

## Role of entrepreneurial orientation in firm performance through project success; Moderating role of absorptive capacity in SMEs of KSA



Sami Salem Alzahrani \*

Department of Business Administration, Arab East College, Riyadh, Saudi Arabia

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### ABSTRACT

This study aimed to examine the impact of entrepreneurial orientation on firm performance through project success and moderating role of absorptive capacity. A deductive approach was used to test the model empirically. Primary data were collected at one point in time from employees of small and medium enterprises in the Kingdom of Saudi Arabia. 354 responses were used for final data analysis. The structure Equation Modeling (SEM) technique was used to analyze the hypothesized relationships by using the Smart PLS3. The findings indicate that entrepreneurial orientation has a significant impact on firm performance and project success also significantly mediates this relationship. Moreover, absorptive capacity moderates the entrepreneurial orientation impact on project success this relation becomes stronger in the presence of absorptive capacity. This study adds value to the literature and proves the mediating role of project success and moderating role of absorptive capacity. Practically, it highlights the importance of entrepreneurial activities for firm performance and project success.

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### 1. Introduction

Firm performance is a very crucial question for any kind of business or venture. Literature is discussing for a long time, but it is still a very hot topic (Khan et al., 2019). In prior reach, tangible assists, machinery, and other factors were thought to be important for firm success but now globalization forces the organizations to focus on human and technological skills (Muhammad and Ismail, 2009). For that purpose, firms are moving towards entrepreneurial orientation (EO) to achieve competitive advantage and firm growth (Kraus et al., 2012). Entrepreneurship is a source of commercial gain, innovation, high revenue, and business development but along with it, organizational growth is also stimulated by it (Erken et al., 2018). Companies with entrepreneurial orientation increase business performance through innovation and new ideas. Scholars have suggested that firms' success can be achieved through different mechanisms of entrepreneurship by goal

attainments and project success (PS) (Setiawan et al., 2012).

As in recent times, many organizations have moved towards project-oriented companies to deal with the increasingly competitive environment (Turner, 2009). The success of these projects plays a very crucial role in firm overall performance (FP) and growth. Much attention has been given to firm performance with respect to entrepreneurial orientation (EO) (Engelen et al., 2015; Al-Dhaafri et al., 2016). But with respect to project success (PS), it needs more attention as little work has been done in this domain (Kuura et al., 2014). Generally, the relationship between EO and FP is established and proven by scholars (Neneh and Van, 2017; Gupta and Batra, 2016; Kim et al., 2015). Its significance leads many companies to develop EO policies and practices in different countries including the Kingdom of Saudi Arabia (KSA). In KSA small and Medium enterprises are paying much attention to EO for competitive edge and growth (Ali et al., 2020). Firms' growth is enhanced by EO as witnessed by prior literature both in developed and developing countries (Yoon, 2012; Cader and Norman, 2006; Zulkifli and Rosli, 2013; Neneh and Van, 2017; Gupta and Batra, 2016; Kim et al., 2015). Similarly, the EO impact on PS is also discussed by few studies separately (Neneh and Van, 2017; Gupta and Batra, 2016; Neneh and Van, 2017; Kim et al., 2015). Similarly, EO impact on PS is also discussed by few scholars separately (Kuura et al., 2014). But the

\* Corresponding Author.

Email Address: [samialzahrani1@gmail.com](mailto:samialzahrani1@gmail.com)

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Corresponding author's ORCID profile:

<https://orcid.org/0000-0002-2476-0069>

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underlying mechanism of EO to FP through PS is a missing link. As many organizations have now transformed themselves into project-oriented firms in an increasingly agile environment to sustain. For that purpose, it is important to understand the impact of EO on FP through PS as mediating variable.

