CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Investigating the Impact of Project Managers Passion during COVID-19 on Projects' Success via Mediation of Professionalism and Moderation of Computer Self-efficacy

by

Iqra Nawaz

A thesis submitted in partial fulfillment for the degree of Master of Science

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Dedicated to the people I love and admire...My Parents.

CERTIFICATE OF APPROVAL

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Abstract

The present research investigates passion level antecedents of project manager in the project-based organizations during pandemic of COVID-19. Particularly, this research incorporates the dualistic model of passion to the literature of project manager that work event such as harmonious passion and obsessive passion leads to professionalism. Professionalism of project manager leads to project success. Computer self-efficacy of a project manager is also posited to hypothesized links as a moderator. Data were gathered from 317 respondents working in different software project based organizations across twin cities of Pakistan. The results delineate that harmonious passion and professionalism has significant and positive influence on project success and results also explain obsessive passion and professionalism has insignificant and minor influence on project success. Moreover, professionalism mediates the relationship of harmonious passion and obsessive passion and project success. In addition, computer self-efficacy moderates the relationship, and the results revealed significant impact of interaction effect provides evidence for moderation on harmonious passion but not on obsessive passion. Lastly, we suggest and investigate moderated mediation model. We conclude with practical and theoretical implications as well as future research directions.

Keywords: Harmonious passion, Obsessive passion, Professionalism, Computer self-efficacy, Project Success, Project Based Organizations.

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Chapter 1

Introduction

1.1 Background of the Study

Human interaction in relevance to technological innovation has shaped the globe tremendously. Technology has greatly influenced globalization that has in turn also affected economies and organizational leadership. In order to improve project efficiency and delivery, project managers are using information technology sectors to bring together the project teams that are scattered globally under one roof. Project management and project managers are the new innovation in the field of information technology and software development. They are using teams to bring certainty in virtual world (Ehsan and Mansur, 2010). Ehsan and Mansur (2010) further highlight the importance of project managers and the success of using project management tools in the virtual world of software development. There are some common elements between the conventional management team and virtual team. These common elements are the purposefulness of work, the product and the objective of the project. Further research has shown that the key difference between the virtual team and the traditional team is the physical and virtual interaction.

There are four different types of project manager if seen broadly. The technical project manager is one who works over project management practices. They give

very keen attention to even the smallest details and have extra good decision-making power. However, they weigh all the pros and cons before carrying out a decision. The Adventurous Project Managers are those who believe in taking risk to get bigger rewards. They keep on looking for better business opportunities. The positive part here is that these project managers do not cross their strategic boundaries even when taking risk. The third type of project managers Expert Project Manager make decisions based on past statistics. Although they are risk takers too but the probability of failure is greatly decreased when calculations come in hand. The fourth type of project managers relies on their team and not much on process and technology. They try to assimilate people with process and technology to deliver remarkably good results.

During the current pandemic of the novel coronavirus, the business entity has started facing new challenges and threats. Most of the organizations have shifted from office atmosphere to virtual world. The pattern of the work is looking to start doing remote work or work from home trend. According to the virtual work from home procedure, the project managers and the employees are working remotely. When working virtually, the project manager has an immense responsibility to track the performance of the employees. Hence, Covid-19 has in fact boosted the trend of virtual projects. Business sectors such as travel industry and oil sector is severely affected due to Corona virus with less to no impact on the IT sector.

When working virtually, the passion and professionalism of the project manager plays a critical role in failure or success of the project. Being passionate means that there is set criteria that managers need to follow. Firstly, the project manager needs to be flexible and available most of the time for the employees who are also working virtually.

Further, the project manager should be able to communicate in a better way. It is important for them to be responsive of the employees and clients query and do a strategic planning according to the situation. Setting project goals and Key Performance indicator is also important to track the performance of the employees. A passionate project manager should organize daily and weekly meetings to track the workflow.

Only 30% of the virtual software projects have been completed till date successfully (Goodbody, 2005). By a successful delivery of the software project, Kendrick (2012) explained that a virtual project is called successful when it is delivered on time, without exceeding the budget and with the same quality expected by the client. Apart from these parameters, the level of passion of the project manager and its team, trust, vision and values are equally important for the success of a virtual project (Lee, 2008). Hence, what are those skills; level of passion and techniques that project managers should use to make sure that the project is delivered on time, with demanded quality and within budget? Agarwal and Rathod (2006) believes that even if the three elements of the triangle Time, budget and quality are fulfilled, the project might not be successful if rejected by the stake holders. For this study, we will rely on the perception of success of the project manager and not on the stake holders perception.

Passion and trust is very important for team and project managers when acting virtually. For a cooperative team, passion is a very critical factor to be successful. Greenberg (2007) believes that operating from different locations in virtual projects in software development context makes it difficult for the project manager to build trust and passion among the employees. However, still it is the responsibility of the project manager to develop an environment of trust within the team and to work with passion (Kayworth & Leidner, 2001).

Lipnack (2000) researched that a virtual team is a set of people who communicate and work with each other irrespective of time zone and other geographical boundaries. Software industry around the globe incorporates the virtual team in their software building procedure. These virtual teams work from different parts of the world and the project manager employee these people. The project manager has to face a huge responsibility in successfully launching the team and getting them work efficiently.

Almost 25% of the virtual teams prove as unsuccessful. Cristian and Alde (2014) explained that there are three main reasons due to which virtual teams collapse and project managers are not able to handle them efficiently. The reasons are no face to face contact, lack of assets and time difference (Cristian & Alde, 2014). To

manage virtual teams, project managers need to have strong communication skill and control (Lilian, 2013).

Tracking the performance of team members and answering their issues is the core responsibility of a project manager (Inc. Project Management Institute, 2008). In case of virtual projects, employees might be located in different parts of the world and tracking them is quite a challenge for a project manager. Success and failure of a virtual project in software environment depends on the efficiency and capability of the project manager (Lilian, 2013). In the software development area, most of the projects fail merely because of the lack of resources and late discover of the lack of skill on the part of the project manager. The success of virtual project in software development depends precisely on the maximum output.

Professionalism in project management is a new area of interest by researchers. Employers and clients demand the professionalism of project manager. Project management is designed as an expert occupation. Unlike many other occupations, project management has been promoted to a professional status. Project managers use their professional skills to design strategies and structures. Professionalism acts as a mediator for a project manager helping them to accomplish their goals. The success of a project manager is not dependent on their character as a leader but it depends on their qualities to be able to show professionalism in trying to solve technical and managerial issues.

Gareis (1991) believes that organizations are using softwares in daily work to reduce the work complexity and to easily perform highly complicated jobs. Since the organizations need to apply management by projects and professionalism as an integral part of their central managerial policy, so they are trying to become more project-oriented (Gareis, 1991). Since many organizations are now opting for project-based system, so the need of project managers is growing (Crawford, 2005). The success and failure of the project greatly depends on the professionalism of project managers in this regard (Fabi and Pettersen, 1992). Humemann (2010) believes that organizations need to train their project managers in such a way as to deliver first class performance to successfully execute the project. In todays global world, the project managers are not efficiently equipped with the knowledge and

skills to easily carry out the projects and hence empirical based research needs to be carried out to create the perfect model of a project manager (Crawford, 2005).

Professionalism when acting as a mediator for a project manager has a few features.

1. The global understood nature of professionalism
2. The importance of knowledge
3. The growth of verified accreditation
4. Emphasis on client value
5. Development of healthy relationship with the stakeholders.

Another claim on which this study focuses is the types of passions Harmonious and Obsessive. Harmonious passion is the attraction of the individual towards a particular activity that is controlled by the individual itself. According to harmonious passion, individuals will decide themselves whether they would like to get involved in the activity or not. Deci (2000) explained the obsessive passion as when the desire of the individual to carry out a particular activity is so much intense that they cannot help themselves and give up in the struggle to their passion.

Most projects fail when the professionalism level of the project manager is reduced. This lack of passion and professionalism might be among the project manager or an employee or the entire team. Whatever the case might be, the sufferer will be the project itself. Deci (2000) believes that such a situation is most difficult to be handled where the project manager has lost passion and professionalism.

Identifying that the project manager has lost his/her professionalism can be accomplished when a particular milestone of the project is in danger. It clearly indicates that the task has lost its focal point. Another indicator for lost of passion is when intelligent questions are not asked any longer (Vallerand, 2016). Passion gives courage to ask questions. When the team stops asking questions, it indicates that either there is nothing left to be learned or the team does not have the required passion to learn and to progress. Asking questions has always resulted in great outcome.

1.2 Research Gap and Present Study

RJ. Vallerand (2003) explained that there is a direct relationship between the project success and the passion of project manager. In this research, I have proposed that passion acts as a source of fuel that allows project managers and their team to work for long term. This level of passion also helps them to achieve the top level of performance (Vallerand, 2007). There is a great need to find out the connection of passion and the projects success. As per my previous research, I have found that there is very limited research on the importance and affect of passion on the overall success of the project in respect to computer self-efficacy. The concept of passion is wide but in this research, we will focus on the passion of project manager. Relationship of computer self-efficacy and passion is not much touched in the past. The study in this regard is of high importance since new projects are emerging in Pakistan on daily basis and their success and failure depends on the level and strength of the passion of the project manager. Lastly, this research could be lately used in the project based software industry of Pakistan for training of employees so that they can deliver successful projects. This study will contribute to the project based organizations to organize computer trainings for employees that will bring successful projects especially in Pakistani context like other urbanized nations of the world.

1.3 Problem Statement and Context

Virtual environment has always posed as a threat to the conventional working groups and calls for a substitute tactic to find out the competency of a project manager to manage a virtual project (Lee, 2014). As Casio (2008) proposed a question as a project manager that 'If I am not able to see the virtual employees, how am I am able to control them?' This has posed a great question mark in the current research scenario. There are various barriers for a project manager to manage a virtual team, which includes communication barrier. The new concept

of e-leadership in virtual world has actually transformed the meaning and mode of leadership.

As we know, we are facing lockdown due to pandemic COVID 19. Safety is the only tool for survival. Therefore, the only solution is to work from home. Companies have to adopt virtual workplace culture accordingly. In order to adopt effectively virtual work place setting first thing we must configure willingness of employees to adopt change. Passionate employees and managers can work professionally with their high computer self-efficacy, which leads to project success. This is because only passion can keep employees devoted to work and their computer self-efficacy can help them to adopt technology and new software tools. The constructs, namely: passion, professionalism and computer self-efficacy help to achieve project success.

1.4 Research Questions

There are a few questions below that need answers:

Question 1:

What is the effect of harmonious passion on project success?

Question 2:

What is the effect of obsessive passion on project success?

Question3:

Does professionalism mediate the relationship between harmonious passion and project success?

Question4:

Does professionalism mediate the relationship between obsessive passion and project success?

Question 5:

What is effect of computer self-efficacy on project, and either it moderates the relationship between harmonious passion and project success?

Question 6:

What is effect of computer self-efficacy on project, and either it moderates the relationship between obsessive passion and project success?

1.5 Research Objectives

Virtual projects success through project managers passion and professionalism is a challenging issue here so to find out the answers, I have conducted this research. This research focuses on the passion and professionalism of the project manager in virtual environment. Further, the objective of this research to find out the issues that project managers face. Also this research will try to find out the major factors that influence the human resource department to efficiently work in a virtual setting. In project-based organizations, passion and desire can make a difference in working powerfully. When the human resource department is hiring a person for a particular position, they need to find out the right candidate by comparing the applicants according to different choices and theories. Leading the project to success and integrity needs people who are self-motivated and self-driven. Similarly, people who are lazy and do not easily adopt changes in the employee environment shall prove critical for the particular job hiring. Such people fail to adopt change since they are not flexible and hiring such people for a commanding position may lead the project to failure.

