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THE EFFECT OF ENTREPRENEURIAL ORIENTATION AND DIMENSIONS ON THE ORGANIZATIONAL PERFORMANCE WITH SAUDI SMES

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Abstract

Small and medium-sized enterprises (SMEs) in Saudi Arabia play a pivotal role in fostering economic growth, particularly aligned with the Saudi government's Vision 2030 initiative. SMEs contribute significantly to national production, job creation, and income growth. This research examines the impact of Entrepreneurial Orientation (EO) on Saudi SMEs' Organizational Performance (OP), with EO defined as a strategic decision-making framework encompassing various activities. The study explores how EO dimensions influence and predict higher OP, involving a sample of 100 Saudi SMEs from Jeddah, Riyadh, and Dammam who participated via an online survey. Statistical analyses included factor analysis to scrutinize EO dimensions and logistic regression to predict high and low-performance outcomes. Findings revealed a relationship between EO dimensions and OP, with logistic regression results indicating that the Autonomy dimension of EO positively impacts higher performance levels. Consequently, it is recommended that Saudi entrepreneurs emphasize the Autonomous dimension by incorporating methodologies that recognize employees' autonomy in strategic decision-making. This study contributes to academic discourse and practical applications by being among the first to investigate EO's impact on OP within Saudi SMEs. Future research should address limitations by expanding the sample size and incorporating advanced qualitative methods for a more comprehensive insight.

Keywords: Entrepreneurship, SMEs, Entrepreneurial Orientation, Organizational Performance, Logistic Regression, Strategic Decision-Making

1. Introduction

Entrepreneurship is widely acknowledged as a key driver of economic growth in global economies. Governments worldwide recognize the significance of small and medium-sized enterprises (SMEs) and facilitate their establishment by offering various support programs to entrepreneurs, including professional assistance in effective planning and diverse forms of financial support. A recent Global Entrepreneurship Monitor (GEM) report sheds light on entrepreneurship's role in several countries, including Saudi Arabia. The report notes that in economies like Brazil, Saudi Arabia, Qatar, the Netherlands, Puerto Rico, and Poland, a substantial proportion of adults perceive starting a business as relatively easy. They also express confidence in local business opportunities and believe they possess the requisite skills and experience for entrepreneurial ventures (GEM, 2022-2023).

In the context of the emerging economy of Saudi Arabia, SMEs play a critical role in economic development, job creation, and the production of goods and services aligned with societal needs. The governmental emphasis on entrepreneurship, coupled with the evolving trends of Vision 2030, reflects a growing recognition of the vital role played by entrepreneurship in shaping a thriving economy. Despite their crucial contribution, SMEs in Saudi Arabia encounter challenges stemming from limited resources common to their sector. Success hinges on strategic decision-making, as highlighted by GEM, which notes Saudi Arabia's high awareness of individuals initiating their businesses.

Focusing on the productivity of SMEs is considered integral to enhancing organizational performance. Entrepreneurial orientation (EO), viewed as a strategic direction and decision-making process, is deemed crucial for SME success. This research endeavors to elucidate the relationship between EO and organizational performance (OP) within Saudi SMEs, employing multiple indicators. These indicators correspond to the five core dimensions of EO defined by Lumpkin and Dess (1996), encompassing a propensity for autonomous action, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities.

The central research question is: How does applying EO dimensions impact OP within Saudi SMEs? The study aims to identify this relationship by addressing the following objectives: (1) Define and understand the concept, meaning, and importance of EO; (2) Investigate whether the EO dimensions identified in the literature are evident within Saudi SMEs; and (3) Examine whether these EO dimensions influence the OP of Saudi SMEs.

The feasibility of this study lies in its potential benefits and the added value of innovative data analysis methods capable of capturing the nonlinearity of reality. The research seeks to contribute practical knowledge applicable to Saudi entrepreneurs, decision-makers, and policymakers, offering insights and tools to enhance business skills. Moreover, it has implications for officials working on Vision 2030 and business incubators. The study's originality is evident in its contribution to the gap in the literature by examining EO within the specific context of Saudi Arabia. Using logistic regression for performance analysis introduces a novel perspective, enhancing understanding of the relationship between variables and their contribution to higher OP levels. Furthermore, the study's inclusion of a diverse sample from various regions ensures the generalizability of the results.

