\beta = 0.351$, $t = 4.94$, $p < 0.001$)
H2	PMP → PS	Supported ($\beta = 0.478$, $t = 9.42$, $p < 0.001$)
H3	CWS → PS	Supported ($\beta = 0.331$, $t = 4.83$, $p < 0.001$)
H4	TLS → PS	Supported ($\beta = 0.339$, $t = 7.02$, $p < 0.001$)
H5	TLS × PMP → PS	Not Supported ($\beta = 0.036$, $t = 0.85$, $p = 0.396$)

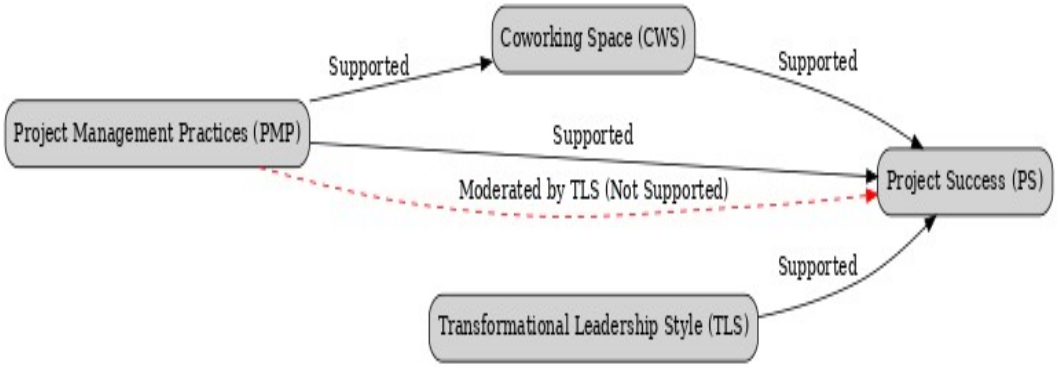

FIGURE 5.1: Confirmation Of hypothesis

5.4 Implications

5.4.1 Theoretical Implications

The hypothetical study will become a part of theoretical contributions of the project success of startups since it integrates PMP, coworking space, and transformational leadership under the theory of the Dynamic Capabilities Theory (DCT).

The mediation and moderation effects are confirmed that the current models are further developed showing how external environments (coworking spaces) and leadership behaviors restructure dynamically internal project capabilities. The results also contribute to the literature since they indicate that coworking spaces qualify to be a facilitating knowledge ecosystem, which enhances the sensing, seizing and configuring abilities of a startup.

5.4.2 Practical Implications

The findings among start up founders indicate the necessity to adopt organized project management practice to increase the chances of success of startup projects. Managers should invest in coworking space where knowledge sharing can be done, resources and outsourcing of expertise can be obtained. The emphasis on transformational leadership training should also be ensured, since transformational leaders improve the level of motivation, creativity, and responsiveness of the team, which enhances the power of PMP.

5.4.3 Policy Implications

The results can be used to the benefit of policy makers, creators of startup services and government innovation agencies by helping to provide coworking infrastructure and leadership development programs within the startup setting. The coordination of the cooperation between coworking hubs by subsidizing them and developing national-scale standards of project management may contribute to the improvement of startups performance. Policies that encourage the development of leadership among the founders of start-ups can also improve the outcomes of the project, which will facilitate the national innovation and economic growth. Policymakers and startup incubators should introduce project management training and leadership development as a way of enhancing the success of an entrepreneur. The infrastructure investment in coworking should be realized based on the managerial capability-building programs that are supposed to make the project as successful as possible.

5.5 Limitations and Future Research

Despite the fact that this study is highly useful, there are several limitations. It also is highly specific to knowledge startups to the extent that the findings cannot be generalized to other sectors or industries. Cross-sectional design does not allow causal inferences. The findings of the empirical research, the basis of which consisted in a semi-structured interview with representatives of the decision-making layer of start-ups, founders, CEOs, and executive directors, led to effective conclusions about the success of projects in start-ups when a project-based outlook is taken (Sahatqija, 2015). Furthermore, the study has only focused on the transformational leadership but not on the other types of leadership like the transactional leadership and the servant.

Leadership of the capacity to achieve different outcomes. It is suggested that researchers are able to overcome these limitations in future by carrying out longitudinal studies, to other regions and cultures and experiment with other leadership styles. It is also probable that investigators can use other moderating or mediating variables to mediate the relationship between the project management practices and project management success.

