The Effect of High Risk Behavior on Project Success in the Existence of Competency of Project Manager as a Moderator

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Abstract
Efficient project management is necessary for the success and survival of information technology sector of Pakistan in this rapidly changing technology era. The aim of the study is to check the complex relation among high risk behavior and success of projects in the information technology sector of Pakistan by keeping in place competency of project managers as a moderator. Consideration of efficient project management and rapidly technological changes is necessary for success of information technology sector as this sector is facing worldwide competitiveness and plenty of risk of failure. Instant study contains 330 sample size from information technology sector of Pakistan. Quantitative technique is used in this study. Theoretical framework of this study built on the relationship of high risk behavior, project manager competency and project success of information technology sector of Pakistan. The core motive of this study is to check the effect of high risk behavior in the projects on the success of information technology sector projects of Pakistan in the existence of competency of project managers as a moderator. Data analysis and findings of this study reflects that there is positive association among high risk behavior and success of information technology projects and competency of projects managers positively enhances this relationship. Both hypothesis of the study accepted. This study is important for both researchers and practitioners. From researchers' point of view, it opens more avenues for further research and for practitioners it gave recommendations for enhancement of the success of the projects that ultimately leads to success of that organization

Keywords: High Risk Behavior, Project Success and Competency of Project Manager

1. Introduction

Information technology sector of Pakistan got progress in few years radically by reflecting itself in the world of technology. Projects of IT sector by nature are considered riskier as compared to other sector projects. Although high risks behavior is recognized as an important aspect of project management, it can be difficult to understand how they affect project success in the context of Pakistan's IT industry. For all enterprises and stakeholders, good IT project management is the goal. Over the last two decades, academics have been interested in the success or failure of IT initiatives. Completing IT projects late, over budget, and not in accordance with requirements resulted in significant failure rates. Failures can jeopardize the company's survival (Bloch et al., 2016). According to MGI data, large IT projects provided 56% less value than predicted in 2012, with an average of 45% over budget and 7% over schedule. According to the Standish Group's 2014 survey, just 12% of projects were finished on time and on budget.

The rationale for this research is the need to fill gaps in the current body of evidence about the relationship between high risk behavior, project success, and project manager skills in Pakistan's IT industry. While the literature has addressed each of these elements independently, a thorough analysis of their interactions is necessary to fully understand the nature of project management in this particular setting. When it comes to IT initiatives, high risks attitude involves intentionally exposing oneself to uncertainty with the hope of seizing opportunities or making money. Taking calculated risks is often considered essential to innovation and gaining a competitive edge in the IT industry. But managing risks requires a delicate balance, since too much risk-taking can result in project failure, monetary losses, and damage to one's image. Creating an efficient risk management plan requires an understanding of the unique risk environment that Pakistan's IT industry faces.

Prior research has looked at the relationship between high risk behavior and project success in a variety of contexts, but because Pakistan's IT industry is so distinct, a more focused analysis is needed. Situations that might not exist in other areas, such infrastructural problems, skill shortages, and geopolitical instability, present certain dangers. This study aims to offer context-specific insights on the nature and impact of high risk behavior in project management by concentrating on the Pakistani IT industry.

Since they are responsible for controlling risks, formulating strategic plans, and guaranteeing the project's success, project managers are crucial to the implementation of IT projects. There is a claim that the diverse range of skills, knowledge, and abilities that make up project management competency may act as a moderator in the link between high risks behavior and project success. Effective risk identification, analysis, and control are essential for a project manager to minimize any possible negative impact risks may have on the project's outcomes. While project management research recognizes the importance of project manager competency, there is less information available about how it influences high risk behavior in Pakistan's IT industry. The aim of this research is to enhance comprehension of the relationship between project management proficiency and high risk behavior. The

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outcomes of this study should be utilized to construct project managers' particular training programs and competency frameworks in Pakistan's IT industry.