This study contributes to the academic discourse by being among the first to investigate and forecast the impact of EO dimensions on higher OP within Saudi SMEs. While existing studies have examined EO and OP in various contexts, this research uniquely focuses on Saudi SMEs, addressing a critical gap in the literature. Unlike prior studies, which often generalize across different economies, this research provides specific insights into the Saudi Arabian context, considering the unique economic and cultural factors.

Moreover, using logistic regression to analyze performance introduces a novel methodological approach. Previous studies, such as those by Covin and Slevin (1991) and Rauch *et al.* (2009), predominantly utilized linear regression models, which may not capture the complexity and nonlinearity of EO's impact on OP. This study offers a more nuanced understanding of the relationship between EO dimensions and OP by employing logistic regression. This study provides a focused examination of Saudi SMEs, enhancing the specificity

and applicability of its findings. Additionally, including a diverse sample from Jeddah, Riyadh, and Dammam ensures that the results represent different regional contexts within Saudi Arabia, further strengthening the study's generalizability and practical relevance.

2. Literature review

2.1. Entrepreneurship and SMEs

Early theories of entrepreneurship were primarily centered on entrepreneurs, characterizing them as "men of action" responsible for combining productive resources to generate novel combinations and products (Schumpeter, 1934). Schumpeter asserted that the primary purpose of entrepreneurs is to initiate innovation within their ventures, a concept known as the innovation theory. Over the years, scholars have endeavored to define entrepreneurship in various ways. For instance, Schaper *et al.* (2014) defined entrepreneurship as "the process whereby an individual discovers, evaluates, and exploits a business opportunity" (cited in Volery and Mazzarol, 2015). This definition underscores the discovery and exploitation of business opportunities as central to entrepreneurship.

In the context of Small and Medium-sized Enterprises (SMEs), definitions have been equally diverse. Volery and Mazzarol, drawing on Schaper *et al*.'s work, defined SMEs as entities managed by individuals primarily for personal goals. This perspective highlights the role of small business owner-managers and their personal ambitions in shaping their businesses.

Additionally, Schaper and Volery (2004) argued that entrepreneurship involves identifying opportunities, conducting processes, and transforming opportunities into tangible products or services. Similarly, Wang and Altinay (2012) defined entrepreneurs as individuals who balance personal interests with business pursuits when initiating new ventures. This holistic view of entrepreneurship underscores its complex and multifaceted nature, involving personal and professional dimensions.

In Saudi Arabia, the GEM report highlights a substantial emergence of SMEs that are aligned with the economic development goals of Vision 2030. The report indicates a rising trend of entrepreneurship in Saudi Arabia, emphasizing individuals' confidence in their skills and experience to start their businesses. Specifically, the GEM report for 2022-2023 reflects a positive perception within the Saudi Arabian economy, where individuals express confidence in recognizing entrepreneurial opportunities and find it easy to embark on entrepreneurial ventures (GEM, 2022-2023). This signifies a growing appreciation for entrepreneurship in the Saudi context and a simultaneous increase in the number of Saudi entrepreneurs.

In summary, early entrepreneurial theories focused on the dynamic role of entrepreneurs as innovators. Scholars have since strived to define entrepreneurship and SMEs, providing a more nuanced understanding of their roles and impacts. The Saudi Arabian economy, especially with the impetus of Vision 2030, has witnessed a surge in entrepreneurship, as evident from the increasing number of SMEs and the confidence exhibited by individuals in their entrepreneurial abilities.

2.2. Entrepreneurial orientation

Entrepreneurial Orientation (EO) was first introduced by Danny Miller in 1983, who defined it as a firm's inclination to engage in product-market innovation, undertake somewhat risky ventures, and be the first to come up with proactive innovations. He identified three EO dimensions: Innovation, Risk-taking, and Proactiveness. This foundational work set the stage for further exploration and expansion of EO.