Further, it is also discussed by scholars that the context in which EO is adopted also affects the performance (Zhai et al., 2018). This means that EO value is also affected by its context, which leads to the exploration of more boundary conditions affecting this relation. Therefore, it is important to add a moderating variable for a more persuasive understanding of relationships under specific organizational and environmental conditions (Khan et al., 2020). Hence, this study aims to fill the existing gap by concentrating on learning the underlying mechanism of entrepreneurial orientation and firm performance through project success and moderating the role of absorptive capacity. This study will help to understand that how project success will intervene in this relationship and the contextual role of absorptive capacity as a moderator by empirically testing the model in the KSA context. So, this study first analyzes the relationship between entrepreneurial orientation and firm performance through project success. Secondly, this study will measure the moderating role of absorptive capacity on this relation.

## 2. Literature review

Entrepreneurship theory along with a theory of entrepreneurial value creation provides a base for this study. According to Mishra and Zachary (2015); entrepreneurship theory gives core characteristics of the business procedure using a two-step value creation process. A business model can create a competitive edge over market competitors using its unique competencies. Researchers have argued that entrepreneurship is not the only way of doing new business but also focusing on the opportunity in the external market and capture them to increase firm performance. As Mishra and Zachary (2015) said, "Entrepreneurship is defined as a process of value creation and appropriation directed by entrepreneurs in an uncertain environment." Entrepreneurship in an organization is the source of innovation that leads to improving firm performance. In the current study, this notion is held true for organizations that are project-oriented as project success will lead to improving firm performance as a trigger by EO.

### 2.1. Firm performance

Firm performance is a primary interest of scholars and it mainly focuses on performance improvement (Venkatraman and Ramanujam, 1986). However, scholars still debate on its terminology and meaning and explanation (Lee et al., 2015; Simon et al., 2015). Venkatraman and Ramanujam (1986) defined it with respect to financial and non-financial

performance measures. Financial performance includes sales, growth, profitability, and earnings per share. Whereas non-financial performance includes market share, product quality, market effectiveness, and value-added services. Le Meunier-Fitzhugh et al. (2007; 2009; 2011) defined the firm performance in the B2B context and include sales target, revenue, profit margin, etc. as items of FM. In this study, firm performance is a variable of interest or outcome variable and it follows Venkatraman and Ramanujam (1986) and clarifies the firm performance as the financial and non-financial measure.

### 2.2. Project success

Project success is very important for any kind of project and it is defined differently in literature. Project success and project completion are defined separately in the project management arena. Project success is the achievement of objectives and benefits associated with projects and also delivering value to the firm (De Wit, 1988). Whereas project completion or accomplishment is associated with the efforts of the manager to use project tools i.e. scope, time, and cost. In the project management field these concepts are explained by Cooke-Davies (2002) and Martens and Carvalho (2016). In literature, it is defined and discussed with different aspects. Shenhar and Dvir (2007) deliberated PS with respect to productivity, effect on the client, effect on the project team, business-related success, and future eagerness. Other recent studies also emphasize diverse measures of success (Zaman et al., 2019; 2020). This study follows the Cooke-Davies (2002) definition of project success that describe the PS as success of business mainly focus on new product development and unique product of a firm.

### 2.3. Entrepreneurial orientation

Anderson et al. (2015) said that "a firm's key stance towards entrepreneurship is EO." When a company took the necessary steps, develops strategies, and follows those procedures for entrepreneurship are called entrepreneurial orientation (Rauch et al., 2009). EO is also considered as an organizational ability to take part in innovation and focusing on the investigation of new ideas through research and development (R&D). It also shows the firm's ability to be proactive and creating a competitive edge against the competitors (Miller and Friesen, 1983). In this way, new products, services, ideas, and procedures are developed. EO is a firm ability to take the risk for innovation and show proactive behavior (Lomborg et al., 2017). Explanation of EO has got much attention in literature from a different perspective. Scholars have highlighted that EO is a good indicator of firm performance (Kraus et al., 2012). Empirical investigations have also proved that EO positively affects firm performance (Filser et al., 2014; Hernandez-Perlines, 2018; Basco et al., 2019). According to Vezzoni et al. (2013) project success is

linked with risk preparation and empowerment. Similarly, proactivity is also considered an important characteristic of a project manager for project success. These factors are also part of entrepreneurial orientation for EO a firm needs to be proactive, risk-taking, and autonomous (Khan et al., 2020). Khan et al. (2020) studied also prove a significant relationship between EO and Project success.