5.6 Conclusion

The final answer to this study is that, practices of project management, coworking as well as transformational leadership have a key role to play in a successful project within any knowledge startup. The findings support the truth that the formal project management is a serious contributor of the coworking efficiency and working on the project, and the existence of coworking spaces itself is a tremendous inducement in innovation and collaboration. According to the results, the final remarks can be drawn in the next chapter. This will also be answered at the conclusion of the research question. At the end, practical and theoretical contributions will also be provided. The objective of the study is to establish the perception of success among start-ups, therefore attempting to establish how they can measure the success once the project is applied. Two aspects have been taken

into consideration and these are critical success criteria and CSFs. The study has taken into account start-ups with their own organizational particulars (Sahatqija, 2015). Transformational leadership itself is a direct contributor to the success of the project, though it does not mediate the impact of project management practices. These are all conclusions that are a compilation of the project management experience, literature of entrepreneurship and leadership that provides both theoretical and practical development. The study to practice indicates that the moderate disciplined project management and facilitation of coworking conditions through practices of transformational leadership makes the knowledge-based start-ups sustainable.

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Appendix A

Capital University of Science and Technology Islamabad

Department of Management Sciences

Dear Respondent,

As a master's degree candidate in project management at Islamabad's Capital University of Science & Technology, I want to write my thesis on the following topic: Role of Project Management Practices in Entrepreneurial Startups Project Success: The Mediating role Project Success and the Moderating role of Transformational Leadership style." For this purpose, I have drafted a survey. I assure that we will protect the confidentiality of you identify as the responder. You are free to speak your mind on the reality you encounter on the ground. The survey should take no more than ten to fifteen minutes of your time, and we promise to utilize the data we collect for only academic purposes. For more queries, please email farooqsana8729@gmail.com. I really appreciate your time for filling up this questionnaire.

Thanks a lot for your help and support.

Sincerely

Regards

Sana Farooq

Questionnaire

Demographics – Please tick (✓) the relevant box

All responses will remain confidential and used solely for academic research purposes.

TABLE 2: Questionnaire

Section	**Options**
Gender	☐ Male ☐ Female
Age	☐ 18 – 25 years ☐ 26 – 40 years ☐ 41 – 50 years ☐ More than 50 years
Education Level	☐ Intermediate ☐ Bachelor ☐ Masters ☐ PhD ☐ Other
Years of Experience in Project Management or Startups	☐ Less than 3 years ☐ 3 – 5 years ☐ 6 – 10 years ☐ 10 years
Current Role	☐ Startup Founder ☐ Project Manager ☐ Functional Manager ☐ Team Leader ☐ Other

Section	**Options**
Stage of Your Startup	☐ Early Stage ☐ Growth Stage ☐ Expansion Stage ☐ Established but still scaling
Startup Size (Number of Employees)	☐ 1 – 5 employees ☐ 5 – 10 ☐ 11 – 25 ☐ 26 – 50 ☐ 51 – 100
Number of Projects Managed or Participated In	☐ 1 – 2 ☐ 3 – 5 ☐ 6 – 10 ☐ More than 10
Primary Industry of Your Startup	☐ Information Technology ☐ Education ☐ Health Care ☐ NGO ☐ Business Incubation Center ☐ Other (specify)

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agreed = 4 Strongly Agreed = 5

Section 1: Project Management Practices Questionnaire

Table 3: Section 1: Project Management Practices Questionnaire

Sr. No.	Statement	1	2	3	4	5
1	The quality of project documentation was good	☐	☐	☐	☐	☐
2	The frequency of changes to the project scope was satisfying.	☐	☐	☐	☐	☐
3	The project scope was actively monitored for changes.	☐	☐	☐	☐	☐
4	The schedule was well-prepared and regularly updated	☐	☐	☐	☐	☐
5	The team responded quickly to requirement changes	☐	☐	☐	☐	☐
6	Financial planning for the project was accurate and reliable	☐	☐	☐	☐	☐
7	Additional funding (if needed) was readily available	☐	☐	☐	☐	☐
8	The cost of resources was well controlled	☐	☐	☐	☐	☐
9	The quality of the final deliverables met expectations	☐	☐	☐	☐	☐
10	Deliverables conformed to project requirements	☐	☐	☐	☐	☐
11	The team effectively managed legal or market risks	☐	☐	☐	☐	☐
12	Financial/investor-related risks were well-managed	☐	☐	☐	☐	☐

Sr. No.	**Statement**	**1**	**2**	**3**	**4**	**5**
13	Staffing levels for the project were adequate	☐	☐	☐	☐	☐
14	Staff received adequate training and upskilling	☐	☐	☐	☐	☐
15	High-performing staff were recognized or rewarded	☐	☐	☐	☐	☐
16	Communication among team members was frequent and effective	☐	☐	☐	☐	☐
17	A shared working language helped project communication	☐	☐	☐	☐	☐
18	The project had reliable and capable partners	☐	☐	☐	☐	☐
19	The key partners had strong technical experience	☐	☐	☐	☐	☐
20	Project tasks were well-coordinated and integrated	☐	☐	☐	☐	☐
21	A consistent project methodology (e.g., Agile, Scrum) was used	☐	☐	☐	☐	☐

