

## Moderating Role of Project Manager's Competency on The Relationship of Project Success and Entrepreneurial Orientation: A Study of Information Technology Based Organizations

<sup>1</sup>Ehtasham Ul Haq and <sup>2</sup>Dr Shahid Iqbal

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Entrepreneurial Orientation,  
Project Success, Project  
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### **ABSTRACT**

This study examines the moderating role of project manager's competency on the relationship of project success and entrepreneurial orientation in information technology organization. Logically developed a research strategy to evaluate and establish hypotheses to examine or to explore relationship between project success, entrepreneurial orientation and project manager's competency. Data got collected from IT organizations in Lahore, Islamabad and Rawalpindi of Pakistan. A questionnaire got used to collect the data from 250 respondents, out of which 230 respondents answered the questionnaire. The outcomes of this study displays that entrepreneurial orientation significantly and positively linked with project success. Moreover, the moderating role of project manager's competency was found positively significant in association with entrepreneurial orientation and success of the project. The said research contributes not only to the knowledge of existing project management, but looks for bridging up the gap between project success and entrepreneurial orientation literature too. Furthermore, the current study should also allow project managers to explore new avenues to understand the project going to be completed. They need to exhibit a mix of different types of dimensions of entrepreneurial orientation in their decisions and procedures to improve project success.

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### **INTRODUCTION**

In addition, theory of dynamic capabilities allows addressing the research gaps while assuming that project manager's competency moderate the relationship of EO and project success. Furthermore, competencies of project managers are not given importance in the setting up entrepreneurial orientation of the organization as Martens et al., (2017) focused only on EO and project success. Previous researches had never explored competencies of the project managers that stimulate EO and project success as well. Every project strives for project success, but success rate never meets required level (Lehtonen and Martinsuo, 2006).

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<sup>1</sup> PhD Scholar, Bahriya University Islamabad. [ehtasham.qau@gmail.com](mailto:ehtasham.qau@gmail.com)

<sup>2</sup> Bahriya University Islamabad, [siqbal.buic@bahria.edu.pk](mailto:siqbal.buic@bahria.edu.pk)

Entrepreneurial orientation takes a dynamic working style that focuses on the competencies of the company in order to produce consistent improvements, to embrace pro-activeness in business operations and high-risk behaviour irrespective of the possibility of loss (Lüdeke-Freund, 2020). It is highly essential to enhance project success by considering entrepreneurial orientation of organization and competencies of the project manager.

PMI (2013) describes project management “as the application of the knowledge, expertise, techniques, and methods to project activities in order to satisfy requirements of the project”. It contains project necessities to be met clear objectives to be achieved and to keep and manage the project within a predetermined planning domains, budget and quality to meet its provisions (Golubović, Stojiljković, Glisović, & Zivković, 2018). According to the research study of Turner & Muller (2003), resources are assigned to projects in order to attain a unique, creative, and short-term work to manage the intrinsic unpredictability and the need for integration to achieve the goals of constructive change.

Project success is one of the prime or vital targets of any project, including others. Project success is a compression of strategic objectives of an organization and high degree of success that guarantees excellent organizational development (Iqbal et al., 2017). Whereas on through examination of the literature of project management (McLeod et al., 2012), no success criteria has been found in the literature. The nature of the project should determine the success criterion (Mir, & Pinnington, 2014).

A number of things, such as (i) the process of the project, (ii) the planning, (iii) the collaboration, (iv) the leadership, (v) the clarification of the goal are related to the completion of the project but, plans fail leading to significant financial losses for the organization, as well as time constraints, reputation, and staff misconduct. The failure proportion of projects urges investigators to minutely concentrate on the details of the backgrounds of the project success. Martens et al., (2018) has tried to link project success with entrepreneurial orientation. While, the project management and entrepreneurship dimensions are studied individually in the educational literature; besides, there is a very strong association among entrepreneurship dimensions and project management (Kuura et al., 2014). Fonrouge, Bredillet, & Fouché (2019) argued that the effectiveness of the project management and entrepreneurship dimensions disciplines was seen to be different. In the text of the entrepreneurship, “Entrepreneurial Orientation” is proposed to be a model (Bojica et al., 2011) that has acknowledged a lot of importance in hypothetical and scientific research (Rauch et al., 2009). It considers the methods, practices, and activities of decision-making that pave the way for new entrants (Lumpkin & Dess, 1996) and is represented by five proportions including (i).