## 2.4. Absorptive capacity

It is the ability to achieve a competitive edge through attaining and organizing information for creating operational capabilities (Zahra and George, 2002). Scholars said that it is embedded in the firm procedure, schedule, and framework (Todorova and Durisin, 2007). Absorptive capacity (AC) comprises four characteristics namely "acquisition, assimilation, transformation and exploitation" (Zahra and George, 2002). The acquisition is the process of securing outer information imperious to the organization, Assimilation is the process of scheduling and examining the information by the organization for learning. Whereas transformation is linking the existing information with the newly obtained information. Lastly, exploitation is companies' ability to embed current information into already working operations. Fleming (2001) said to increase business performance firm must have the capability to transform new knowledge and combine it with existing resources and competencies. EO firm proactively involves in the innovation process and gathering information from the external market then absorptive capacity along with its components increase firm performance (Patel et al., 2014).

## 2.5. Theoretical framework and hypotheses

On the basis of the above literature following model is proposed to test the relationships. The proposed model measures the firm performance through project success and entrepreneurial orientation as an indicator variable. Scholars suggest that entrepreneurship orientation relation to project success (Venkataraman, 2019) and firm performance (Wang, 2008; Shan et al., 2016). Further, it is observed that firm performance varied due to absorptive capacity through innovation, high skill, and knowledge to increase project success (Patel et al., 2014). These relations are represented and hypothesized in Fig. 1.

## 2.6. Hypotheses

**H<sub>1</sub>:** Entrepreneurial Orientation has a significant impact on Project Success.

**H<sub>2</sub>:** Project Success has a significant impact on Firm Performance.

**H<sub>3</sub>:** Entrepreneurial Orientation has a significant impact on Firm Performance.

**H<sub>4</sub>:** Project success significantly mediates the relationship between entrepreneurial orientation and firm performance.

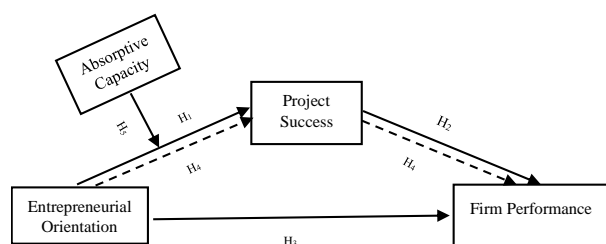
**H<sub>5</sub>:** Absorptive capacity significantly moderates the relationship between entrepreneurial orientation and project success.

## 3. Methodology

The proposed model was tested by using a deductive approach and primary data was collected at one point in time. The population of the study was senior-level employees working in working in small and medium enterprises in Saudia Arabia. As in KSA companies are now more focusing on EO and considering it as a competitive edge for firms (Abdulrab et al., 2020). Data was collected using an online survey through purposive sampling from more than 300 employees. According to Hair et al. (2016) rule of thumb for sample size is 10 observations per item. Keeping this in the view sample size of more than 300 was considered enough.

To collect the data already developed and reliable scales were adopted from the literature. EO was measured by using 7 items adopted from Tuan's (2017) study. 13 items multidimensional scale of absorptive capacity was adopted from Popaitoon and Siengthai (2014). Project success was measured with 6 items taken from Engelbrecht et al. (2017). While 6 items of firm performance, 3 measuring financial and 3 measuring non-financial performance were adopted from Lee et al. (2015) and Simon et al. (2015) research. All variables were measured on a "five-point Likert scale from 1=Strongly Disagree to 5=Strongly Agree."