This research will focus on the organizations that are Software project based. Such research is important in countries like Pakistan where the success rate of the project solely and entirely depends on the selection of the right candidates and the passion of project managers.

The research will evaluate the importance of theory of the conceptual model in the software industry and in case of virtual projects. Lastly, the research will recommend the course for the future research and laydown the practicing models for further progress of the success of project managers.

Hence looking at the current available knowledge about the level of passion required for the project manager to effectively manage a virtual team in a virtual

environment, I intend to carry out this research based on survey and identify major issues and lastly, offer my suggestions.

1.6 Significance of the Research

When doing research, both the qualitative and quantitative methods are brought into consideration. According to Yin (2014), researchers use qualitative method when they are investigating the in depth information related to the original context. In this research, I have not applied qualitative method because understanding the passion of project manager in the software industry requires events of project success.

However, I have applied quantitative method of research here. This is because quantitative methods are applied to find out statistical analysis and inspect variables and their relationship with each other. Since this research requires questions that need to be answered so quantitative analysis is used.

There are various software industries in Pakistan but this research is based on virtual Projects that are operated from Rawalpindi and Islamabad. The data is collected for the sole reason to find out the effect of passion and professionalism on the success of a project. Furthermore, the collected data will also demonstrate the effect of computer self-efficacy on the projects success.

For this purpose, I have used Sampling technique. The preferred location of data collection was selected as the Tech access, CiberVision international, etc located in Islamabad, Pakistan. The target employees were the ones that are working on a project and they are project managers. The purpose of sampling this particular industry was due to its switching from natural environment to virtual environment.

Further, selected software companies are project-based organizations. Questioners were distributed that had two sections. The first section focused on the demographic attributes while the second section focused on various constructs like harmonious and obsessive passion, professionalism and computer self-efficacy.

1.7 Supporting Theory

1.7.1 The Dualistic Model of Passion

R.J. Vallerand (2016) proposed a dualistic model of passion and this study focuses on the same. According to dualistic model of passion, people get involve in different actions in their life and as result they develop as an individual. Another managerial perspective of Dualistic Model of Passion enlightens that such people who get involve in dissimilar actions in their lives develop into a palpable personality.

There is a great deal of literature review available that solely depends on the dualistic model of passion. This model holds a very important position in human resource development and risk management. This research will also use the dualistic model of passion to find out the approach that the managers use to meet their goals in a professional environment. Further, this research will incorporate the DMP and how the project manager can succeed by using their passion for successful delivery of the project.

Chapter 2

Literature Review

2.1 Introduction to Literature Review

Project management was introduced in the US in 1952 by the Government of the United States when they developed system support to attain state objectives (Bowenkamp, 1987). In the past, organizations practiced the traditional ways that did not include maximum cooperation from the employees, the life cycle of the product was reduced to minimum and the same tasks were repeated by all the members of the group; Project management brought a new dimension by developing the product on time, instead of single phase product development Project management incorporates multiple phases during the product development and complete involvement of all the people in the group (Bowenkamp,1987). Cleland (1995) believed that project management is a complicated procedure that needs a specific set of skills.

Project management is a set of tools and techniques that are used to attain project goals create timetable and milestones and outline the responsibilities to the employees (Tinnirello, 2000). Likewise, Kerzner (2009) explained project management as completing successfully the project, on time and within a specific budget and meeting the expectations of the client.

The project management Institute (PMI) (2008) describes project management as the use of information, strategies and techniques to fulfill the requirements needed for the completion of a specific project. Further, PMI (2008) explained that the ready product shall be within budget, on time completed and shall meet the expectation of the client. PMI (2008) named out the eight main components for the project manager as "time, scope, cost, risk, quality, contract, communication and HR".

For a successful project, the project manager shall possess all the leadership qualities and managerial talent along with being passionate (George, 2003). Further, Anderson (1992) debated that the project manager needs to have many different qualities that will be used during different stages of project completion.

This chapter focuses on the literature review on the study of importance of passion of the project manager in the virtual work related to software industry. The main notions used in these chapters are: Project manager, Software industry, passion, Effective strategies, Leadership and professionalism.

2.1.1 Passion

Vallerand (2003) defined passion as "a strong preference in the direction of an action that people fond (affective), that they find imperative (cognitive), and in which they capitalize time and energy (behavioral)", he discussed two types of passion: Obsessive passion explain as internal pressure of any activity on anyone who like that activity, person is in control of that activity. Harmonious passion states to a self-directed attitude that leads persons to select to involve in their favorite activity.

2.1.2 Professionalism

Professionalism refers to the practical implementations of the knowledge within the context (Locatelli, Mancini, & Romano, 2014)

2.1.3 Project Success

The project is successful if the project meets the technical performance measurement, and if the satisfaction level of top management, project team and customer is high. (AntondeWit, 1998).

2.1.4 Computer Self-Efficacy

Computer self-efficacy is a person's confidence in his or her aptitude to use computer technology largely (Compeau, 1995).

2.1.5 Virtual Projects

Virtual organizations and virtual project is a new dimension of working in this century (Lee, 2014). During a virtual project, teams are located in different parts of the world and work together as they are linked together; virtual project is defined as a temporary setting of different people working from different parts of the world, in different time zones and possessing special knowledge and skills to solve a task (Anantatmula, 2010).

Jarvenpaa (1998) defined a virtual project as having three aspects; (1) located far from each other, (2) connected by computer technology, (3) may not have past working experience with each other.

The effectiveness of a virtual project is basically depending on the leadership quality of the project manager as these teams may differ in terms of virtualness and versatility (Griffth, 2003). Griffith (2003) further elaborated that projects usually fall in three groups, (1) traditional projects where people work face to face with each other, (2) Hybrid projects that work virtually and face to face depending on the situation, (3) Virtual projects that communicate through computer technology and not face to face. However, the most common type of project in 21st century is the hybrid project (Lee, 2014).

In a virtual project, there are two main elements of utmost importance; Communication and corporation, which ultimately depend on the project manager (Dube and Pare, 2001). Passion and professionalism of the project manager has also been under lot of talk lately since it is very difficult to be implanted in a project manager (Zigurs, 2003).

However, there are many challenges that virtual project managers have to face on daily basis (Zofi, 2011). There are three elements that has created challenge in working in a virtual environment; time, space and culture (Fisher, 2011). Virtual projects that share the same time zone, same space and same culture are more on the safe side than those virtual projects that do not have the same attributes (Fisher, 2011). However, these virtual projects have one attribute that can be interpreted positively; Computer technology (Fisher, 2011). Apart from this, another important constituents are communication and professionalism of the project manager (Windsor, 2001). When working in a virtual software industry, the project manager find difficulty in developing bonds and great understanding because of limited to no face-to-face interaction (Martinelli, 2010). Virtual projects are not successful for long-term projects (Martinelli, 2010). Since project managers play an important role in the success of a virtual project hence their professionalism, level of trust and creating a bond among the team is of utmost importance (Zaccaro, 2003). Hence, the project managers need to learn effective ways to execute the project and shall follow a set of protocols to develop professionalism and passion among the team members too (Zaccaro, 2003).

Developing passion in a virtual software project is a great challenge that is faced on daily basis by the project manager (Martinelli, 2010). Another reason that the project managers do not build professionalism and passion is because of temporary project and limited time and hence the members does not go through the important stage of forming, performing and adjourning (Martinelli, 2010). Thats the reason most of the virtual projects usually end up before the completion of the project (Zaccaro, 2003).

2.1.5.1 Role of Project Manager in a Virtual Software Industry

In software industry, the role of a project manager is to find out the objectives, create and evaluate those objectives and control the implementation of those objectives (Gilb, 1998). This is easily achieved by great planning, staffing of good employees and successfully coordinating the software project (Reifer, 2002). Jugdev (2005) debated that there are four factors that result in a success of a virtually controlled software project; (1) The sponsor of the project should have enough passion to complete the project, (2) there should be good relationship between the project manager and the project sponsor, (3) the project manager should be able to tackle the complex software development situation, (4) considering the suggestions of the stakeholders in the development process.

Virtual teams working in a computer related field decreases the non-verbal communication and hence the project manager focuses on more tasks oriented environment (Yoo, 2004). However, in software field, the project manager needs to be relationship oriented and task oriented at the same time (Yoo, 2004). When achieving the final goal of the project, the project manager should achieve the goal by using the team and employees; hence, people and teamwork is the vital resource of the success of the project (Nauman, 2010). Virtual offices of a software related industry is more people oriented (Hart, 2003). Further, Misiolek (2012) debated that project managers in a software industry need to adopt a task oriented behavior so that the uncertainty among the employees can be reduced.

2.1.6 Passion of Project Manager

The concept of importance of passion in a project manager for successful completion of a project is a relatively unfamiliar concept (Clarke, 2010). Hence, further studies and research is required to find out the explored behavior of project manager in context of passion (Clarke, 2010). For a successful project, it is important to study the behavior of the project manager and his/her role as a project manager

(Cleland, 1995). There are two factors that are of immense importance for the success of a project and those are passion of the project manager and his intellectual aptitude (Goleman, 1996). Passionate project managers can optimistically affect their management style (Clarke, 2010). In fact, the level of passion of the project manager can also affect the employees of their organization (Druskat, 2006). Indeed, the concept of emotional intelligence in project manager also affects the performance of the team members (Clarke, 2010).

The aptitude of the project manager shall also have a few other qualities including mental stability, ability to complete difficult tasks and emotionally understanding others (Kellet, 2002). There are many attributes that can also negatively affect the performance of the project manager such as careless behavior, lack of passion, lack of professionalism and being an introvert (Cavozotte, 2012). Dulewicz (2000) also believed that great leadership qualities including emotional, passion and behavior could also positively affect the functioning of the project manager.

2.2 Passion and Project Success

The success or failure of the project depends on different elements such as: competiveness of the project manager, structure of the organization and leadership qualities (George, 2003). There is a strong link between the passion of the project manager and the success of the project (Thahain, 2004a). Further, PapkeSheilds (2010) believes that better implementation of the project management practice and the successes of project are interlinked with each other.

In the early 1970s, the success of the project was calculated on the base of system development, better implementation and precisely calculating the budget and time for the project completion (Turner and Muller, 2005). During the 70s, organizations made great effort on implementing effective tools and techniques to successfully execute the project. Pinto and Selvin (1988) pointed out ten factors contributing to the success of the project.

Another claim on which this study focuses is the types of passions Harmonious and Obsessive. Harmonious passion is the attraction of the individual towards a particular activity that is controlled by the individual itself. According to harmonious Passion, individuals will decide themselves whether they would like to get involved in the activity or not. Deci (2000) explained the obsessive passion as when the desire of the individual to carry out a particular activity is so much intense that they cannot help themselves and give up in the struggle to their passion.

Behind every successful project, there is lot of contribution from thee project manager (Weteridge, 1995). He further elaborated that the managers need to understand the importance of the passion for the success of the project, follow the factors that might result in the project to be successful and lastly implement the accurate tools related to those factors. Cooke (2002) believes that the reason behind a successful project is fulfilling the project milestones and goals, and effective usage of time, passion, money and quality. Hence, to make sure that the project is successful, the organizations need to invest time and energy over recruiting the right project manager who has the passion and the techniques and know all the strategies to attain project success (Munns and Bjeirmi, 1996). Following hypothetical relationships are developed:

H1: *Harmonious passion has positive impact on project success.*

H2: *Obsessive passion has positive impact on project success.*

2.3 Passion and Professionalism

Burke (2007) defines passion as the key to the success to a project, which in return depends on the state of relationship between two or more persons. Passion of the project manager depends on three major constituents Ability, professionalism and honesty (McGrath, 2009). Kanter (2005) debated that when the project manager develops passion in completing his project, the team in return also follows his footsteps and acts accordingly. In fact, the best part is the decrease in the project

cost and time line when the project manager shows passion (McGrath, 2009). Hence, passion and professionalism plays a vital role in the success of a project (McGrath, 2009).