Section 2: Project Success Questionnaire

Table 4: Section 2: Project Success Questionnaire

S. No.	**Project Success Statement**	**1**	**2**	**3**	**4**	**5**
1	The project was completed on time.	☐	☐	☐	☐	☐
2	The project was completed according to the budget allocated.	☐	☐	☐	☐	☐
3	The project outcomes were likely to be sustained.	☐	☐	☐	☐	☐
4	The project outcomes have directly benefited the end users, through increasing efficiency or effectiveness.	☐	☐	☐	☐	☐
5	The project outcomes were used by the intended end users.	☐	☐	☐	☐	☐
6	Given the problem for which it was developed, the project seems to do the best job of solving that problem.	☐	☐	☐	☐	☐
7	I was satisfied with the process by which the project was implemented.	☐	☐	☐	☐	☐
8	Project team members were satisfied with the process by which the project was implemented.	☐	☐	☐	☐	☐
9	Our principal donors were satisfied with the outcomes of the project implementation.	☐	☐	☐	☐	☐
10	The project has made a visible positive impact on the target beneficiaries.	☐	☐	☐	☐	☐
11	The team followed approved standards and guidelines.	☐	☐	☐	☐	☐

Section3:- Coworking Space

Table 5: Section3:- Coworking Space

S. No.	Statement	1	2	3	4	5
1	Through coworking I found new collaborative partnerships that helped me to develop my business.	☐	☐	☐	☐	☐
2	Coworking helped me to significantly improve my internal processes by making them more innovative and/or efficient or coworking changed my internal processes completely.	☐	☐	☐	☐	☐
3	I interact with members of various occupations.	☐	☐	☐	☐	☐
4	I enter partnerships with other members.	☐	☐	☐	☐	☐
5	I co-develop projects with other members.	☐	☐	☐	☐	☐
6	I gained access to external resources which I otherwise would not have had access to.	☐	☐	☐	☐	☐
7	I gained access to external knowledge.	☐	☐	☐	☐	☐
8	I gained access to external skills.	☐	☐	☐	☐	☐
9	I gained access to external intellectual properties.	☐	☐	☐	☐	☐
10	I gained entirely new ideas and inspirations.	☐	☐	☐	☐	☐
11	I discovered entirely new opportunities.	☐	☐	☐	☐	☐
12	I gained entirely new impressions and thoughts.	☐	☐	☐	☐	☐
13	I made entirely new discoveries.	☐	☐	☐	☐	☐
14	Through coworking I found ways to save costs (e.g. through economies of scale and scope) or coworking initiated a complete change within the structure of my cost mechanism.	☐	☐	☐	☐	☐
15	Through coworking I significantly improved my existing revenue model or coworking helped me to develop new revenue streams.	☐	☐	☐	☐	☐

S. No.	**Statement**	**1**	**2**	**3**	**4**	**5**
16	Through coworking I significantly increased customer retention or strengthened customer relationships.	☐	☐	☐	☐	☐
17	Through coworking I was able to expand my customer segments or coworking helped me to address new customer segments within the market.	☐	☐	☐	☐	☐
18	Through coworking I increased the efficiency of my existing distribution and communication channels or coworking helped me to find new channels for my value propositions.	☐	☐	☐	☐	☐
19	Through coworking I significantly improved my existing products/services or coworking helped me to find new value propositions to address unmet customer needs.	☐	☐	☐	☐	☐
20	Through coworking I was able to include new technical, intellectual or financial resources into my business.	☐	☐	☐	☐	☐

Section 4: Transformational Leadership Style

Sr. No	**Statement**	**1**	**2**	**3**	**4**	**5**
1	My Leader tries to enhance my internal motivation when motivating me for a task.	☐	☐	☐	☐	☐
2	My Leader makes me feel that what I do is valuable and meaningful.	☐	☐	☐	☐	☐
3	My leader encourages us to generate ideas and gets our suggestions while planning and conducting work.	☐	☐	☐	☐	☐
4	My Leader makes the workplace feel like a family environment.	☐	☐	☐	☐	☐
5	My Leader encourages me to freely express my ideas.	☐	☐	☐	☐	☐
6	My Leader frequently monitors and controls my acts in order to identify any possible mistakes and interfere when necessary.	☐	☐	☐	☐	☐
7	My Leader does not care about the path we follow as long as we do not do mistakes.	☐	☐	☐	☐	☐
8	My Leader uses only external rewards (such as premiums or additional days of rest) to make me work.	☐	☐	☐	☐	☐
9	My leader only rewards me contingent on completing tasks exactly the way s/he wants.	☐	☐	☐	☐	☐
10	My leader tries to change my ideas and impose his/her own ideas, when we disagree.	☐	☐	☐	☐	☐