To collect the data online survey was conducted through email and using the Linked-in network. In the first round, more than 1000 questionnaires were emailed and only 104 responses were collected. Then in the second round, a reminder email has sent to all respondents and again 300-400 new emails were sent. In response, almost 364 responses were collected after 2-3 reminders and calls. The response rate was 23%. After collecting data initial screening was done and few incomplete responses were not used in the final analysis. Data analysis was done using Smart PLS3 (Partial Least Square) for multivariate analysis and SPSS was used for demographic analysis. The structure Equation Modeling technique was employed to test the model.



**Fig. 1:** Theoretical framework

## 4. Data analysis

Data analysis was done using SPSS for demographic analysis only and model testing was done using Smart PLS3. A two-step approach was used to test the model measurement model analysis to test the model reliability and validity and to test the hypotheses structural model analysis was done by applying Bootstrapping techniques suggested by Henseler et al. (2015).

### 4.1. Respondents profile

Respondents profile (Fig. 2) shows that there 75% (253) male and 25% (85) female respondents.

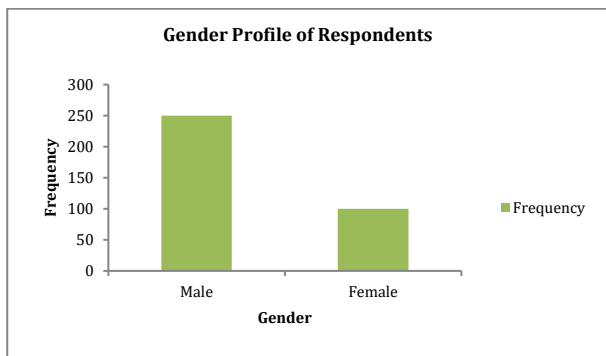


Fig. 2: Gender profile of respondents

Age demographics of respondents shows that there were 49% (167) people below age 30, 37% (114) belonged to age group 30-40, 10% (36) were between age 40-50, and 7% (25) were above 50. Fig. 3 is the graph showing the age profile of respondents.

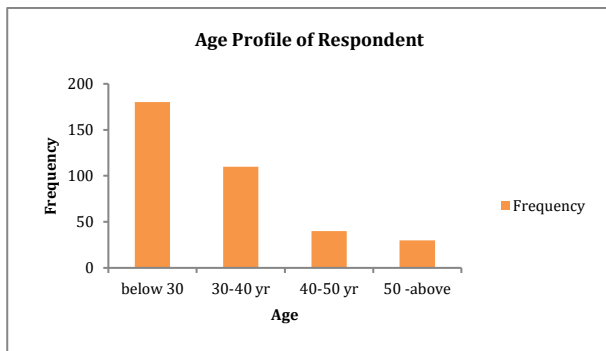


Fig. 3: Age profile of respondents

Experience statistics of employees show that 59% (200) were having 1-4 years of experience, 12% (39) have 5-8 years of experience and 23% (78) have experience of 9-12 years whereas 6% (21) have experience of more than 12 years. The bar graph in Fig. 4 shows the result of the experience profile.

### 4.2. Results and findings

Data analysis was done using by applying Structural equation modeling using statistical software Smart PLS3 as it does not require normality assumption to be fulfilled. Before testing the model, the Common Method Biasness issue was tackled

through a full collinearity test. In a full collinearity test, all variables are regressed against a random variable, if VIF is less than 3.3 then there is no biasness issue. The result of the present study yields VIF below 3.3 which means single-source biasness was not present in data. First, measurement model analysis was done establishing the reliability and validity of data by following the guidelines of Hair et al. (2019), and then structural analysis was done to test hypotheses (Ramayah et al., 2018).