Obsessive passion is another crucial factor that is important for the project to succeed; however passion of the project manager is more important when it comes to virtual teams since building passion in a virtual environment is very difficult; this is because the team is scattered through out of the world (Greenberg, 2007). Although virtual projects do not have face-to-face interaction hence the project manager shall focus more on effective communication methods and build passion among the team members (Bradley, 2004). This building of harmonious and obsessive passion is very difficult when working virtually in a software industry because the members of the team do not have any common past and present experiences together which is the basic pillar of harmonious passion building (Lin, 2008). Bradley (2004) debated that when working in a virtual space specially related to software development, passion is the only trait that can remove the geographical distances between the employees, otherwise situation can become worse and result in psychological distances too. Literature recommended following hypotheses:

H3: *Harmonious passion has positive impact on professionalism.*

H4: *Obsessive passion has positive impact on professionalism.*

2.4 Professionalism and Project Success

The concept of importance of passion in a project manager for successful completion of a project is a relatively unfamiliar concept (Clarke, 2010). Hence, further studies and research is required to find out the explored behavior of project manager in context of passion (Clarke, 2010). For a successful project, it is important to study the behavior of the project manager and his/her role as a project manager (Cleland, 1995). There are two factors that are of immense importance for the success of a project and those are harmonious passion of the project manager

and his intellectual aptitude (Goleman, 1996). Passionate project managers can optimistically affect their management style (Clarke, 2010). In fact, the level of passion of the project manager can also affect the employees of their organization (Druskat, 2006). Indeed, the concept of emotional intelligence in project manager also affects the performance of the team members (Clarke, 2010).

The aptitude of the project manager shall also have a few other qualities including mental stability, ability to complete difficult tasks and emotionally understanding others (Kellet, 2002). There are many attributes that can also negatively affect the performance of the project manager such as careless behavior, lack of obsessive passion, lack of professionalism and being an introvert (Cavozotte, 2012). Dulewicz (2000) also believed that great leadership qualities including emotional, passion and behavior could also positively affect the functioning of the project manager. Following hypothesis developed:

H5: *Professionalism has positive impact on project success.*

2.5 Mediating Role of Professionalism between Passion and Project Success

Effective and great leaders have special traits that are not seen easily in all the project managers. A successful project manager keeps the project goal in vision through professionalism and harmonious passion (Dubrin, 2010). Dubrin (2010) further believes that harmonious passion, professionalism and emotional intelligence of the project manager is the key to a successful project. Turner and Muller (2005) explains that leaders are not made but born with those attributes that result in project success; the traits of a project manager also needs to include morals and principles, physical and emotional competence and passion

Virtual organizations and virtual project is a new dimension of working in this century (Lee, 2014). During a virtual project, teams are located in different parts

of the world and work together as they are linked together; virtual project is defined as a temporary setting of different people working from different parts of the world, in different time zones and possessing special knowledge and skills to solve a task (Anantatmula, 2010).

Jarvenpaa (1998) defined a virtual project as having three aspects; (1) located far from each other, (2) connected by computer technology, (3) may not have past working experience with each other.

The effectiveness of a project is basically depending on the leadership quality of the project manager as these teams may differ in terms of virtualness and versatility (Griffth, 2003). Griffith (2003) further elaborated that projects usually fall in three groups, (1) traditional projects where people work face to face with each other, (2) Hybrid projects that work virtually and face to face depending on the situation, (3) Virtual projects that communicate through computer technology and not face to face. However, the most common type of project in 21st century is the hybrid project (Lee, 2014).

In a successful project, there are two main elements of utmost importance; Communication and professionalism, which ultimately depend on the project manager (Dube and Pare, 2001). Passion and professionalism of the project manager has also been under lot of talk lately since it is very difficult to be implanted in a project manager (Zigurs, 2003).

However, there are many challenges that virtual project managers have to face on daily basis (Zofi, 2011). There are three elements that has created challenge in working in a virtual environment; time, space and culture (Fisher, 2011). Virtual projects that share the same time zone, same space and same culture are more on the safe side than those virtual projects that do not have the same attributes (Fisher, 2011). However, these virtual projects have one attribute that can be interpreted positively; Computer technology (Fisher, 2011). Apart from this, another important constituents are communication and professionalism of the project

manager (Windsor, 2001). When working in a software industry, the project manager find difficulty in developing bonds and great understanding because of limited to no face-to-face interaction (Martinelli, 2010). Virtual projects are not successful for long-term projects (Martinelli, 2010). Since project managers play an important role in the success of a virtual project hence their professionalism, level of trust and creating a bond among the team is of utmost importance (Zaccaro, 2003). Hence, the project managers need to learn effective ways to execute the project and shall follow a set of protocols to develop professionalism and obsessive passion among the team members too (Zaccaro, 2003).

Developing obsessive passion in a virtual software project is a great challenge that is faced on daily basis by the project manager (Martinelli, 2010). Another reason that the project managers do not build professionalism and passion is because of temporary project and limited time and hence the members does not go through the important stage of forming, performing and adjourning (Martinelli, 2010). Thats the reason most of the virtual projects usually end up before the completion of the project (Zaccaro, 2003).As literature defined passion bring performance which leads to professionalism and positively affect project success so, the following hypotheses are recommended:

H6: *The level of professionalism positively mediating the relationship between harmonious passion and project success.*

H7: *The level of professionalism positively mediating the relationship between obsessive passion and project success.*

2.6 Moderating Role of Computer Self-efficacy between Passion and Project Success

Virtual self-efficacy contains two dimensions: computer self-efficacy (CSE) and remote work self-efficacy (RWSE) (Wang, 2009). Computer Self-efficacy is defined

as a perception of an individual in performing tasks related to computer (Marakas, 1998). Computer self-efficacy is the broader version of self-efficacy that is used in many past researches as well (Bandura, 1998). Just like self-efficacy, computer efficacy is also the ability of the project manager in executing specific tasks related to computer in given scenarios (Compeau, 2006). CSE has been found to be associated with the behavioral and cognitive outcomes of the project manager (Marakas, 1998). Many researchers have found out the CSE is closely related to the perception of a person or project manager in relation to computers.

In software industry, the role of a project manager is to find out the objectives, create and evaluate those objectives and control the implementation of those objectives (Gilb, 1998). This is easily achieved by great harmonious passion, staffing of good employees and successfully coordinating the software project (Reifer, 2002). Jugdev (2005) debated that there are four factors that result in a success of a virtually controlled software project; (1) The sponsor of the project should have enough harmonious passion to complete the project, (2) there should be good relationship between the project manager and the project sponsor, (3) the project manager should be able to tackle the complex software development situation, (4) considering the suggestions of the stakeholders in the development process.

Virtual teams working in a computer related field decreases the non-verbal communication and hence the project manager focuses on more tasks oriented environment (Yoo, 2004). However, in software field, the project manager needs to be relationship oriented and have obsessive passionate the same time (Yoo, 2004). When achieving the final goal of the project, the project manager should achieve the goal by using the team and employees; hence, people and teamwork is the vital resource of the success of the project (Nauman, 2010). Virtual offices of a software related industry is more people oriented (Hart, 2003). Further, Misiolek (2012) debated that project managers in a software industry need to adopt a task oriented behavior so that the uncertainty among the employees can be reduced.

Project managers and their teams develop computer self-efficacy by various mediums; past computer experiences, encouragement or support from peers, emotional confidence or anxiety when dealing with computer related tasks (Bandura, 1997). Individuals those have high CSE are more likely to get involved in computer related tasks relatively to people with low CSE (Compeau, 1999). Computer self-efficacy is further divided into two categories; General computer self-efficacy and Specific Computer self-efficacy; however, the relationship between both of them is still unclear (Marakas, 2007). CSE is not previously studies as moderator. My research work addresses this gap by exploring the impact of passion on the professionalism and employees computer self-efficacy which leads to project success so, it is hypothesized that:

H8: *Positive relationship between harmonious passion and project success will be stronger when computer self-efficacy is high.*

H9: *Positive relationship between obsessive passion and project success will be stronger when computer self-efficacy is high.*

2.7 Moderated Mediation

Last of all, as we antedate that said computer self-efficacy will moderate the earlier suggested hypothesized link, but we also expect that computer self-efficacy instantaneously will conditionally indirect effect between harmonious passion, obsessive passion, and project success. Agreeable with the hypothesized model, we antedate a moderated mediation path, where the indirect effect of harmonious passion and obsessive passion on project success that happens via professionalism will joint on computer self-efficacy moderator.

H10: *Computer self-efficacy of project manager will moderate the indirect effect of harmonious passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high.*

H11: *Computer self-efficacy of project manager will moderate the indirect effect of obsessive passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high.*

2.8 Theoretical Framework

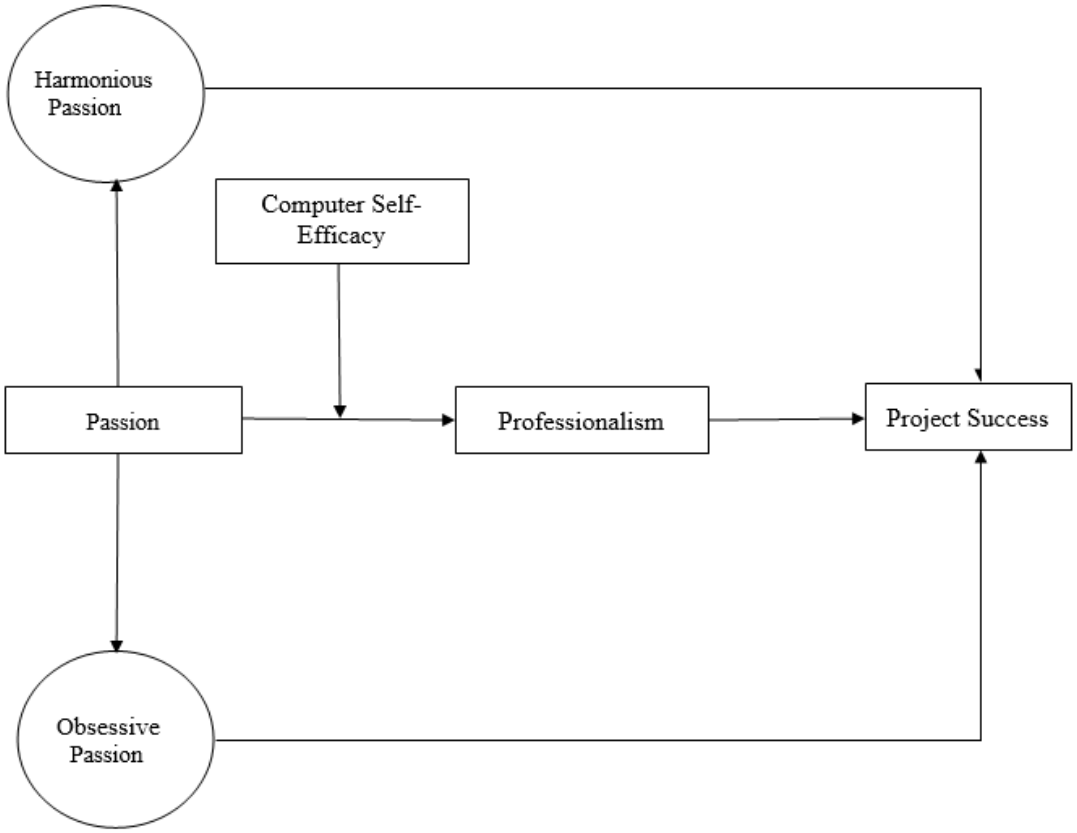

FIGURE 2.1: Research Model of Investigating the Impact of Project Manager's Passion during COVID-19 on Projects' Success via Mediation of Professionalism and Moderation of Computer Self-efficacy.