First, this study aims to explore the connection among high risk behavior and project success in Pakistan's IT sector. Secondly, it will look at the moderating impact of project manager competency on this connection. Lastly, based on research results, it will offer suggestions and practical insights for enhancing project management practices in the nation's IT sector. To achieve these objectives, a quantitative research approach is employed, with a sample size of 330 people from various IT-related businesses. Using this strategy, organized data can be acquired and submitted to rigorous statistical analysis, allowing informative conclusions to be drawn about the dynamics of risk-taking, project success, and project manager competency in Pakistan's IT industry. The study's methodology, literature review, findings, and implications will all be thoroughly discussed in the sections that follow, perhaps adding to the current discourse concerning effective project management in Pakistan's rapidly evolving IT sector.

2. Literature Review

Does risk management influence project outcomes? Academics and practitioners have long recognized the importance of this subject. Particularly in the information technology (IT) industry, where projects have a history of failing, the results of risk management are quite interesting. This interest dates back to the 1970s and is based on an article by Alter and Ginzberg (1978) that suggests ways to deal with the wide range of possible outcomes and identify the major inconsistencies at every phase of the planning process in order to increase the probability of effective MIS execution. The debate over the millennium changeover, known as the "Y2K problem" in IT circles, exemplifies the general challenge of demonstrating the impact of something meant to prevent something else from happening. A substantial amount of money was spent in the late 1990s attempting to find out and fix computer software that was deemed to be incapable of handling the evolution from 1999 to 2000. However, no severe computer issues occurred during the actual transfer.

Regarding project success, it is considered that improved knowledge leads to more accurate estimations of the time and resources necessary to complete the project, as well as a better grasp of the anticipated goals (Chapman and Ward, 1997). Project risk management is thought to improve project planning, budgeting, and design, increasing the chances of success. The literature uses two ways to discuss project risk management: the assessment approach and the management approach. The assessment technique defines risk management as an analytical procedure targeted at detecting risk aspects. Ex-post data on project failure and its reasons is acquired, and this data is ideally used in risk identification checklists or to structure and manage risks in subsequent projects. Since the information obtained is used to upcoming projects, risk management indirectly helps to project success. According to the management perspective, risk management is a technique for managing information received and analyzed to help in project decision-making. This strategy focuses on controlling the risks that are specific to the project at hand rather than looking for broader concerns. Checklists can be used throughout the risk identification process, although project-specific risks are the primary emphasis. As a result, informal techniques of obtaining information, such as brainstorming sessions, are commonly used. In the end, the risk management plan contributes directly to the project's success.

Traditionally, a project's success has been measured by its timeline, budget, and requirements. These standards are still frequently applied in reporting on project performance in IT projects, despite being heavily criticized (Royal Academy of Engineering, 2004). According to Turner and Cochrane (1993), the vendor's or supplier's interests are the only ones considered when determining the time, money, and criteria for project success. De Wit (1988) underlined a few years ago how important it is to include the perspectives of all stakeholders when establishing what defines a successful project. At the start of a project, when uncertainty is at its highest and it is nearly hard to set appropriate limitations and goals, time, money, and requirements are all placed.

Project management, which has its roots in engineering, works on the assumption that following processes and standards "per the handbook's rules" would definitely result in effective project outputs. It is necessary to correctly execute or modify a project's methods and processes when it fails (Chen et al., 2009). When a project fails, its processes and procedures must be properly executed or improved (Chen et al., 2009). Despite some debate (Cicmil et al., 2006), the functionalist instrumental view of projects is prominent in the research on management of risk and success in IT projects. According to this viewpoint, risk is defined as any event or occurrence that disrupts the schedule and jeopardizes the well-timed completion of project outputs inside the specified budget. Furthermore, it is considered that project success may be predicted from the start in terms of time, costs, and outcome. The evaluation approach, on the other hand, seeks to learn from previous projects by assessing the risks that have occurred. This assessment may result in changes to the approach itself, or even how the methodology is employed. The engineering viewpoint on project management is consistent with the management approach to risk management, which based decision-making on reason. Its purpose is to identify specific instances or events inside a project that vary from the plan, and then design remedies to keep the project going ahead.