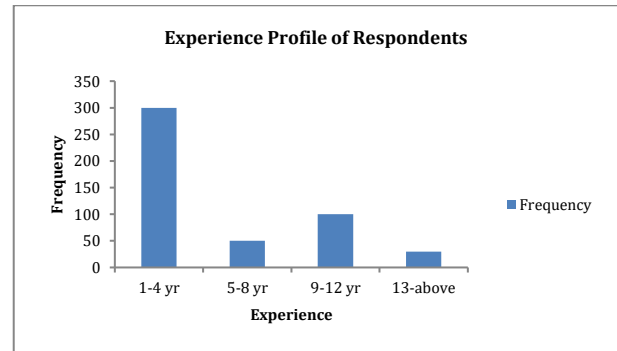


Fig. 4: Experience profile of respondents

### 4.3. Measurement model analysis

The measurement model was tested to establish the reliability of data through Cronbach Alpha and composite reliability value and validity was established through discriminant and convergent validity test through HTMT and average variance extracted method.

#### 4.3.1. Reliability and validity of the instrument

Reliability is a measure of the internal consistency of data. It was checked through the Cronbach Alpha value and Composite reliability method and its value should be less than 0.7 (Hair et al., 2019). While discriminant validity is a measure of the difference between the constructs and convergent validity measures the correlation among the items of constructs. The heterotrait-Monotrait ratio of correlation (HTMT) is a measure of discriminant validity its value should be less than 0.9 (Henseler et al., 2015) or more strictly 0.85 (Franke and Sarstedt, 2019) while average variance extracted (AVE) should be greater than 0.5 to establish convergent validity. All results are depicted in tables. Tables 1 and 2 show the result of reliability and validity of constructs indicating that all values were under the threshold point.

Further, analysis was done to check the reliability and validity of the second-order construct absorptive capacity. It was a reflective-formative variable. First-level reliability and validity were established through CR, AVE, and HTMT. While for second-order weights of dimensions on their constructs and significance of weights should be established. Weights for the dimensions of absorptive capacity and their significance are shown in Table 3.

Outer loadings of all variables were greater than 0.7. Fig. 5 shows the result of the loading.

**Table 1: Reliability analysis**

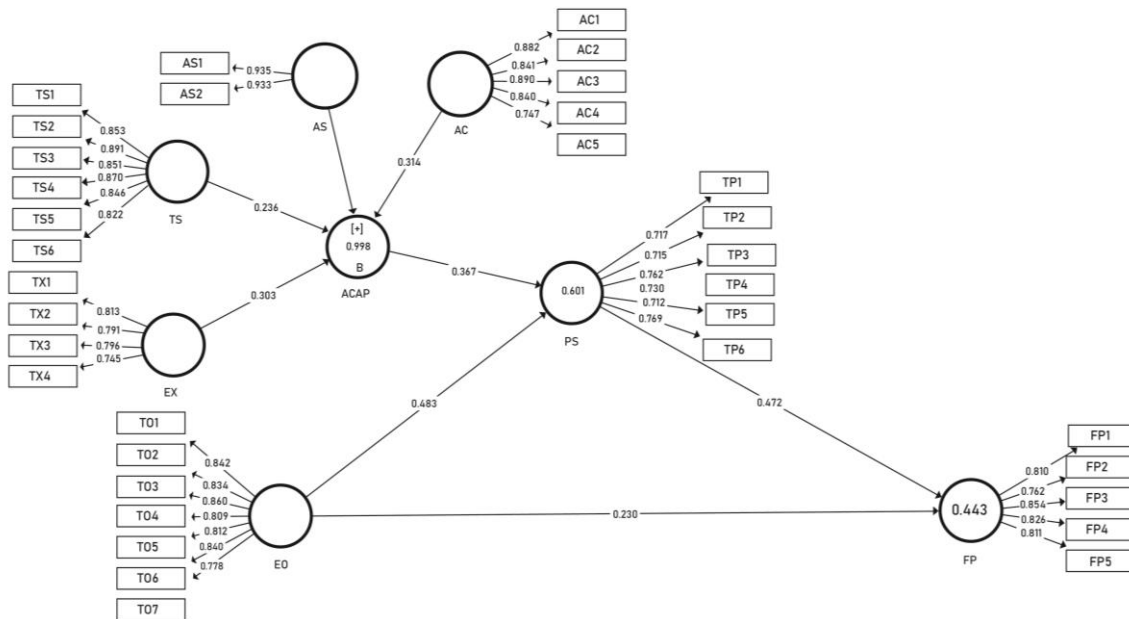
|    | Cronbach's Alpha | CR    | AVE   |
|----|------------------|-------|-------|
| AC | 0.896            | 0.924 | 0.708 |
| AS | 0.854            | 0.932 | 0.873 |
| EO | 0.92             | 0.936 | 0.677 |
| EX | 0.785            | 0.861 | 0.608 |
| FP | 0.872            | 0.907 | 0.661 |
| PS | 0.829            | 0.875 | 0.54  |
| TS | 0.927            | 0.943 | 0.732 |