Proactiveness, (ii). Innovativeness, (iii). Autonomy, (iv). Competitive aggressiveness and (v). Risk-taking.

Entrepreneurial orientation can deliver information that may be utilized by the business to revive current abilities to attain the business objectives. This varies from business to business and depends on the framework of the organization.

Recent technological developments have also had an impact on projects, and the usage of technology in projects has risen significantly. Technology is viewed as a potentially beneficial source of information and a vehicle for innovation. As a result, technology orientation enables organizational innovation in order to remain competitive. It is feasible to understand further about technology that can be utilized in technology projects (Makui et al., 2018), and the usage of technology in the projects has increased significantly (Anantatmula, 2008). Technology is viewed as a source of information, a highly helpful instrument, and a means for creativity (Amoako-Gyampah et al., 2018). Therefore, technology orientation facilitates innovation in an organization that can compete (Yu et al., 2013).

Hence, projects are delayed in Pakistani context due to lack of competencies and incompetent project manager (ADB, 2018), however, role of the competencies of the project managers are perceived to influence the relationship of project success and entrepreneurial orientation. There is a need for development of a detailed model to enhance project success through entrepreneurial orientation in the presence of project manager's competencies. Therefore, this study develops a detailed model to address research gaps, limitations and problems.

Given the perspective, the objective of this research work is to study the relationship of entrepreneurial orientation and project success in the presence of project managers' competencies. The prime goal of this study is to develop and test a model of this association in the industry of information technology of Pakistan. Subsequent this introduction, a brief theoretical review on entrepreneurial orientation and project success is conducted; the study technique is then detailed, the results are given and discussed, and lastly, concluding observations are offered.

## **LITERATURE REVIEW**

This section presents review of literature about various research studies on entrepreneurial orientation, project success; project manager's competency followed by theoretical framework and research hypotheses.

### *Relationship of Entrepreneurial Orientation and Project Success*

Though the subject - the project management and entrepreneurship has been studied extensively, and a few studies have focused on the link between them and their sub-regions. Martens et al. (2015) investigated the connections among project management and entrepreneurial orientation at work, identifying the economic benefits of project management, integrated management behaviour, governance, cost management, risk management, communication management, human resource management, time management and control acquisition etc. Latif et al., (2021) discovered that knowledge-oriented leadership and entrepreneurial orientation had a substantial influence on and project success and knowledge management procedures. This study is the first approach about entrepreneurial orientation and management issues and shows the implications from the organizational structure to project management. Though, here are inconsistencies in the text of the studies relating to the association among the organization and the completion of the project, which supports this study.

It is also indicative of this finding that “some domain-specific journals”, such as “Entrepreneurship Theory and Practice, publish scholarly work” primarily linked with EO in order to expand the text of information of its area (Wales et al., 2013). The said journal has received remarkable consideration in empirical as well as theoretical research (Parkman et al., 2012; Covin & Wales, 2012; Shan et al., 2016). At the organisational level, other terms related with the idea of entrepreneurship include Entrepreneurial Mode, Entrepreneurial Style, Corporate Entrepreneurship, ‘Intrapreneurship,’ and so on (Covin & Lumpkin, 2011). The relationship among the efficiency of the organization and EO has always been mentioned as a research issue in EO research during the last 30 years (Andersen, 2010; Filser & Eggers, 2014), with efficiency which is among research ideas in EO research throughout last 30 years of research education (Rauch et al., 2009). "EO may be observed in the business strategies that main managers employ to establish the company's mission, manage its vision, and generate competitive advantage" (Rauch et al., 2009).

Inextricably connected with project's achievement is that they generate the result of project-oriented enterprises. In this sense, EO enhances organisational performance and the connection between EO and the success of a project is evident in the documentation. The research attempted to determine the components playing role in project success. Vezzoni et al., (2013) studied to point out that risk management and empowerment are the two most important achievements of the project, including both scopes of EO that are autonomy and risk taking.

Some authors have suggested that the increase in financial performance may be due to the behavior of new organizations developing and introducing the introduction of new items and technology to the market (Schumpeter, 1934; Brown & Eisenhardt, 1998). Organizations may get a competitive edge by taking the initial step in their business taking advantage of everything that has provided this benefit, such as high cost research and unique market research ahead of other competitors (Covin, 1995). Companies investing in high-risk investments will be more gainful in the long run (March 1991; McGrath, 2001).