Although the notion of capabilities is not new, it is critical to understand in what way diverse skills of project managers correspond with the needs of industry 4.0 initiatives. According to Müller et al., (2018), sensitive talents always have a major impact on PS, even when managerial skills are occasionally required. A competence is a

person's primary characteristic that is directly related to doing successfully in a task or state. Capability allows for the prediction of performance in a range of circumstances and work obligations. According to Thomas and Schaefer (2017), a individual needs competences, which are the capacities required to use knowledge and achieve goals. According to Hopkins and Bilimoria (2008), all talents need intent, which includes objectives, traits, self-concept, social roles, and knowledge. As a result, unintentional behaviors do not determine competence. According to Varziani (2010), a competence is a capacity or aptitude that consists of a number of alternate behaviors organized around an underlying notion. It includes both action and purpose. According to the same author, competencies are divided into three categories: social intelligence (relationship management and social awareness), emotional intelligence (self-awareness and emotional self-control), and cognitive intelligence (system thinking and pattern recognition). IPMA (2016) defines competencies as a behavioral approach to emotional, social, and cognitive intelligence.

Several suggestions have been developed throughout time, including the PMI Competence Development Framework, the PMCD, and the IPMA Standards - Individual Competence Baseline. The international reach of these standards reflects a strong increase in understanding and acceptance of the importance of formal project management practices (Liikamaa, 2015). The four versions of the ICB-IPAM exhibit the meaning of the term "competence," which comes from the Latin word "competentia" and means "is authorized to judge" or "has the right to speak." "Competent to orchestrate project activities" is included as a prerequisite for project managers. Similar to the PMCD from PMI, the ICB categorizes project management abilities into three categories: behavioral, contextual, and technical. These forty-six talents are divided into three categories: twenty technical, eleven contextual, and fifteen behavioral. The eye of competence represents the integration of all project management components as observed by the project manager during the assessment of a specific case. The eye is also a sign of vision and clarity (IPMA, 2016). Other writers, however, provide various categories for the essential skills that project managers should possess. Vale et al., (2018) used a methodological approach that combines an examination of job possibilities and a comprehensive literature review to evaluate the individual competencies of project managers. The authors came to the conclusion that competences might be divided into four categories and codified (contextual, managerial, technical, and behavioral). To categories project managers' competences, these writers will also use the notions of hard and soft talents. Additionally, Cakmakci (2019) suggests categorizing project management competences into hard and soft talents.

While project risk can be positive or negative, it is often defined as being exposed to a situation that may have an adverse outcome. Fan and Anantamula (2013). A project is defined as a fresh activity, and risks are inherent in projects due to the unknowns and uncertainties surrounding, for example, the development of new goods or technical infrastructure. A large amount of the success or failure of project risk management may be related to risk identification before and during the project life cycle. It is feasible to classify risk variables. While Wysocki (2007) classified them according to risk takers, Zhou et al. (2008) identify five risk categories throughout the project life cycle. Risk factors may overlap because the influence of one risk might lead to the emergence of new risks. Therefore, precisely identifying risk variables may be a difficult but crucial task for the success of a project. We are surrounded by projects, as indicated by the growing area of project management. According to Edwards and Bowen (2005), society has become less tolerant of failure and prefers all endeavors to be successful. Project managers are under pressure to limit the possibility of a project failure. Given the increasing pressure to finish projects effectively, it makes sense for everyone participating in a project to understand the risks and how to manage them.

H_1: *High Risk* behavior significantly impacts the ultimate success of a project

H_2: *The* competency level of project managers plays a moderating role in the relationship between high risk behavior and project success