**Table 2: HTMT ratio**

|    | AC    | AS    | EO    | EX    | FP    | PS    |
|----|-------|-------|-------|-------|-------|-------|
| AC |       |       |       |       |       |       |
| AS | 0.738 |       |       |       |       |       |
| EO | 0.737 | 0.62  |       |       |       |       |
| EX | 0.756 | 0.833 | 0.601 |       |       |       |
| FP | 0.721 | 0.862 | 0.642 | 0.833 |       |       |
| PS | 0.768 | 0.687 | 0.826 | 0.74  | 0.75  |       |
| TS | 0.646 | 0.802 | 0.6   | 0.851 | 0.858 | 0.597 |

**Table 3: Weights and significance**

|                     | Weights | Significance |
|---------------------|---------|--------------|
| Absorptive Capacity | AC      | 22.002       |
|                     | AS      | 14.036       |
|                     | TS      | 12.084       |
|                     | EX      | 20.624       |



**Fig. 5: Outer loadings and AVE**

**4.4. Structural model analysis**

Hypotheses testing was done by using the bootstrap method as multivariate skewness and kurtosis analysis showed that data was not normal. So, bootstrapping was done with 500 subsamples to test the beta coefficient, p-value, and t-value. Further, based on the recommendation of Hahn and Ang (2017) that p-value is not a very good criterion of testing significance, for accepting a hypothesis a combination of criteria effect size (f-square) and upper limit (UL) and lower limit (LL) confidence interval (CI) should also be used.

Hypotheses testing results show (R<sup>2</sup>=0.576) for FP and (R<sup>2</sup>=0.467) for PS representing that model have good in-sample prediction power. Moreover,

results revealed that EO has a significant impact on PS ( $\beta=0.321$ , T=3.604, p=0.000) leading to acceptance of H<sub>1</sub>. Hypothesis two results show that PS has significantly affected the firm performance ( $\beta=0.270$ , T=5.112, p=0.000) so H<sub>2</sub> was accepted. The impact of EO on firm performance also showed a significant result in result with acceptance of H<sub>3</sub> as ( $\beta=0.567$ , T=11.885, p=0.000).

Whereas indirect effect shows the mediation and moderation results. Mediation results show that PS significantly mediates the relationship between EO and FP as ( $\beta=0.087$ , T= 3.977, p=0.000). The moderation result revealed that Absorptive capacity significantly moderates the EO and PS performance as ( $\beta=0.085$ , T=2.163, p=0.035). So, H<sub>4</sub> and H<sub>5</sub> both were accepted. These results show that

organizations with high entrepreneurship orientation lead to high firm performance through project success. As most organizations are project-oriented nowadays that's why project success becomes very important for organizations and leads to greater firm performance. But this relation would

be stronger if the organization has high absorptive capacity i.e. capacity to gather external information and then use it for organizational benefit. All hypotheses were accepted at a 95% level of the confidence interval. Fig. 6 shows the bootstrap result.