*H<sub>1</sub>: Entrepreneurial orientation significantly influences the project success*

#### *Project Manager's competencies, Entrepreneurial orientation and project success*

According to the study of Turner & Müller, (2005), leadership is critical success factor for the success of information system projects. For evaluation the performance of teams and leaders should have the ability to inaugurate and sustain the vision, effective strategy and efficient communication system during the project by influencing, proper supervisory, observing and assessing the performance of their teams. Literature describes leadership as individual's behaviors and qualities (Müller & Turner, 2007). Leadership competence framework developed by Dulewicz and Higgs (2003) contains fifteen dimensions in three categories of proportions; (1) Emotional (EQ), Managerial (MQ) and intellectual (IQ). This leadership framework stresses for the development of necessary skills and qualities in leaders. Emotional (EQ) category consists of intuitiveness, emotional resilience, conscientiousness self-awareness, influence, interpersonal sensitivity and motivation, Managerial (MQ) consists of communication, resource management, developing, empowering and achieving and Intellectual (IQ) consists of critical examination and judgment, strategic perspective, imagination, and vision. According to Dulewicz, Higgs, & Slaski, (2003), these leadership competencies framework displays the significance of all three categories, although EQ is the quotient most normally connected with leadership.

Mostly employee must try to increase his competencies in this challenging and progressive environment era (Bizarrias et al., 2020). Various competencies play critical role in different project stages (Russo et al., 2005; Skulmoski & Hartman, 2010), for example, the capacity to handle with uncertainty, sales ability, political alertness, decisiveness and persuasiveness are all mostly related during the initial phases of a project. As per Silviu and Schipper (2014), it is more important and necessary for project success to handle the project managers competencies gap, specially in five main competences; anticipatory, system thinking, strategic, interpersonal and normative competences.

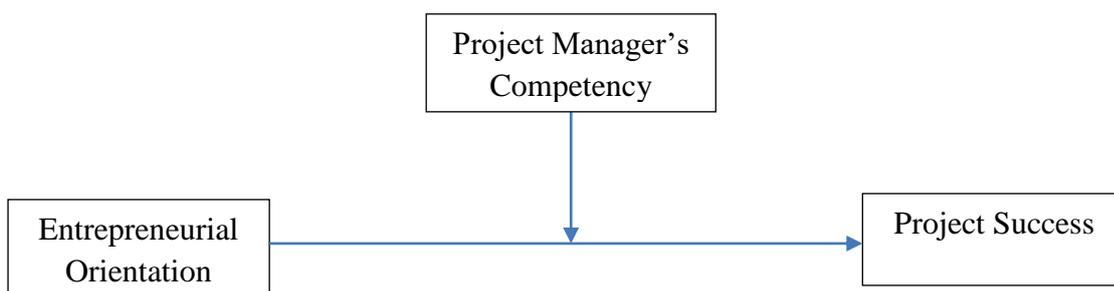
Five major character qualities suitability, extraversion, receptiveness to experience, neuroticism and conscientiousness, idea was introduced by Digman (1990) and in later McCrae and John (1992) operationalized it. Dispositional factors impacts the venture achievement and initiative execution (Halfhill, Sund-strom, Lahner, Calderone, and Nielsen, 2005; Cruz, da Silva, and Capretz, 2015; Soomro et al., 2016).

The idea of dynamic capability theory clarified in a paper named Dynamic ability and vital administration Teece, Pisano, & Shuen (1997) as "the association's capacity to coordinate, form, and reconfigure inner and outer skills to address quickly evolving conditions". The term dynamic capacity is generally utilized in plural structure as unique abilities focusing on the ideal and enough response on the outer changes needs a mix of various capacities. Dynamic capacity hypothesis is the hypothetical focal point in the EO research setting (Teece, Pisano, and Shuen, 1997). Dynamic capacities are the abilities to rearrange an organization's schedules and assets in the way imagined and valued proper by its vital choice maker(s) (Zahra, Sapienza, and Davidson, 2006).