3. Model of the study
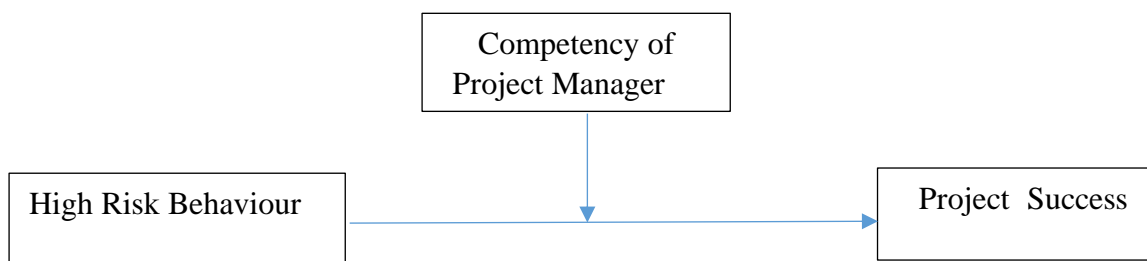
Hair et al., (2005) classify this research as a descriptive study, which is compatible with their quantitative data technique. Data was collected using a survey study approach (Gerhard and Silveira, 2009). A comprehensive questionnaire was employed to collect data on project success, high risk behavior, and project manager competency (PMC). To assess high risk behavior, a set of criteria based on Covin and Slevin's (1989) pioneering study were applied. The project performance was evaluated using the Shenhar and Dvir (2010) indicators, which

served as a strong basis for a thorough assessment of the project's success. Furthermore, the manager competency evaluation included data from Clarke's (2010) study, which gave indicators for properly assessing PMC.

Although there are several different methods for gathering data, this study employs written questions from prior studies to collect data in an orderly manner. Because of the emphasis on hypothesis testing, a questionnaire was used as the primary data gathering technique. The assessment survey is circulated to participants in physical form. Correlation analysis examines the linear relationships between moderating, independent, and dependent factors. This analysis investigates the dimensions of population-related variables pertinent to the research using moderating analysis, regression, and correlation techniques.

A total of roughly 330 surveys were given to IT organizations in Islamabad, Rawalpindi, and Lahore, Pakistan, representing both the public and commercial sectors. In return, 260 surveys were successfully obtained. Following a careful screening procedure, thirty surveys were excluded from the initial 230 due to incomplete participant replies. As a result, a revised dataset of 230 surveys was selected for further research.

Table 1 provides a complete assessment of the instrument dependability for the inquiry. The SPSS software was applied to thoroughly assess the instrument's reliability. Every Cronbach's alpha value, which measures the instrument's internal consistency, above the permitted threshold, suggesting a high level of dependability. A Cronbach's ratio less than 0.5, according to Georgy and Painting (2003), calls the hypothesis's validity into doubt. Nonetheless, all of the values in this study exceeded this criteria, confirming the instrument's outstanding quality and reliability. Thus, the study's findings suggest a robust and reliable foundation for additional investigation.

Table 1: Reliability Analysis

Factors	Acronym	Cronbach Alpha
High Risk behavior	RST	0.764
Project Manager Competency	PMC	0.715
Project Success	PS	0.722

Table 2 shows descriptive statistics and relationships for several outcome variables. The study's design appears to have a significant impact on the relationship between Project Success (PS) and both High Risk behavior and consistency in Competency of Project Manager (PMC) ($r = 0.485$; $p < 0.01$). The Pearson correlation coefficients show how crucial innovation is in predicting project success (PS).

Table 2: Correlation Matrix and Descriptive Statistics

	Mean	SD	1	2	3
INV	3.733	0.523	1.000		
PS	3.574	0.593	0.485**	1.000	
PMC	3.639	0.495	0.430**	0.329**	1.000

**At the 0.01 level, correlation is significant

Table 3 contains a detailed overview of the regression analysis results that investigated the relationship between innovativeness and project success (PS). The findings indicate a robust and positive link between PS and High Risk behavior. According to previous research, inventive project directors increase the success of innovative projects, and having people with high risk behavior on project teams improves PS (Ahmed et al., 2014; Russo and Sbragia, 2007). Complement these findings by noting that high risk behavior has a positive and statistically significant influence on PS (Sajid et al., 2021). Hence first hypothesis is verified.