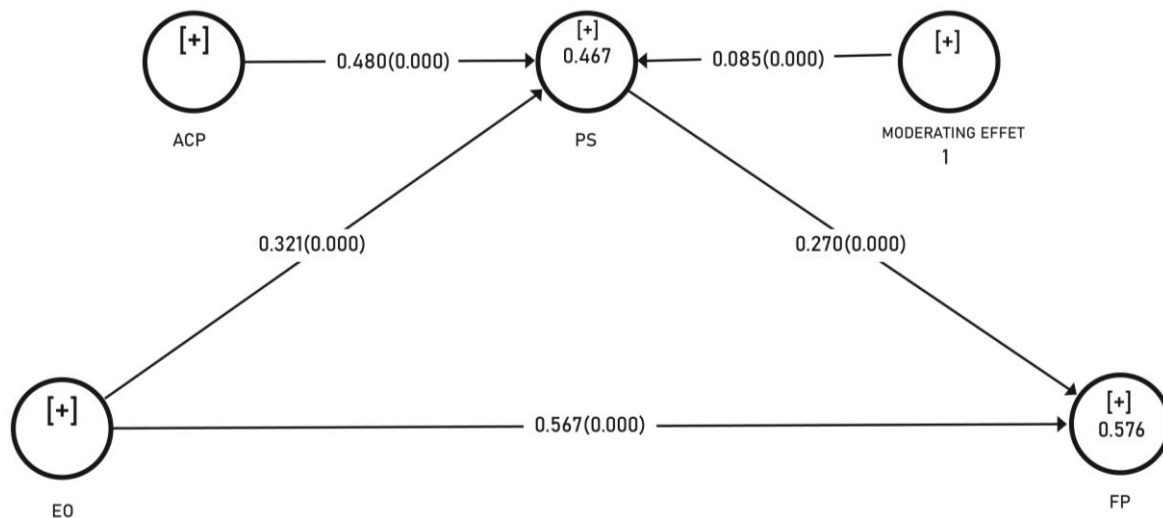


Fig. 6: Bootstrap result

Effect size ( $f^2$ ) was also measured it shows the effect of exogenous variables on endogenous variables. Gefen (2002) study suggested that ( $f^2$ ) greater than 0.35 is a higher effect size, 0.15 is medium and 0.02 is small effect size. The result of this study revealed that the effect size of all construct is greater except moderation having a small effect. All values of LLCI and ULCI are in an acceptable range which means all hypotheses were accepted. All results are depicted in Table 4 and highlight the acceptance of hypothesized relations.

Table 4: Hypotheses testing result

|                | Beta  | T-value | P Value | $f^2$ | LLCI  | ULCI  |
|----------------|-------|---------|---------|-------|-------|-------|
| H <sub>1</sub> | 0.321 | 3.604   | 0.000   | 0.321 | 0.146 | 0.484 |
| H <sub>2</sub> | 0.27  | 5.112   | 0.000   | 0.27  | 0.173 | 0.373 |
| H <sub>3</sub> | 0.567 | 11.885  | 0.000   | 0.567 | 0.471 | 0.652 |
| H <sub>4</sub> | 0.087 | 4.028   | 0.000   | 0.057 | 0.046 | 0.13  |
| H <sub>5</sub> | 0.085 | 2.113   | 0.035   | 0.085 | 0.009 | 0.116 |

### 5. Discussion and conclusion

The aim of this study was to measure the firm performance through project success and entrepreneurial orientation and the moderating role of absorptive capacity was also checked. To carry out the research data was collected from the employees of SMEs located in KSA. Analysis was done by applying the SEM technique, the result of the analysis revealed that entrepreneurial orientation has a significant impact on firm performance which means that companies with high entrepreneurial activities perform well. These results are also in line with the fallouts of prior studies (Wang, 2008; Shan et al., 2016). Firms with a high entrepreneurial spirit perform better as they are more innovative, risk-takers and proactive (Miller and Friesen, 1983) these characteristics of a firm accelerate its performance (Zhai et al., 2018). Similarly, further results revealed

that entrepreneurial orientation also influences project success and ultimately firm performance. Relation between EO and PS was not thoroughly investigated in prior studies. Khan et al. (2020) studied the impact of EO on PS and significant results were observed, present study also proved this relation and confirm that firms with entrepreneurial orientation are more capable of making projects successful. Okangi (2019) has also proved the impact of EO on the profitability of the firm.