Chapter 3

Research Methodology

Selecting and implementing any methodology for research needs justification why the study is going through the process of this methodology and reason for selecting the methodology are explained in this chapter. Research methodology incorporated that which research questions are analyzed and explored. This methodology used to examine the relationship between harmonious passion, obsessive passion, and project success with mediating the role of professionalism and the moderating role of computer self-efficacy. Also in present study, the purpose of the methodology chapter was to examine how project managers of the software industry respond in the current scenario of the virtual work environment. This chapter illustrates the answer to the question: Do hypotheses are accepted or rejected? The Methodology chapter includes research design, data collection method with measurement and scale.

3.1 Research Design

A framework for a research plan of action including tools, techniques, and methods of data collection are called research design. Zikmund (2003) explained that the research design is a master plan of researchers to collect, organize, analyze, and explore the needed information for their research study. The research design of

present study includes types of study, study setting, unit of analysis, and time horizon.

3.1.1 Type of Study

In this part, researcher explains that this is the causal study to highlight the impact of harmonious and obsessive passion on project success through the mediating role of professionalism and the moderating role of computer self-efficacy among harmonious and obsessive passion and project success.

In this present field study, data were collected from the software industry. Software Companies and software houses operated from Rawalpindi and Islamabad twin cities of Pakistan. The data were collected in only one go because tendency was cross sectional.

3.1.2 Methodological Approach

The impact of harmonious and obsessive passion with the moderation of computer self-efficacy through professionalism on project success distinguish in this study. This study is descriptive in nature, which represents the complete and appropriate picture of the effect on project success in software projectile companies and software houses is especially another marvel. Descriptive research operationalize where a low amount of data are available and researcher have easiness for further investigation of research zones (Waller, 2005; Schindler, 2006). The basic purpose of descriptive research is to get a clear understanding of certain issues and it helps to figure out the surface for future direction (Cooper, 2019). Zikmund (2003) discussed that in descriptive research, firstly, the researcher examines the past studies of the related domain and then figure out the problems and gaps to develop research objectives.

In the present study questionnaire was used as a medium of data collection, this is called quantitative research and depicts to Positivistic Approach. Positivism is a scientific approach with techniques used that are highly measurable and based on

scientific approaches involved in investigating behaviors (Denscombe, 1998). As incorporating a positivistic approach for the present study, Quantitative methods are preferable for data collection such as structured questionnaires and online surveys. The positivist approach is more effective for quantitative research because surveys with structured questionnaires help researchers to take a birds eye view of society (Denscombe, 1998).

3.1.3 Study Setting

The current study is a field study because contributors are project managers of software project based organizations (Brennan et al., 2002). The target of an observer for this present study is from the field of the software industry. The supervisor and her inferiors contacted in project base software companies and software houses to fill the questionnaire in their natural work setting. There is no manipulation and control on constructs of this research. Researcher has not design any stimulated environment for present research.

3.1.4 Time Horizon

Data collected for this present study was from the software industry of Rawalpindi and Islamabad located in Pakistan. As this study was time bounded so a total period of data collection was approximately 2 months. The Author collects data by online survey in one go because this study is cross-sectional.

3.1.5 Unit of Analysis

Those objects or individuals who being observed and analyzed by a researcher are unit of analysis. It plays a substantial role in the research study. The researchers set range by their self, according to their research requirement it could be any organization individual or an object and it could be culture if the observer wants to collect demographics data. In this present research, individuals are unit of analysis. As the present study plot on the effect of harmonious and obsessive

passion on software industry so researcher select project managers of software projects working in software companies and software houses of Rawalpindi and Pakistan, twin cities of Pakistan.

3.2 Population and Sample

3.2.1 Population

The population is a lot of individuals, occasions, things which are under consideration of the researchers interest for phenomenal investigation (Sekaran, 2001). The population of present study are peoples who are working in project base software companies and software houses from Rawalpindi and Islamabad located in Pakistan.

3.2.2 Sample and Sampling

Sample is the subset of targeted population. The method in which analysts choose an illustration of member for their study from a population in which they are interested, is known as sampling (Leary, 2004). It is very difficult task to collect data from whole population. To resolve that issue sample is selected from population. So it makes ease for researcher to find facts whether harmonious and obsessive passion have any impact on project success with the mediating role of professionalism and moderating role of computer self-efficacy.

For data collection, the researcher prefers quantitative research method because present study is descriptive. Sample was selected from the population. It was a representation of the total population. A researcher uses convenient sampling technique for sampling which belongs to non-probability sampling because researcher collects data from those project managers who are easily available and willing to fill questionnaires. (Khan and Rasheed, 2015) used a convenience sampling technique for his study on project based organization of Pakistan. Likewise, (Shuck et al., 2011) and (Reio Jr, 2011) has also applied convenience sampling for their studies.

3.2.3 Data Collection Method

Firstly, the Researcher contacted companies through a reference person, and secondly, she requested them to be a part of her research survey. Questionnaires were sent through email.

For the present study researcher wanted to examine the effect of passion and professionalism of project managers with the moderation of computer self-efficacy on project success. The sample size selected for the current study was 300. The total numbers of 350 questionnaires were distributed in Rawalpindi and Islamabad in different software companies and software houses. Few software companies and software houses involved Techaccess, CyberVision, Software house Islamabad, etc. 350 questionnaires were distributed for the current study, and 320 questionnaires were responded to for data analysis, 3 out of 320 were not filled properly were excluded. The Researcher got a highly positive response rate of 91.42% so the sample size considered while data analyzing was 317.first part of the questionnaire was a brief description that why their responses are needed and the researcher also assured respondents to keep their responses and identity confidential. The researcher mentioned that their responses will be used for only academic research.

3.2.4 Handling of Received Responses

Collected questionnaires were thoroughly scanned to identify missing responses. Collected questionnaires have missing values which means few participants did not fill complete questionnaires. In qualitative research, handling of missing data is a key phase for perfect results, the reason is to avoid bugs. Identification of missing data brings statistical power in data, which helps to discern any major or important impact from the collected set of data. (Roth and Switzer III, 1995).Furthermore missing data can also affect the correctness of observed variables.

Guiding principles on the topic of handling missing data are available in the literature. (Roth and Switzer III, 1995) projected techniques for the handling of missing data which are mean substitution, regression imputation, and listwise deletion. In first, mean substitution: researcher incorporate mean value for missing responses.

In second, regression imputation: the researcher developed a regression equation of relevant variables for assigning and guessing missing values. In last, listwise deletion: In case of missing data, researcher delete full responses of missing data questionnaire.

For this present research, while all responses of shared questionnaires were collected from the participants and after entering data in SPSS data sheet researcher observe missing values. To deal with missing values likewise deletion was utilized because there were only 3 questionnaires that are not completely filled and the missing values were not from any sensitive section of the questionnaire.

3.3 Sample Characteristics

In the first phase of data analysis, The Researcher tried to get a comprehensive understanding of the demographics of respondents. Demographics of every research are aligned with topics or the nature of research. In this present study: Gender, Age, Qualification, and Experience are incorporated as demographic variables. The questionnaire has section A for demographic variables. The Researcher drawn a frequency table for each demographic separately and also drawn basic characteristics of data.

3.3.1 Gender

The objective of this demographic is to identify the ratio of male and female respondents.

Table 3.1: Gender frequency and percentage

	Frequency	Valid Percent	Cumulative Percent
Male	182	57.4	57.4
Female	135	42.6	100.0
Total	317	100.0	

Gender is an element which focuses on equality of both male and female thats why researcher incorporates this as a demographic variable. It shows the participation of both genders with a different ratio.

In the above table: 3.1 represents that males are more than females in the software industry. It shows 182 males with 57.4% and 135 females with 42.6% contributed in the present study.

3.3.2 Age

Age is a significant element of the demographic section. Some respondents feel shy while sharing their age in exact numbers thats why researchers give them to age in range. With the help of age, the researcher can easily evaluate their experiences and positions in their company.

Table 3.2: Age frequency and percentage

	Frequency	Valid Percent	Cumulative Percent
21-30	183	57.7	57.7
31-40	131	41.3	99.1
41-50	3	.9	100.0
Total	317	100.0	

The above table: 3.2 represents that most of the respondents lying in the range of 21 to 30 with a rate of 57.7% respondent from 317 then come respondents from the range of 31-40 with a rate of 41.3% after that respondents with the age range of 41-50 with a rate of 0.9% respectively.

3.3.3 Qualification

Education plays a vital role in the progress of any nation. Now in the global environment, education is a basic thing to win. So, after gender and age, education is a significant element of demographics. Qualifications matter a lot to perform the

duties of the project manager. To configure the most effective level of education, the researcher adds this as a demographic variable.

Table 3.3: Respondent and their qualification

	Frequency	Valid Percent	Cumulative Percent
Undergraduate	86	27.1	27.1
Graduate	117	36.9	64
Master	91	28.7	92.7
MS/MPhil	15	4.7	97.5
PhD	8	2.5	100
Total	317	100	

In table: 3.3 researcher shows qualification: undergraduates were 86 with a rate of 27.1%, graduates were 117 with a rate of 36.9%, master qualified were 91 with a rate of 28.7%, MS/MPhil qualified respondents were 15 with a rate of 4.7%, PhDs respondent were 8 with a rate of 2.5% and in the above table: 3 the graduated percentage is the highest among all.

3.3.4 Experience

It is an important component of demographics. It helps to illustrate the work tenure of respondents. This present study focuses on this variable because if the experience of respondents is high he will be more passionate and professional as compared to low experiences respondents.

In the above-given table: 3.4 frequencies and percentage rates of experience are shown. Those respondents who have experienced between the period range of 0-5 with a rate of 47.9% is the longest tenure than 86 respondents between the period range of 11-15 with a rate of 27.1% and then 77 respondents between the period range of 6-10 with a rate of 24.3% and at last respondents from experience range 16-20 with a rate of 0.6% have very low experience rate.

Table 3.4: Experience

	Frequency	Valid Percent	Cumulative Percent
0-5	152	47.9	47.9
06-10	77	24.3	72.2
11-15	86	27.1	99.4
16 20	2	0.6	100
Total	317	100	

3.4 Instrumentation

3.4.1 Measures

This present study adopts related research scales from existing literature which are under a 5-point Likert scale: 1 denotes (strongly disagree), 2 denotes (disagree), 3 denotes (Neutral), 4 denotes (Agree) and 5 denotes (strongly agree). Harmonious passion, obsessive passion, professionalism, computer self-efficacy and project success are measured by a 5-point Likert scale. During any research, the most focus needed task is data collection because a minor error can disturb the whole result of the study. Simultaneously it is a time-consuming task because this study was following an online survey due to the COVID-19 pandemic. Everyone who was approached was not willing to fill the questionnaire because some companies and software houses do not allow their employees to give information about companies without their consent. Project Managers, who are working in the software industry of the Rawalpindi and Islamabad. Those who are very active in the COVID-19 pandemic participated in the study. To collect a sample online survey conducted. The responses were measured and analyzed to examine the impact of passion on project success and to the enhancement of computer capabilities and the adoption of a new work environment. The construct of the Impact of Project Managers Passion during COVID-19 on Projects' Success via Mediation of Professionalism and Moderation of Computer Self-efficacy was examined by using a 5 Likert scale related to harmonious passion, obsessive passion, computer

self-efficacy, professionalism, and project success. The total number of statements was 30 which were generated to analyze the constructs of harmonious passion, obsessive passion, computer self-efficacy, professionalism, and project success. Scales were adopted from literature. All these scales were appropriate for research and confirmed by the reliability test. Furthermore, gender, age, qualification and, work experience, were measured as control variables because previous studies indicated that these variables have an enormous impact on work passion which has been discussed above.