Table 3: Regression Analysis

	Estimate	Std. Error	t-value	p-value
C	1.985	.313	7.131	0.00
RST	0.638	.049	7.534	0.00
	R-Square	0.128	F-Statistics	53.24
	Adjusted R^2	0.131	P-Value	0.000

Table 4 displays the findings of examining the moderating influence of project managers' talents. Hypothesis 2 suggests a substantial link between project success, high risk behavior, and competency of the project manager (PMC). Below table clearly indicates that PMC plays a significant role as a moderator in the relationship of high risk behavior and project success. Table results supports hypothesis 2 so it is accepted and these findings are parallel with the study of (Irfan et al., 2021).

Table 4: Moderation effect of PMC

	IV	DV	Estimate	S.E	T-Value	P -Value	LLCI	ULCI
1	RST	PS	0.791	0.321	4.235	0.002	0.406	1.242
2	PMC	PS	0.541	0.231	4.103	0.000	0.647	1.272
3	Int-1	PS	0.791	0.224	4.414	0.000	0.323	0.059
							R^2	ΔR^2
							0.221	0.002
F-Statistics							37.65	1.231
P-Value							0.000	0.000

4. Discussion

The literature currently in publication indicates that a substantial amount of study has been done to examine the link between innovation and organizational success in the fields of strategic management and entrepreneurship (Jeong et al., 2019). The bulk of studies on the connection between high risk behavior and project success, according to Pittino et al. (2017), have focused on traditional organizations. Martens et al. (2018) emphasize the prominence of high risk behavior in project-driven businesses and recommend that other elements be examined in future research.

The purpose of the study was to look at the connection between high risk behavior and PS in IT companies that operate in Pakistan. Additionally, the relationship between PS and high risk behavior was examined, along with the role that PMC played as a moderator in this relationship. The study was conducted in Pakistan's IT sector.

The results of the study, which show a positive correlation between risk-taking behavior and PS, provide an explanation for the impact of high risk behavior on project performance as well as, more generally, business and management of projects, as these areas have not received a great deal of attention in the literature (Martes et al., 2015). As a result, hypothesis H1 was approved. In order to focus on PS, the PMC was included as a moderator to determine the degree and direction of high risk behavior. It was discovered that there was a strong correlation between the high risk behavior of projects handled by project managers and their success after data from many exchanges was analyzed. Consequently, hypothesis number is likewise validated.

5. Conclusion

The key objective of instant study was to examine the relationship between high risk behavior and project performance as well as the moderating role that project manager competency shows in IT organizations. To achieve this, questionnaires were used to collect information from IT organizations in order to evaluate the impact of high risk behavior on PS in the existence of moderator PMC. The study's conclusions demonstrate how high risk behavior influences a project's likelihood of success. This research helps to clarify the complex link between high risk behavior and project success and offers new insights into the success of projects. The project manager must be able to comprehend any additional interactions within the RST-PS regulatory framework in addition to this moderator. Additionally, research on the exceptional relations and effects of risk taking behavior on project success may demonstrate a relationship between project management proficiency and high risk attitude and project success. As a result, businesses may find it easier to concentrate on the distinctive qualities they intend to improve PS.

6. Future Directions

Analyze how risk-taking and project management skill affect project success in different cultural contexts. Cultural influences can affect how people perceive risks, how they make decisions, and how they approach project management. Examine the ways in which risk-taking behavior, project management proficiency, and project success are influenced by organizational culture. Project results may be impacted by the acceptance or aversion to risk that is shaped by various organizational cultures.

References

Ahmed, R. and Azmi bin Mohamad, N. (2016), "Exploring the relationship between multi-dimensional top management support and project success: An international study", Engineering Management Journal, Vol. 28 No. 1, pp. 54-67.

Anantatmula, V., & Fan, Y. (2013). Risk management instruments, strategies and their impact on project success. International Journal of Risk and Contingency Management (IJRCM), 2(2), 27-41.

Bloch M., Blumberg S., Laartz J., Delivering large-scale IT projects on time, on budget, and on value, McKinsey & Company in conjunction with the University of Oxford, available: http://www.mckinsey.com/businessfunctions/business-technology/our-insights/, last accessed 11th February 2016.