This proposed model of the examination is recommended with the focal point of the dynamic capability theory as the firm can accomplish set objectives by using dynamic capacities of innovativeness, proactive-ness, autonomy, risk-taking and competitive aggressiveness. These abilities overall move towards the achievement of project using capabilities project managers.

*H<sub>2</sub>: Project Manager's Competencies moderate the relationship between Entrepreneurial Orientation and Project Success*

***Proposed Model for the study***



**RESEARCH METHODOLOGY**

This study's research is classified as descriptive (Hair et al., 2005) and relies on quantitative data. For data gathering, a survey research approach was used (Gerhard & Silveira, 2009). Questionnaire was used as research instrument created on five studies that extant the

indicators for the construct entrepreneurial orientation, project success, and project manager competencies and their dimensions. The entrepreneurial orientation comprised indicators strained from the studies of Covin and Slevin (1989). We adopted the research by Shenhar and Dvir (2010), using indicators to assess project success across its dimensions with four items, for the project success topic. For the manager competency topic, we used Clarke's (2010) study, which included indicators to assess PM across five dimensions. So, instrument of data collection comprised 18 indicators of entrepreneurial orientation, 4 of project success and 5 of manager's competencies.

There are various methods for collection of data but in this study, structured written questioners adopted from previous studies of researchers is used for data collection. Hypothesis testing is the key emphasis of this study so instrument for collection of data is adopted questionnaire. The survey questionnaire is distributed in hard copy form.

Correlation analysis is used to measure the linear correlation among the dependent, independent and moderating variables. Dimensions of the variables relating to the population of the study is explored by using the correlation, regression and moderating analysis.

#### ANALYSIS

Almost, 250 questionnaires are distributed among the private and public IT firms in Lahore, Islamabad and Rawalpindi of Pakistan. Therefore, 230 questionnaires were received back. Out of 230, ten questionnaires were rejected as they were not appropriately filled by the respondents. So only 220 got considered for analysis.

Table 2 provides statistics on the reliability of the tools used in the study. SPSS was used to calculate the reliability of the questionnaire. Each of Cronbach's alpha values is the best and it is considered good. According to Georgy and Painting (2003), if the Cronbach value is less than 0.5, it is not valid, but if the Cronbach value is greater than 0.5, you are more likely to get something close to that which is considered the best and taken. Therefore, there is no problem with the reliability of the instrument.

Table 2  
*Reliability Analysis*

Factors	Acronym	Cronbach Alpha
Entrepreneurial Orientation	EO	0.792
Project Manager Competency	PMC	0.747
Project Success	PS	0.757

Table 3 displays the descriptive statistics and correlation for the different outcomes. It is imperative to note that project success is related to entrepreneurial orientation and that project manager competency is consistent ( $r = 0.372$ ;  $p < 0.01$ ), seems to rely on this type of research. The correlation coefficients of Pearson show that entrepreneurial orientation is important and continues to be a work in project success.

Table 3  
*Descriptive Statistics and Correlation Matrix*

	Mean	SD	1	2	3
EO	3.754	0.447	1.000		
PS	3.916	0.649	.372**	1.000	
PMC	3.660	0.643	.429**	.314**	1.000

\*\*Correlation is significant at the 0.01 level

Table 4 describes the results of the regression analysis that modelled the entrepreneurial orientation in relationship to project success. The findings indicate that business orientation was directly linked to the project's success. Some study has shown that entrepreneurs in project teams incline to enhance project success (Ahmed et al., 2014) that the entrepreneurship of project leaders has a positive effect on the success of innovative initiatives (Russo and Sbragia, 2007). Sajid et al., (2021) find that entrepreneurial orientation has significant and positive influence on project success. Therefore, it supports to Hypothesis 1.

Table 4  
*Regression Analysis*

	Estimate	Std. Error	t-value	p-value
C	1.888	0.286	6.610	0.000
EO	0.540	0.076	7.152	0.000
	R-Square	0.139	F- Statistics	51.15
	Adjusted R <sup>2</sup>	0.136	P-Value	0.000

The results of measuring the moderating role of project manager's competency is presented in Figure 5. Hypothesis 2 shows that entrepreneurial orientation and project success would be positively correlated with project manager's competency. The following table also acknowledges the moderating role of the project manager's competency on EO and project

success relationship. Competency and planning have a positive and significant impact on project success (Irfan et al., 2021). Therefore, it supports to Hypothesis 2.