3.4.2 Passion

3.4.2.1 Harmonious Passion

With respect to harmonious passion, respondents completed 07- item scales. Harmonious passion was measured by a scale developed by (R. J. Vallerand, Vallerand, Blanchard,Mageau,Koestner,Gagne, Ratelle and Leonard, 2003). It was based on a 5 point Likert scale (1= strongly disagree to 5= strongly agree) with reliability of 0.658. Items measured in this construct were: This job allows me to live a variety of experiences .The new things that I discover with this job allow me to appreciate it even more. This job allows me to live memorable experiences. This job reflect the qualities I like about myself. This job is in harmony with the other activities in my life. For me it is a passion that I still manage to control. I am completely taken with this job.

3.4.2.2 Obsessive Passion

With respect to obsessive passion, respondents completed 07- item scales was measured by a scale developed by (R. J. Vallerand, et al., 2003). It was based on a 5 point Likert scale (1= strongly disagree to 5= strongly agree) with reliability of 0.647. Items measured in this construct were: I cannot live without it. The urge is so strong. I cant help myself from doing this job. I have difficulty imagining my life with this job. I am emotionally dependent on this job. I have a tough time

controlling my need to do this job. I have almost an obsessive feeling for this job. My mood depends on me being able to do this job.

3.4.3 Professionalism

Researcher take professionalism as mediator. Professionalism was measured using a scale developed by (Snizek, 1972) consists of 15- items with Cronbachs Alpha of 0.733. Some sample scale for this constructs are: I think that my profession is essential to society. Team members ought to be given the opportunity to make decisions about project management issues. People in my profession have a real calling for their work. I believe that professional organization(s) should be supported.

3.4.4 Computer Self Efficacy

Computer Self-Efficacy scale was developed by (Haggerty, 2011) consists of 05- items with Cronbachs Alpha of 0.605.it was adopted as moderator. Items which are used to measure computer self-efficacy are: I could complete my job using a new software package if I had never used one like this before. I could complete my job using a new software package if there is no one around to tell me what to do as I go. I could complete my job using a new software package if I had only the manuals for reference. I could complete my job using a new software package if I could call someone for help if I got stuck. I could complete my job using a new software package if I had seen someone else using it before trying it myself.

3.4.5 Project Success

With respect to project success, respondents completed 06- item scales. Project success was measured by a scale developed by (Robey, 1993)Cronbachs Alpha of 0.633. It was dependent variable of present study. Sample questions for this construct are: project success is the team's adherence to budgets. Project success

is the team's adherence to the schedule. Project success is the quality of work the team produced.

TABLE 3.5: Scale for measurement

Variables	Authors	Items
Harmonious passion	Vallerand, Blanchard, Mageau, Koestner, Gagne, Ratelle and Leonard(2003)	7
Obsessive passion	Vallerand, Blanchard, Mageau, Koestner, Gagne, Ratelle and Leonard (2003)	7
Professionalism	Snizek(1972)	15
Computer self-efficacy	Haggerty(2011)	5
Project Success	Robey(1993)	6

3.5 Data Analysis Method

After the gathering of required data for the present study from 317 respondents, the data was analyzed on SPSS software version 20. I have done multiple steps for data investigation. The procedures are given below:

1. Firstly, all incomplete questionnaires were excluded before analysis.
2. After data collection researcher transfer all data in the SPSS 20 data sheet and coded all constructs of the questionnaire.
3. All coded constructs were used in the analysis.
4. Frequency tables were drawn to represent the demographic of respondents.
5. Then Reliability analysis of all constructs was conducted.
6. After the reliability analysis researcher analyzed the model fitness that was hypothesized.

7. Then the researcher explores the control variables.

8. In this step, the researcher performs one-way ANOVA analysis to test the effect of each demographics to the dependent variable.

9. To check the model first test was conducted which was Correlation analysis. The researcher checks whether the relationships between the research variables of the current study are significant or not.

10. To examine the projected hypothesis of independent and dependent single linear regression analysis was performed in SPSS 20.

11. Preacher and Hayes Processes 4 and 7 were followed for testing mediation and moderation between the independent and dependent variables.

12. By using correlation analysis and Preacher and Hayes processes, the researcher analyzed the proposed hypotheses to confirm the rejection and acceptance of the projected hypothesis.

3.6 Ethical Issues in Academic Research

New developments creates every day ethical issues in academic research so it required some ethical standard that must be followed by every researcher.

- Mention approval of the respondent.
- Discretion and secrecy
- Sharing the outcomes
- Results should be kept intimate

As the present study was investigating in different software companies and software houses of Rawalpindi Islamabad, for the collection of required data an application was proceed to the chief mangers of all observing firms for the purpose of permission required to collect the data. For the accurate results data accuracy is very

important. So a complete background knowledge and understanding of research nature it is compulsory to provide the details to the participant and make them assure the provided data will be kept highly confidential. Personal information was not asked and the respondents has the freedom to leave the study without researchers consent. (Sekara, 2000)

Chapter 4

Results

In this chapter, researcher explains the results of current study. Results of descriptive statistics, correlational analysis, reliability analysis, linear regression and moderated mediation regression analysis are illustrated in both tabular and descriptive form. Furthermore, researcher discussed findings and implications of current study and also explain plus points and limits of the current study. Future directions also mapped in this chapter.

4.1 Descriptive Statistics

Data were also analyzed for basic information of the collected sample. Basic statistics of all constructs like harmonious passion, obsessive passion, Professionalism, computer self-efficacy, and project success are in given below table. The minimum value, maximum value, mean and standard deviation are represented. The mean values depicts the responder's consent towards agreements and disagreements with the research questions. Higher mean values reveals respondents inclination toward agreement side and the lower value depicts inclination of respondents towards disagreement. It is very necessary to find descriptive statistics and very important for a study as the whole analysis include descriptive statistics for further processes.

TABLE 4.1: Basic calculations

	N	Minimum	Maximum	Mean	Std. Deviation
Harmonious passion	317	1.00	5	3.3037	0.78431
Obsessive passion	317	1.00	5	2.9757	0.77420
Project Success	317	1.50	5	3.3118	0.81508
Professionalism	317	1.93	5	3.2397	0.61537
Computer Self-Efficacy	317	1.60	5	3.2839	0.84218
Valid N (listwise)	317				

Table 4.1 represents the maximum and minimum value of a 5 points Likert scale it also shows the mean and standard deviation of the whole sample. The information shows that 317 was sample size the mean value of harmonious passion in the table was 3.30 and standard deviation was 0.78 shows that project managers agree that their harmonious passion effect on project. As the mean value of obsessive passion in the table was 2.97 and standard deviation was 0.77 shows that project managers agree that their obsessive passion effect on project.

The mean value of professionalism was 3.23 and standard deviation was 0.61 depicts that project managers are agree that their professionalism effects the project. The mean value of computer self-efficacy was 3.28 and standard deviation was 0.84 depicts that most of the project managers had an inclination towards agreement side.

4.2 Control Variable

The researcher performed one-way ANOVA by using SPSS 20. The researcher conduct one-way ANOVA to identify whether demographic variables are significantly effects dependent construct which is project success. The unique feature of control variables is there nature which is extraneous. Under this nature of variables we are not supposed to test these variables for hypothesis and theory of any study. The Purpose of this test is to identify one to one statistical significance

between demographic variables like age, gender, qualification and experience, and dependent variables.

As various studies showed the significance of demographic variables on projected associations (Hunter and Hunter, 1984; McDaniel et al., 1988; Allworth and Hesketh, 1999). In case, demographic variables affects the dependent variable, its impact will be controlled in further analysis. As the research focuses to study project managers, for that reason only those demographics and their impact on project success will be incorporated which are related to project managers.

TABLE 4.2: Control Variables for Project Success

Control Variables	F-value	Significance
Gender	1.272	.260
Age	9.52	.000
Qualification	11.32	.000
Experience	10.295	.000

As in table 4:2 represents the result of significant difference in project success across age (F=9.520, $p < 0.05$), qualification (F=11.320, $p < 0.05$), experience (F=10.295, p¡0.05) and the insignificant difference in project success across gender (F=1.272, $p > 0.05$).

Therefore, gender value illustrates insignificant relationships, which represent that there is no need to confound this control variable because it is not creating distortion in the observation of project success. As above mentioned that age, qualification, and experience have a significant difference in project success.

The researcher has not to include these variables in the analysis. Becker (2005) inspected a number of sample papers in which control variables were incorporated, His judgment was that more than half of research papers have not mentioned explanation of any control variable, and in more than 2/3 of research papers, there was not a single suggestion for insertion of any control variable.

4.3 Reliability Analysis

In the literature of psychometrics, uniformity of scale is known as reliability. (Carlson et al., 2009) mentioned a scale that provides the same results in multiple scenarios is called a reliable scale.

Table 4.3: Instrument reliability

Variables	Items	Reliability (Cronbach's alpha)
Harmonious passion	7	0.658
Obsessive passion	7	0.647
Professionalism	15	0.733
Computer self-efficacy	5	0.605
Project Success	6	0.633

In the above table: 4.3 Cronbach values of instruments are mentioned. A commonly accepted criterion of Cronbach alpha is α should be equal or greater than 0.6-0.7.However, values higher to 0.8 is also a good level of reliability. If α=0.95 it is not a good level of reliability because it may be a sign of redundancy (Hulin, Netemeyer, and Cudeck, 2001). Harmonious passion Cronbach's alpha value is 0.658 in the present study, obsessive passion Cronbach's value is 0.647, Cronbach's alpha value the of professionalism in this study is 0.733, the Cronbach's value of computer self-efficacy is 0.605 in the current study and Project Success Cronbach's is 0.651.

4.4 Correlation Analysis

Commonly correlation analysis is conducted to analyze the relationships between quantitative constructs.it is statistical representation of degree of relations between two constructs. In this present study main purpose of correlation analysis is to

investigate the correlation between the passion of project manager and project success with the mediation of professionalism and the moderation of computer self-Efficacy for validation of projected hypotheses. Correlation is considering to figure out variation between constructs that if these constructs are vary together at same period or not.

Correlation analysis measure the nature and intensity of relationship and present on the base of Pearson correlation values. The range of correlation Pearson value is -0.1 -0.1. Positive sign of value shows that constructs are moving toward in same positive or negative direction which shows direct relationship and negative sign of value shows that constructs are moving against direction of each other. Which shows indirect relationship of constructs.

Additionally, "r" value depicts the strength of the association. If the value of p is between 0.1-0.3 it shows weak correlation, the value between the range of 0.3-0.5 shows significant correlation and the p value >0.5 means highly correlated association. Correlation matrix for hypothesized constructs of current study are given below:

Table 4.4: Correlation matrix

Variables	1	2	3	4	5
Harmonious passion	1				
Obsessive passion	325**	1			
Project success	.542**	.290**	1		
Professionalism	.586**	.342**	.613**	1	
Computer Self-Efficacy	.479**	0.081	.572**	.587**	1

$**Correlationissignificantatthe0.01level(2-tailed).p<0.05, p<0.01$

In Pearson correlation analysis researcher did not include demographics in analysis. In table 4.3 researcher illustrate that there is a significantly moderated relationship exist among constructs according to Pearson value criteria. The positive and highly significant relation between the harmonious passion and professionalism as per (r=.586, p<0.01). The positive and significant association presented between the obsessive passion and professionalism, as per (r=.324, p<0.01). There is a

positive and significant association illustrated between the harmonious passion and computer self-efficacy as per (r=.479, p<0.01). It shows that positive and insignificant weak association between the obsessive passion and computer self-efficacy as per (r=.081, p =0). There is positive and highly significant association presented between the harmonious passion and project success as per (r=.542, p<0.01). There is weak insignificant correlation revealed between the obsessive passion and project success as per (r=.290, p<0.01). There is a positive and highly significant association between the computer self-efficacy and professionalism as per (r=.587, p<0.01).