Cakmakci, M. (2019). "Interaction in project management approach within industry 4.0." In Lecture Notes in Mechanical Engineering, 176- 189. https://doi.org/10.1007/978-3-030-18715-6_15

Chapman, C.B., Ward, S., 1997. Project Risk Management: Processes, Techniques and Insights. Wiley, New York

Chen, C.C., Law, C.C.H., Yang, S.C., 2009. Managing ERP implementation failure: a project management perspective. IEEE Transactions on Engineering Management 56 (1), 157–170.

Cicmil, S., Williams, T., Thomas, J., Hodgson, D., 2006. Rethinking project management: researching the actuality of projects. International Journal of Project Management 24, 675–686.

Clarke, N. (2010). Emotional intelligence and its relationship to transformational leadership and key project manager competences. Project management journal, 41(2), 5-20.

Covin, JG and DP Slevin (1989). Strategic management of small firms in hostile and benign environments. Strategic Management Journal,10, 75-87. https://doi.org/10.1002/smj.4250100107

De Wit, A., 1988. Measurement of project success. International Journal of Project Management 6 (3), 164–170.

do Vale, J. W. S. P., Nunes, B., and de Carvalho, M. M. (2018). "Project Managers' Competences: What Do Job Advertisements and the Academic Literature Say?" Project Management Journal, 49(3):82-97. https://doi.org/10.1177/8756972818770884

Edwards, P J, and Bowen, P A (2005). "Risk Management in Project Organizations". Oxford: Butterworth-Heinemann.

Hopkins, M. M., and Bilimoria, D. (2008). "Social and emotional competencies predicting success for male and female executives." Journal of Management Development, 27(1):13-35. https://doi.org/10.1108/02621710810840749

International Project Management Association. (2016)." Individual Competence Baseline for Project, Programme & Portfolio Management." In International Project Management Association

Jeong, Y. M., Ali, M., Zacca, R., & Park, K. (2019). The Effect of Entrepreneurship Orientation on Firm Performance: A Multiple Mediation Model. Journal of East-West Business, 25(2), 166-193. https://doi.org/10.1080/10669868.2018.1536013

Liikamaa, K. (2015). "Developing a Project Manager's Competencies: A Collective View of the Most Important Competencies." Procedia Manufacturing, 3: 681–687. https://doi.org/10.1016/J.PROMFG.2015.07.305

lter, S., Ginzberg, M., 1978. Managing uncertainty in MIS implementation. MIT Sloan Management Review (Fall) 23, 31.

Müller, J. R., Panarotto, M., Malmqvist, J., and Isaksson, O. (2018). "Lifecycle design and management of additive manufacturing technologies." Procedia Manufacturing, 19, 135–142. https://doi.org/10.1016/J.PROMFG.2018.01.019

Royal Academy of Engineering, 2004. The Challenges of Complex IT Projects. Retrieved from (19.06.07).

Shenhar, A.J. and Dvir, D. (2007), Reinventing Project Management: The Diamond Approach to Successful Growth and Innovation, Harvard Business School Press, Boston, MA

Thames, L., and Schaefer, D. (2017). "Industry 4.0: An Overview of Key Benefits, Technologies, and Challenges." In: Thames L., Schaefer D. (eds) Cybersecurity for Industry 4.0. Springer Series in Advanced Manufacturing. Springer, Cham. https://doi.org/10.1007/978-3-319- 50660-9_1

The Standish Group International, 1999. Chaos: A Recipe for Success. Retrieved from (21.06.07).

Turner, J.R., Cochrane, R.A., 1993. Goals-and-methods matrix: coping with projects with ill defined goals and/or methods of achieving them. International Journal of Project Management 11 (2), 93–102

Vazirani, N. (2010). "Competencies and Competency Model - A Brief Overview of its Development and Application." SIES Journal of Management, 7, 121-131. https://doi.org/10.1016/j.jvs.2013.03.003

Wysocki, R.K. (2007), Effective Project Management: Traditional, Adaptive, Extreme, Wiley Publishing, Inc., NJ.

Zhou, L., Vasconcelos, A. and Nunes, M. (2008), "Supporting decision making in risk management through an evidence-based information systems project risk checklist", Information Management & Computer Security, Vol. 16 No. 2, pp. 166-186.