Table 5  
*Moderation Analysis*

	IV	DV	Estimate	S.E	T-Value	P-Value	LLCI	ULCI
1	EO	PS	0.825	0.267	3.126	0.002	0.306	1.343
2	PMC	PS	0.468	0.185	6.004	0.000	0.746	1.473
3	Int-1	PS	0.815	0.286	3.515	0.000	0.232	0.069
							R <sup>2</sup>	ΔR <sup>2</sup>
							0.212	0.002
F-Statistics							35.85	1.140
P-Value							0.000	0.000

The existing literature shows that a significant study has been conducted in the area of entrepreneurial and strategic management to review the relationship between entrepreneurial orientation and the organization's performance (Khanagha et al., 2018; Jeong et al., 2019). Most research on the relationship between EO and organizational performance has been common for traditional organizations (Pittino et al., 2017). Research by (Kuura et al., 2014; Martens et al., 2018) emphasizes the importance of EO in project-based organizations and suggests that other variables should be addressed further for future research.

Applying the dynamic capabilities theory, the capacity of an organisation – to modify deliberately its resource base is referred to as dynamic capability. The objective of the research study was to observe the relationship of EO and project success in IT firms within the contextual settings of Pakistan. The study also examined the relation of EO and project success and project manager's competency as moderator between entrepreneurial orientation and project success. The research was conducted in IT sector of Pakistan.

The findings of this research study reflect that entrepreneurial orientation is positively associated to project success; this explains the influence of entrepreneurial direction on project performance and, more broadly, both business and project management, as the literature has received little attention in these areas (Kuura et al., 2014; Martens et al., 2015; Lundin et al., 2015). Consequently, hypothesis H1 was accepted. The project manager's competency was incorporated as moderator to determine the strength and direction of the entrepreneurial orientation to focus on project success. An analysis of data on various exchanges has shown that the relationship is incredible, which means that the project

manager competency moderate with project success and entrepreneurial orientation. Therefore, hypothesis H2 is also accepted.

### **CONCLUSION**

The primary goal of this research was to investigate the influence of entrepreneurial orientation on project success: the moderating function of project manager competency in IT organizations. To this end, data from IT organizations were collected through questionnaires to measure the impact does entrepreneurial orientation has on project success in the presence of moderator project manager competency. According to the findings of this study, entrepreneurial approach has an impact on project success. This study brings up new views on the success of project and allows a greater understanding of the complexity of the link between entrepreneurship and the success of project. In addition to this moderator, the project manager needs to be able to understand new interactions inside the EO-PS regulatory framework. Furthermore, research on the unique connections and power of impact between entrepreneurial orientation and project success may provide evidence of a relationship between entrepreneurial orientation and project success, as well as project management competency. As a result, organizations may more accurately target the qualities of entrepreneurial orientation that they want to develop in order to contribute to projects.

#### *Implications*

The validation of the hypothesis highlights the importance of EO in academic project accomplishment. In general, the study contributes to the part of the researchers that links entrepreneurship and project management. It strengthens the literature-supported relationship that EO leads to improve performance by contributing to project success. In addition, the study helped the research focus on understanding the performance characteristics of a successful project, in addition to listing the benefits of EOs for companies. Taking into account the current changes in the literature regarding relationship between the task of completing the EO and project manager competency, this study contributes to its abolition and promotes more research on the subject.

#### *Limitation of Study*

This study still has some limitations. The main limitation of this study is the small sample size, as data were collected in three cities in Pakistan, namely, Islamabad, Rawalpindi and Lahore. Future study could lead to research in other industries and insert different mediating and moderating variables to validate the research model further. Limitation of the study is that the conclusions are obtained from the context of the organizations of Pakistani firms,

from the point of view of project managers who answer questions. This limitation creates an opportunity to support business education standards for business sectors and a small number of organizations, as well as increased samples for further testing.

#### *Future Directions*

This study encourages further research. Study about the specific relationship entrepreneurial orientation and project success, as well as its implications, can provide evidence of EO involvement in the completion of the project plan and even in the project manager competency of the adopted model. This can lead to determine the purpose of the business characteristics that need to be developed in the organization when involvement in the implementation of the plan will be achieved. Different combinations can also cause different EOs in PS.

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