4.5 Regression Analysis

To evaluate the association between all constructs Pearson correlation analysis was used that was not enough for hypotheses support because correlation analysis has not provided any indication of causal association for that reason regression analysis is used to discover the evidence of the causal association between research constructs. Regression analysis is a statistical analysis tool. This analysis tool helps to identify the dependencies of one construct to another construct. We have two types of regression analysis, simple (linear) regression, and multi regression. In this present study, the researcher used both types of regression. In simple or linear regression, the researcher established a causal association between two constructs, and in multi regression established associated among all research constructs including mediator and moderator. There are three tables of linear regression given below:

4.5.1 Linear Regression

Hypothesis 1 stated that harmonious passion positively affect project success. Illustrated results in table shows strong evidence in support of projected hypothesis.

Results proposed that there was three control variables including age, qualification, and experience, these demographics were included in analysis. According to results harmonious passion has positive and highly significant association with project success as per value of regression coefficient (β=.515; P>0.000) and the value (R^2=0.376) which means harmonious passion brings 36% change in project success. The value of ΔR^2 in the table 4.5 shown .368 which depicts that if the biases are omitted the effect decreases to .368.

TABLE 4.5: Linear regression analysis result with respect to harmonious passion

Predictors	Project Success			
	β	t	R^2	ΔR^2
Step 1			0.146	
Control Variables				
Age	-0.279			
Qualification	0.223			
Experience	-0.19			
Step 2				
Constant	1.982			
Age	-0.2			
Education	0.117			
Experience	-0.189			
Harmonious passion	0.515	10.7	0.376	0.368

Table values are unstandardized beta weights.

[a] *n = 317*

**** Correlation is significant at the 0.000 level*

Hypothesis 2 stated that obsessive passion positively affect project success. Illustrated results in table shows 4.6 positively weak evidence in support of projected hypothesis. Results proposed that there was three control variables including age, qualification, and experience, these demographics were controlled in analysis. According to results obsessive passion has positive weak and significant association with project success as per value of regression coefficient (β=0.288; P>0.000) and the value (R^2=0.221) which means obsessive passion brings 22% change in project success. The value of ΔR^2 in the table 4.6 shown .211 which depicts that if the biases are omitted the effect decreases to .211.

TABLE 4.6: Linear regression analysis result with respect to obsessive passion

Predictors	Project Success			
	β	t	R^2	ΔR^2
Step 1			0.146	
Control Variables				
Age	-0.276			
Qualification	0.223			
Experience	-0.19			
Step 2				
Constant	2.762			
Age	-0.288			
Qualification	0.203			
Experience	-0.188			
Obsessive passion	0.288	5.455	0.221	0.211

Table values are unstandardized beta weights.

[a] *n = 317*

**** Correlation is significant at the 0.000 level*

4.5.2 Multi Regression

(Hayes, 2013) process macros have been used to measure mediation and moderation of present research. The researcher used mediation analysis to analyses the mediation role of professionalism between harmonious passion and project success, and between obsessive passion and project success. For this analysis model 4 of (Hayes, 2013) process macros were used.

Additionally, the researcher used (Hayes, 2013) model 1 for moderation analysis to analyses the moderation role of computer self-efficacy between harmonious passion and professionalism, and between obsessive passion and professionalism. As in chapter 2 researcher mentioned the research model is a moderated mediation model to cope with the same nature, model 7 of (Hayes, 2013) was used.

Hypothesis 3 projected that harmonious passion has a positive significant effect on professionalism. The results of this table support the projected hypothesis with the coefficient value of 0.43 which means harmonious passion has a low but significant impact on professionalism.

TABLE 4.7: Multi regression, Mediation for harmonious passion

	β	SE	T	R^2
Mediator variable model: Professionalism				0.41
Constant	2.00	0.14	13.65	
Harmonious passion	0.43	0.03	12.25	
Age	-0.03	0.05	-0.54	
Qualification	0.07	0.02	2.61	
Experience	-0.17	0.03	-5.27	
Dependent variable model: Project success				0.46
Constant	0.96	0.23	4.08	
Harmonious passion	0.29	0.054	5.45	
Professionalism	0.5	0.07	7	
Age	-0.18	0.07	-2.6	
Qualification	0.07	0.03	2.11	
Experience	-0.10	0.04	-2.38	
	Effect	SE	LL 95 %CI	UL 95 %CI
Indirect effect of harmonious passion on project success				
Professionalism	0.21	0.03	0.1471	0.2945

N=317, Unstandardized regression coefficient are reported. Bootstrap sample size = 5000
LL lower limit, CI confidence interval, UL upper limit
$*p < 0.05; * * p < 0.01$

Hypothesis 6 assumed that professionalism has a mediation effect between the relationship of harmonious passion and project success. The results are drawn in the above table, exhibiting valid evidence in support of the projected hypothesis. The table no 4.7 exhibits that indirect effect of harmonious passion on project success has the lower level confidence interval and upper level confidence interval of .1471 and .2945 with same + sign and no zero exist in the range of ULCI and LLCI which means there is a mediation of professionalism between the relationship of harmonious passion and project success.

Illustration of unmediated model

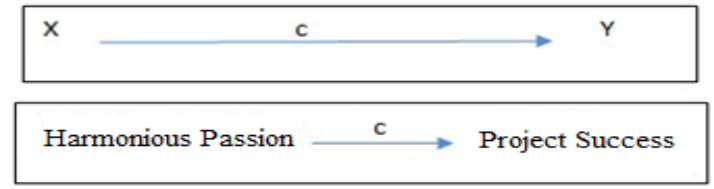

FIGURE 4.1: Unmediated Model of harmonious passion

A Path between x and y is known as the total effect which is labeled by c. The effect of harmonious passion on project success might be mediated by professionalism. The mediating construct denoted by M. The mediation model is:

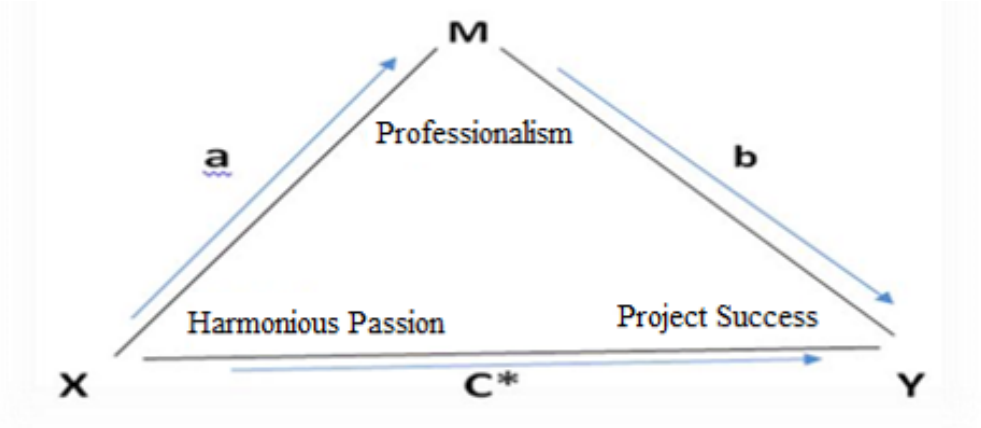

FIGURE 4.2: Mediated Model of harmonious passion

Figure 4.3 illustrates the indirect effects of professionalism on project success. The coefficients of the paths: (a, b, c,c') are plotted in the below figure:

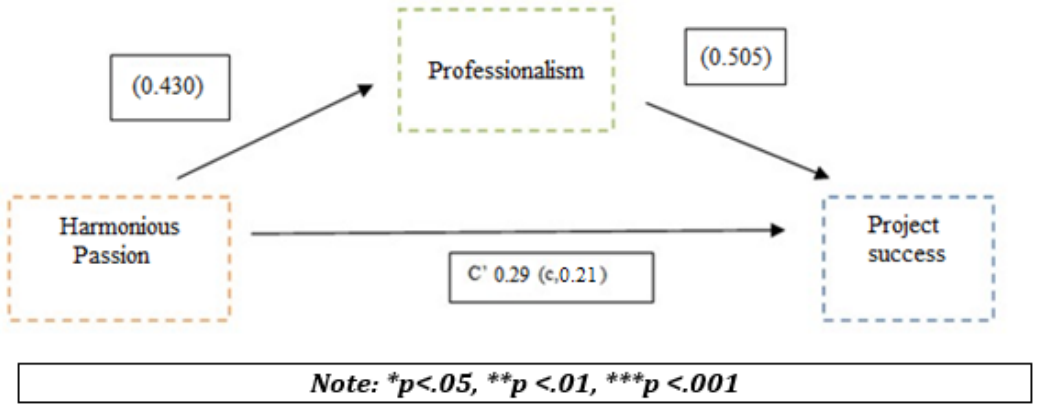

FIGURE 4.3: Coefficients of mediated model of harmonious passion

Hypothesis 4 projected that obsessive passion has positive significant effect on professionalism. The results of this table support projected hypothesis with the coefficient value of 0.25 which means obsessive passion has low but significant impact on professionalism.

Hypothesis 5 stated that professionalism positively affect project success. Illustrated results in table 4.8 shows strong evidence in support of projected hypothesis.

TABLE 4.8: Multi regression, Mediation for obsessive passion

	β	SE	T	R^2
Mediator variable model: Professionalism				0.23
Constant	2.61	0.15	16.52	
Obsessive passion	0.25	0.03	6.5	
Age	-0.1	0.06	-1.66	
Qualification	0.14	0.03	-4.58	
Experience	-0.16	0.03	-4.58	
Dependent variable model: Project success				0.41
Constant	0.99	0.25	3.95	
Obsessive passion	0.11	0.04	2.35	
Professionalism	0.67	0.06	10.31	
Age	-0.21	0.07	-2.96	
Qualification	0.1	0.03	2.7	
Experience	-0.07	0.04	-1.64	

	Effect	SE	LL 95%CI	UL 95%CI
Indirect effect of obsessive passion on project success				
Professionalism	0.17	0.03	0.1104	0.2425

N=317, Unstandardized regression coefficient are reported. Bootstrap sample size = 5000
LL lower limit, CI confidence interval, UL upper limit
$*p < 0.05; * * p < 0.01$

Results proposed that there was three control variables including age, qualification, and experience, these demographics were included in analysis. According to results professionalism has positive and highly significant association with project success as per value of regression coefficient (β=.67; P>0.001).

Hypothesis 7 assumed that professionalism has a mediation effect between the relationship of obsessive passion and project success. The results are drawn in the above table, exhibiting valid evidence in support of the projected hypothesis.

Above table no 4.9 exhibits that indirect effect of obsessive passion on project success has the lower level confidence interval and upper level confidence interval

of .1104 and .2454 with same + sign and no zero exist in the range of ULCI and LLCI which means there is a mediation of professionalism between the relationship of obsessive passion and project success.