Project success has a significant impact on a firm overall performance. The present study proves this relation which is also aligned by previous studies (Zaman et al., 2019; 2020). This study also proves to mediate the role of project success between entrepreneurial orientation and firm performance. It shows that firm performance is influenced by entrepreneurial orientation through project success. Higher entrepreneurial spirit leads to high project success which ultimately increases firm performance overall (Zaman et al., 2020). All these results are in line with previous research.

Furthermore, the moderating role of absorptive capacity was also measured on the relationship of EO and PS. Results exposed that PS significantly moderates the relationship of EO and PS and these results are also supported by previous research (Engelen et al., 2015). This means higher absorptive capacity positively affects the project's success. These results revealed that firms should use the absorptive capacity to improve project success through entrepreneurial orientation. The company should design a relevant mechanism for acquisition, assimilation, transformation, and exploitation of new knowledge. Studies indicate that firm should engage in those process and mechanism which increases firm outcome (Patel et al., 2014).

The result of this study indicates that a higher level of EO along with absorptive capacity facilitates the efforts towards knowledge components for project success. Higher EO not only helps to increase firm performance but also helps to understand the unavoidable risk factors and uncertainties in the market. Consequently, the model of the current study reveals that a firm with EO should have the ability to acquire and synthesize external knowledge with the internal process for a successful venture to increase performance.

### 5.1. Conclusion

In the present era of globalization and volatility companies are now more project-oriented and are more focused on project success. Therefore, for any firm and business project success has become more important as firm overall performance is depending on project success. This research empirically tests the model to prove the intervening role of PS for firm performance. The outcome of the study indicates that EO has a significant impact on FP and PS whereas PS significantly mediates this relation. This means to increase the firm overall performance and growth it is important to focus on the success of every single project.

As a firm with high EO is more innovative, risk-taker, and proactive focus, but to increase the capabilities of a firm it must have absorptive capacity skills. The absorptive capacity of a firm increases its abilities through external knowledge acquisition and then blending it with the internal process for carrying out a plan successfully. The present study also specifies the moderating role of absorptive capacity, as the higher the absorptive capacity of the company higher the firm performance through a successful project with greater EO.

### 5.2. Implications

This study has significant implications. Theoretically, it proves the mediating role of project success between entrepreneurial orientation and firm performance and empirically validates this model. It adds value in the literature of entrepreneurial orientation and firm performance highlighting the positive relationship between them and project success.

Further, it also contributes to the stream of absorptive capacity literature and feature importance of moderating role of it. Practically, it highlights the mechanism which is important for the firm overall performance. It helps to understand the managers that project success is crucial for firm performance as it mediates the relation. Therefore, they should focus on the success of every single project. Moreover, it is obvious that firms with high entrepreneurial orientation perform better. In the present competitive environment, companies should focus on entrepreneurial activities. Focusing on EO is increasingly important for a firm but it would be

more fruitful if the company would have knowledge absorbing and sharing capacity.

Companies should develop a mechanism and make plans and procedures flexible to adopt external knowledge and adjust with the requirement. Firm performance in a highly competitive and volatile environment can be significantly enhanced through looking at EO and firm cooperative knowledge-sharing entities. Policymakers and managers should come up with a plan to encourage proactivity, innovativeness, and risk-taking ability and provide supportive leadership to encourage and sustain information among their employees. Leadership must promote entrepreneurial practices and activities and provide support for knowledge absorption as these EO processes are vital for firm performance.

### 5.3. Limitations and future directions

Every research has some limitations, similarly, this study also has some limitations and invites future researchers to expand this research. This study is cross-sectional and did not capture the EO and FP at different time intervals which could be done in the future. Further, a cross-industry analysis could be done in forthcoming research to understand the EO's importance for different industries.

### Compliance with ethical standards

### Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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