Illustration of unmediated model

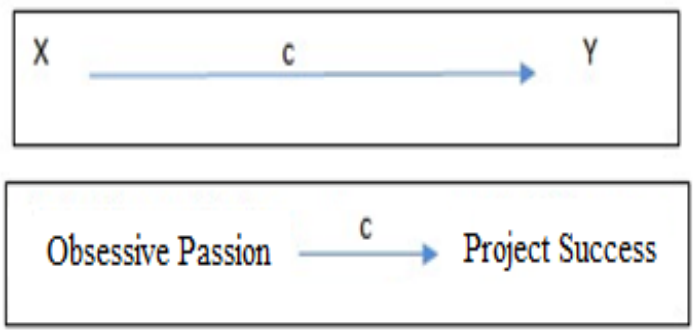

FIGURE 4.4: Unmediated Model of obsessive

A Path between x and y is known as the total effect which is labeled by c. The effect of obsessive passion on project success might be mediated by professionalism. The mediating construct denoted by M. The mediation model is:

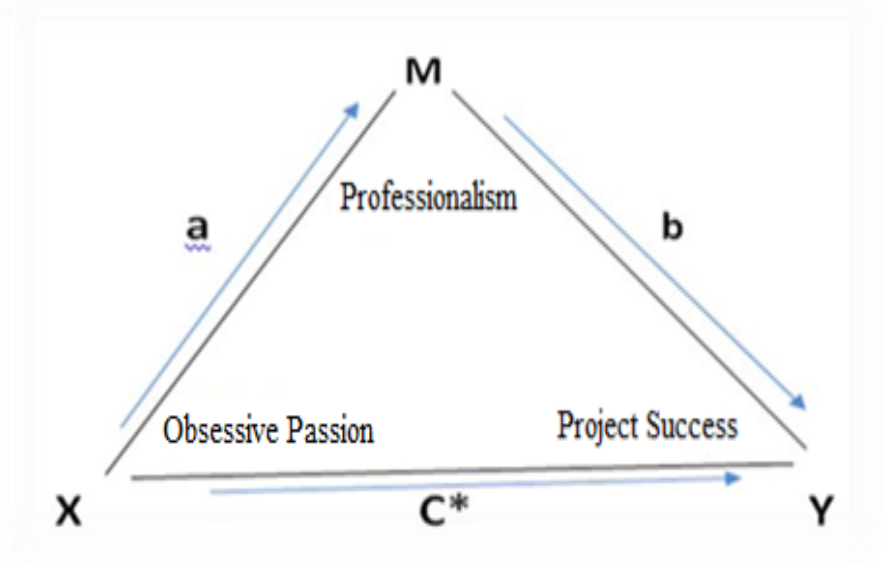

FIGURE 4.5: Mediated Model of obsessive passion

Figure 4.6 illustrates the indirect effects of professionalism on project success. The coefficients of the paths: (a, b, c,c') are plotted in the below figure:

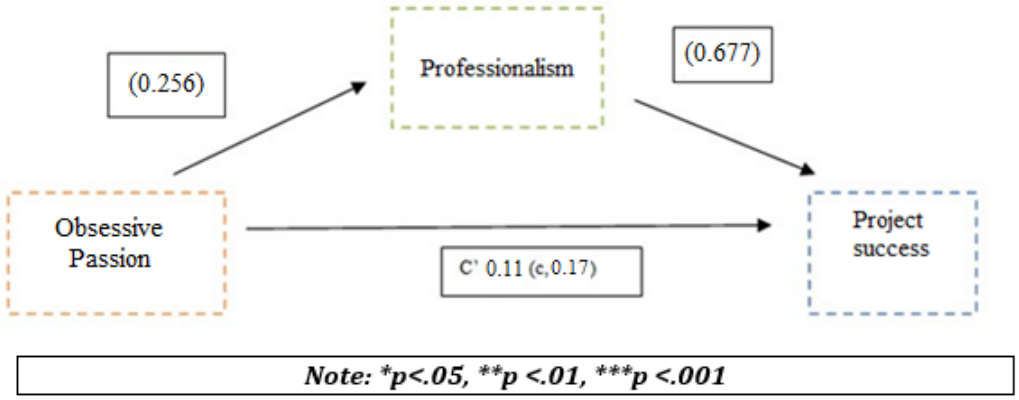

FIGURE 4.6: Coefficients of mediated model of obsessive passion

Moderation

TABLE 4.9: Multi regression, Moderation for harmonious passion

Variables	B	SE	T	P	LL 95% CI	UL 95% CI
Constant	3.991	0.443	8.991	0.0000	3.1177	4.8646
Int term	0.2262	0.035	6.468	0.0000	0.1574	0.295

The researcher established the moderation hypothesis. Hypothesis 8 assumes that computer self-efficacy moderates the relationship between harmonious passion and professionalism such that harmonious passion will have a stronger positive link with the professionalism of project managers who have high computer self-efficacy than those who have not much computer self-efficacy.

In above table 4.10, shown results are evidence in support of hypothesis 8. Because the interaction term of "harmonious passion and computer self-efficacy" has moderating effect on the link of "harmonious passion and professionalism" with the LLCI and ULCI of 0.1574 and 0.2950 having same + signs and no zero between the range of LLCI and ULCI.

Same as interaction term of harmonious passion and computer self-efficacy depicted positive and significant regression coefficient (B=0.226, p>0.05) which shows that computer self-efficacy has moderating effect on the link of harmonious passion and professionalism thus harmonious passion have stronger positive link with professionalism of project managers who have high computer self-efficacy

than those who have not much computer self-efficacy. Therefore, researcher stated that hypothesis 8 confirms moderation.

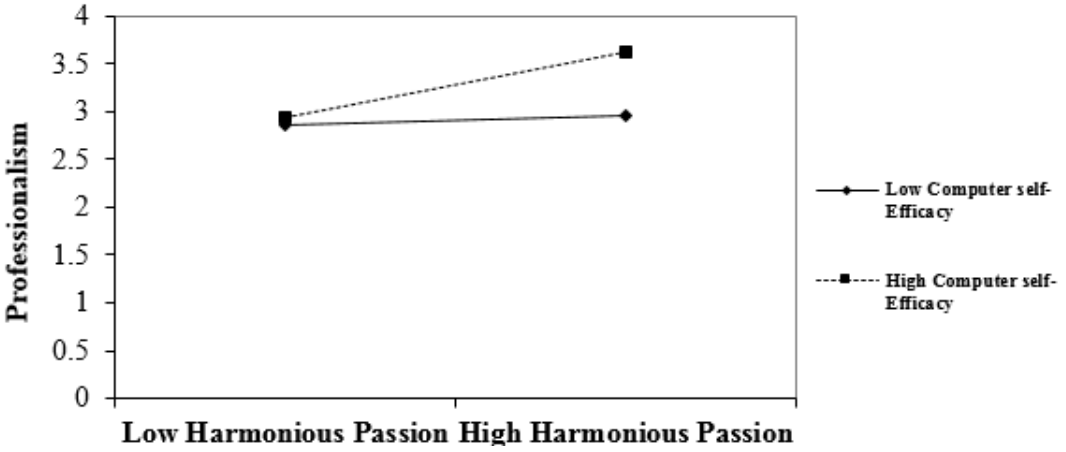

FIGURE 4.7: Interaction Graph of harmonious passion

TABLE 4.10: Multi regression, Moderation for obsessive passion

Variables	β	SE	t	P	LL 95% CI	UL 95% CI
Constant	2.093	0.436	4.797	0.0000	1.2345	2.9514
Int term	0.0697	0.0361	1.931	0.0540	-0.0013	0.1407

The researcher established the moderation hypothesis. Hypothesis 9 assumes that computer self-efficacy moderates the relationship between obsessive passion and professionalism such that obsessive passion will have a stronger positive link with the professionalism of project managers who have high computer self-efficacy than those who have not much computer self-efficacy.

In above table 4.11, shown results are against the support of projected hypothesis 9. Because the interaction term of "obsessive passion and computer self-efficacy" has not moderating effect on the link of "obsessive passion and professionalism" with the LLCI and ULCI of -0.0013 and 0.1407having opposite signs and there is zero between the range of LLCI and ULCI.

Same as interaction term of obsessive passion and computer self-efficacy depicted insignificant regression coefficient (β=0.069, p>0.05) which shows that computer self-efficacy has not moderating effect on the link of obsessive passion and professionalism thus obsessive passion has no link with professionalism of project

managers who have high computer self-efficacy. Therefore, researcher stated that hypothesis 9 is rejected.

4.5.3 Moderated Mediation

Table 4.11: Moderated-mediation of harmonious passion

Mediator Computer Self-Efficacy	Indirect effect	SE	Boot LL	Boot UL
Condition Indirect effects at M 1 SD				
Professionalism -1 SD	0.0363	0.023	-0.013	0.082
Professionalism M	0.1341	0.025	0.087	0.187
Professionalism +1 SD	0.2319	0.039	0.16	0.312

Table 4.12: Index of Moderated-mediation of harmonious passion

Mediator	*B*	SE(Boot)	Boot LL 95% CI	Boot UL 95% CI
Professionalism	0.116	0.0231	0.0758	0.166

Hypothesis 10 supposes that Computer self-efficacy of project manager will moderate the indirect effect of harmonious passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high. Table 4.12 shown results are evidence in supports of projected hypothesis.

Researcher examine Computer self-efficacy on three levels of mean: first at SD, second at mean and third at +SD to analyze conditional indirect effects of project manager's harmonious passion on project success through project manager's professionalism.

Results are plotted in table 4.12. As predicted, the conditional indirect effects of harmonious passion on project success through project manager's professionalism is stronger with project manager's computer self-efficacy with the same sign of LLCI and ULCI and the indirect effect was significant (B= 0.2319). In above table 4.12 The indirect effects of harmonious passion on project success with mediation of project manager's professionalism is significant as indicated by same signs of

the range of BootLLCI and BootULCI with the value of 0.0758 and 0.1660. So projected hypothesis 10 is supported.

Table 4.13: Moderated-mediation of obsessive passion

Mediator Computer Self-Efficacy	Indirect effect	SE	Boot LL	Boot UL
Condition Indirect effects at M 1 SD				
Professionalism -1 SD	0.1014	0.035	0.035	0.173
Professionalism M	0.1416	0.026	0.093	0.195
Professionalism +1 SD	0.1819	0.033	0.119	0.254

Table 4.14: Index of Moderated-mediation of obsessive passion

Mediator	*B*	SE(Boot)	Boot LL 95% CI	Boot UL 95% CI
Professionalism	.0477	0.0265	-.0043	.1006

Hypothesis 11 claim that Computer self-efficacy of project manager will moderate the indirect effect of Obsessive passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high.

Table 4.13(a) shown results are not in supports of projected hypothesis. Researcher examine Computer self-efficacy on three levels of mean: first at SD, second at mean and third at +SD to analyze conditional indirect effects of project manager's obsessive passion on project success through project manager's professionalism. Results are plotted in table 4.13 (a).

As predicted, the conditional indirect effects of obsessive passion on project success through project manager's professionalism is stronger at higher level (+1 SD) of project manager's computer self-efficacy with the same sign of LLCI and ULCI, and the indirect effect was low significant (B= 0.1819) with same signs of LLCI and ULCI.

However in above table 4.13 (b) index of moderated mediation are plotted which shows that there was insignificant regression coefficient value of (B=.047) with the opposite signs of confidence interval range BootLLCI and BootULCI with value of -.0043 and .1006, which depicts there are insignificant indirect effect of

obsessive passion on project success with mediation of project's professionalism is not supported. So projected hypothesis 11 is rejected.

4.6 Summary of Hypotheses

TABLE 4.15: Summary of Hypothesis

Hypotheses	Statements	Result
H_1	Harmonious passion has positive impact on project success	Supported
H_2	Obsessive passion has positive impact on project success	Supported
H_3	Harmonious passion has positive impact on professionalism	Supported
H_4	Obsessive passion has positive impact on professionalism	Supported
H_5	Professionalism has positive impact on project success.	Supported
H_6	The level of professionalism positively mediating the relationship between harmonious passion and project success.	Supported
H_7	The level of professionalism positively mediating the relationship between obsessive passion and project success.	Supported
H_8	Positive relationship between Harmonious passion and project success will be stronger when computer self-efficacy is high.	Supported
H_{10}	Computer self-efficacy of project manager will moderate the indirect effect of harmonious passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high.	Supported
H_{11}	Computer self-efficacy of project manager will moderate the indirect effect of obsessive passion on project success via project manager professionalism; the mediated relationship will be stronger when computer self-efficacy is high.	Not supported

Chapter 5

Discussion and Conclusion

5.1 Introduction

By the instrumentality of the dualistic model of passion (Vallerand, 2016), the purpose of the current research was to suggest and analyze a model of passion for virtual project success. For this reason, data from project-based software organizations in twin cities of Pakistan was collected. As projected, the findings of the study were mapped with hypothesized model. Above all, the findings exposed that harmonious passion, obsessive passion, and professionalism are the precursors of project success. In this association, the effect of harmonious passion and obsessive passion on project success was fostered through project managers professionalism. Furthermore, the results depicts that computer self-efficacy of project managers who are harmoniously passionate strengthened the relationship between harmonious passion and project managers professionalism moreover computer self-efficacy of project managers who are obsessively passionate have not significant effect on the association between obsessive passion and project managers professionalism. This section of study reveals conclusion on based of results, recommendation, managerial implications and a new lens for future research. This chapter also mapped the findings which for practical implication of study. Every research have limitations, this part also concluded limitations of current study.

Recommendations and further directions are directed for researchers which are grounded on limitations of current study.

5.2 Conclusion

The purpose of this current study is to examine the effect of harmonious passion and obsessive passion on project success via professionalism with moderation effect of project managers self-efficacy. This study was plotted on software industry in Pakistan by incorporating the fact that software industry is from one of the virtually operated industries. The data was collected by online survey from the project managers of software companies and software houses in Rawalpindi and Islamabad. The respondents are mainly the individuals who are managing projects of software industry virtually. The findings of current study confirmed existing literature and also matched with researcher expectancy.

Firstly, it is identified that harmonious passion of project manager play a significant role in project success. Additionally, there was less work done on harmonious passion for project success. In this study researcher concluded after deep literature review of recent studies and data analysis. To examine or to observe the impact of harmonious passion on project success, each variable of the study tested thoroughly. Besides harmonious passion, the researcher also inspect the impact of obsessive passion on project success which leads to low significant results. Moreover, the mediator of the present study i.e. professionalism also tested for each dimension of passion separately by old literature and statistic mediation process.

After reviewing previous literature and data analysis, an association between dependent and independent via mediation have originated statistically high significant and low significant. Results shown that harmonious passion bring professionalism in project managers which leads to project success but on other side obsessive passion do not bring that much professionalism in project managers as compare to harmonious passion.

Before the pandemic of COVID-19 project managers worked at companies and software houses. They were performing their duties at work place in required work environment. Whereas the factor of passion was not so dominant. As now project managers are working from home they have not that environment, so at this time only project managers with harmonious passion and high level of computer self-efficacy are performing best. Their projects are leading to success. On other hand project managers with obsessive passion are not working so professionally because they are rigid and controlled by their passion. This study was mainly focused on project success which is ultimate target for project managers.

Project managers do projects with the expectation of project success like we talk about software industry. Project managers may expect successful projects. Theses expectation can fulfill by professionalism, computer self-efficacy and passion. Data analysis perceived the importance of proposed model. This model is also statistical significant with the evidence from literature. Harmoniously passionate project managers are willing to adopt new work environment and ready to learn required computer applications will bring professionalism in them and ultimately they leads to project success. Current study stated that obsessively passionate project managers are appropriate mangers to get project successful because they are rigid to adopt new environment and computer applications until their obsession is not toward their duties.

5.3 Recommendations

Present study examined the impact of project managers passion and its moderated effect by computer self-efficacy on their professionalism which leads to project success. The main objective of current study was to evaluate harmoniously and obsessively passionate project managers role in project success. The current study will help all software companies and software houses which are operating virtually and to project managers who are managing their software projects virtually.

They can easily align their passion with their professionalism by choosing right dimension of passion.

It is essential for software industry to keep project managers harmoniously passionate during this pandemic because only harmoniously passionate project managers can adopt changes of environment and keep software projects according to plan.

After revealing the current study, companies and project managers can easily spot the effect of harmonious and obsessive passion on project performance. This study will be useful for software industry to design their selection criteria of project managers that will be in favor of harmoniously passionate candidates which help companies to cope with unexpected work place changes.

5.4 Managerial / Practical Implications

The aim behind plotting present study is to reveal the form of association between project managers passion of work and its effect on success of project along with the computer self-efficacy moderated factor of professionalism.

The purpose of this study is to recognize or to analyze moderate connection between passion and project success. Furthermore, the moderated role of professionalism strengthens the relationship of passion and project success. The scope of this current study is software industry of Pakistan.

Data were collected from project managers of software industry operated from Rawalpindi and Islamabad.

To meet deadlines and to keep customers satisfy projects should be on time. Companies should keep remind that computer self-efficient and harmoniously passionate project manager can only align customer requirement with deadline in specific budget.

Furthermore, present study helps to project managers in balancing their passion because obsessive passion also have slight direct effect on their professionalism,

reason is that cognitive process is not separate from obsessive passion. Project managers have to support their passions to be harmonious with their work.

Current study will be useful for companies to hire right person according to new dynamics of work place.

5.5 Research Limitations

Mostly research studies have limitation, the current study also bounded in limitations: some of them are given below:

First, present study was based on the dualistic model of passion, which gives provision for the sequence of established relationship which are harmonious and obsessive passion with computer self-efficacy to professionalism to project success. Although, this does not drive out the real picture that there are some substitutional details to the relationship theorized.

Second, the present study was a cross sectional due to limited range of time and resources.

Third, Convenience sampling technique were used for data collection. There was limitation of sample size and were collected only from Rawalpindi and Islamabad. Researchers can take large sample size with different sampling technique.

Fourth, in present study the sample size was limited to software industry of Pakistan which makes difficult the generalizability of the findings. Researcher can apply this research model on any other sector such as telecommunications sector.

Fifth, the present study did not use three way interaction as results shows that computer self-efficacy strengthening the relationship of harmonious passion and professionalism.

Lastly, the construct of computer self-efficacy used as moderator researcher would suggest another dimension of virtual work competency which is remote work self-efficacy should be studied as new moderator in this research model.

5.6 Future Directions

There is always remaining capacity in everything which give help in defining future direction. Future should would be longitudinal. Data can be gathered by different technique and different sample instead of questionnaire, structural interviews can be conducted it would be helpful to make strong association between passion and project success. Furthermore, a moderating variable of remote work self-efficacy and project manager personality traits may also be included in future study.

Moreover, future researchers may conduct same research in some other sectors. As the current study was conducted on software industry in Pakistan, future studies may examine the same model by considering the telecommunication sector, education sector, and other service sector in Pakistan or worldwide. The future research can be simulated on different cultural context because each country has its own culture so that will help in forecasting whether the results are same for other cultures or not.

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Appendix A

CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Department of Management Sciences

Questionnaire

Dear Participant,

I hope you will be doing well. I am the student of MS Project Management at Capital University of science and technology Islamabad. I am conducting a research on a topic titled "**Investigating the Impact of Project Manager's Passion during COVID-19 on Projects' Success via Mediation of Professionalism and Moderation of Computer Self-efficacy**". You can help me by completing the attached questionnaire; it will take only 10-15 minutes and I am sure that you will find it quite interesting. I appreciate your participation in my study and I assure you that your responses will be held confidential and will only be use for education purposes.

Thanks a lot for your help and support!

Sincerely,

Iqra Nawaz

MS Scholar

Faculty of Management and Social Sciences

Capital University of Science and Technology,

Islamabad

Section 1: Demographics

Gender:	1 (Male) 2 (Female)
Age:	1 (21-30), 2 (31-40), 3 (41-50), 4 (51-60)
Qualification:	1 (Undergraduate), 2 (Graduate), 3 (Master), 4 (MS/M.Phil), 5 (PhD)
Experience:	1 (0-5), 2 (6-10), 3(11-15), 4(16-20)

Section 2: Passion

The following section concern with your passion. For each item of the statement below, indicate the extent of your agreement or disagreement by the ticking the appropriate number.

Where (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree)

PH1	This job allows me to live a variety of experiences	1	2	3	4	5
PH2	The new things that I discover with this job allow me to appreciate it even more	1	2	3	4	5
PH3	This job allows me to live memorable experiences	1	2	3	4	5
PH4	This job reflect the qualities I like about myself	1	2	3	4	5
PH5	This job is in harmony with the other activities in my life	1	2	3	4	5
PH6	For me it is a passion that I still manage to control.	1	2	3	4	5
PH7	I am completely taken with this job	1	2	3	4	5
PO8	I cannot live without it.	1	2	3	4	5

PO9	The urge is so strong. I cant help myself from doing this job.	1	2	3	4	5
PO10	I have difficulty imagining my life with this job.	1	2	3	4	5
PO11	I am emotionally dependent on this job.	1	2	3	4	5
PO12	I have a tough time controlling my need to do this job.	1	2	3	4	5
PO13	I have almost an obsessive feeling for this job.	1	2	3	4	5
PO14	My mood depends on me being able to do this job.	1	2	3	4	5

Section 3: Project Success

The following section concern with your project success. For each item of the statement below, indicate the extent of your agreement or disagreement by the ticking the appropriate number.

Where (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree)

PS1	Project success is the amount of work the team produced.	1	2	3	4	5
PS2	Project success is the efficiency of team operations.	1	2	3	4	5
PS3	Project success is the team's adherence to budgets.	1	2	3	4	5
PS4	Project success is the team's adherence to the schedule.	1	2	3	4	5
PS5	Project success is the quality of work the team produced.	1	2	3	4	5
PS6	Project success is the effectiveness of the team's interactions with people outside the team.	1	2	3	4	5

Section 4: Professionalism

The following section concern with your passion. For each item of the statement below, indicate the extent of your agreement or disagreement by the ticking the appropriate number.

Where (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree)

P1	I think that my profession is essential to society.	1	2	3	4	5
P2	I think that my profession, more than any other, is essential for society.	1	2	3	4	5
P3	The benefits that my profession gives to society are understated.	1	2	3	4	5
P4	My fellow team members have a pretty good idea about each other's Competence.	1	2	3	4	5
P5	There is not much opportunity to judge how a fellow team members does their work.	1	2	3	4	5
P6	Team members ought to be given the opportunity to make decisions about project management issues.	1	2	3	4	5
P7	The conclusions made by team members are rightly subject to detailed review by their supervisor.	1	2	3	4	5
P8	It is encouraging to see a team members that is idealistic about his or her work.	1	2	3	4	5
P9	I would stay in my profession even if I had to take a slight pay Cut.	1	2	3	4	5
P10	People in my profession have a real "calling" for their work.	1	2	3	4	5
P11	The dedication of people in my profession is most Gratifying.	1	2	3	4	5
P12	I subscribe to, and systematically read journals and other professional publications.	1	2	3	4	5

P13	I regularly attend and participate in meetings of the local chapter of my profession.	1	2	3	4	5
P14	I often engage in the interchange of ideas with team member from other organizations.	1	2	3	4	5
P15	I believe that professional organization(s) should be supported.	1	2	3	4	5

Section 5: Computer Self-Efficacy

The following section concern with your passion. For each item of the statement below, indicate the extent of your agreement or disagreement by the ticking the appropriate number.

Where (1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree)

CSE1	I could complete my job using a new software package if I had never used one like this before..	1	2	3	4	5
CSE2	I could complete my job using a new software package if there is no one around to tell me what to do as I go.	1	2	3	4	5
CSE3	I could complete my job using a new software package if I had only the manuals for reference.	1	2	3	4	5
CSE4	I could complete my job using a new software package if I could call someone for help if I got stuck.	1	2	3	4	5
CSE5	I could complete my job using a new software package if I had seen someone else using it before trying it myself.	1	2	3	4	5