Additionally, other authors, such as Felicio *et al.* (2012), identified six variables for EO: Risk Uncertainty, Risk Challenges, Competitive Energy, Autonomy, Innovativeness, and Proactiveness. Mason *et al.* (2015) similarly identified EO as comprising six independent variables: Proactiveness, Innovativeness, Risk-taking, Aggressiveness, Autonomy, and Competitive Energy.

In this study, the definition of Lumpkin and Dess (1996) was adopted. They defined EO as "the processes, practices, and decision-making activities that lead to new entry" and suggested

that EO specifies how new ventures are initiated and carried out. This definition emphasizes the procedural and decision-making aspects of entrepreneurship.

EO encompasses a set of strategies and decision-making processes assumed to boost organizational performance. Lumpkin and Dess (1996) proposed five dimensions to help entrepreneurs achieve these goals. Reviewing the relative literature on EO dimensions identified by Lumpkin and Dess will guide researchers in identifying the gaps that need to be investigated and lead to the development of research hypotheses. The hypotheses are based on the definition of EO dimensions constructed by Lumpkin and Dess as "a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities."

Several studies have investigated the role of EO on organizational performance (OP). For instance, Suder (2023) found that proactiveness and risk-taking significantly affected firm performance. Additionally, Aloulou (2023) investigated the relationship between EO dimensions (behavioral dimension EOBD, attitudinal dimension EOAD) and firm performance in KSA, finding significant relationships between EO dimensions and innovative capability. Furthermore, a study conducted in the KSA context by Abdulrab *et al.* (2020) examined the joint effect of EO, market orientation, and technology orientation on SMEs' financial and non-financial performance, finding that five out of six hypotheses were accepted. These findings highlight the complex interplay between various EO dimensions and their impact on organizational performance.

2.3. Entrepreneurial orientation dimensions

2.3.1. Autonomy

Autonomy refers to the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion (Lumpkin and Dess, 1996). Miller (1983) found that firms with the most autonomous leaders have the highest levels of entrepreneurial activity. Moreover, Quinn (1979) highlighted that delegating authority to operating units requires encouraging employees to plan and follow through independently.

Christian *et al.* (2011) found a positive relationship between autonomy and job performance. Additionally, Park (2018) demonstrated that job autonomy can enhance organizational performance by fostering a work environment that empowers employees. This empowerment increases motivation, innovation, and accountability, ultimately improving organizational efficiency and effectiveness. These insights led to the development of the first hypothesis:

H1: Autonomy significantly impacts organizational performance.

2.3.2. Innovativeness

Innovativeness involves pursuing new, creative ideas and experimentation (Lumpkin and Dess, 1996). Schumpeter (1934) highlighted that introducing new products or services disrupts market structures, facilitating growth. Jiménez and Sanz-Valle (2011) established a positive link between innovativeness and performance in Spanish firms. Moreover, Saxena *et al.* (2022) found that product, process, and marketing innovativeness positively impact organizational performance.

This extensive body of research underscores the critical role of innovativeness in driving organizational success. Innovativeness fosters an environment where new ideas can thrive, leading to the development of novel products and services. This leads to the development of the second hypothesis: H2: Innovativeness significantly impacts organizational performance.

2.3.3. Risk-taking

Risk-taking involves the willingness to engage in activities with uncertain outcomes (Lumpkin and Dess, 1996). Simon *et al.* (2000) discussed how cognitive biases affect entrepreneurs' risk perception. Conversely, Cantillon (1755) distinguished entrepreneurs from employees based on their propensity for risk-taking. Additionally, Douglas *et al*. (2000) described risk-taking behavior as involving activities such as borrowing heavily, entering unknown markets, and committing a

high percentage of resources to projects with uncertain outcomes.

However, not all perspectives on risk-taking are entirely positive, Widianingsih *et al.* (2023) demonstrated the importance of balancing risks with innovation to maximize revenue. This indicates that while risk-taking is essential, it must be managed carefully to avoid potential pitfalls. This leads to the development of the third hypothesis: H3: Risk-taking significantly impacts organizational performance.

2.3.4. Proactiveness

Proactiveness is the tendency to anticipate and act on future opportunities rather than reacting to events. Lieberman and Montgomery (1988) argued that firms aiming for higher profits should adopt proactive strategies. Additionally, Wambugu *et al.* (2015) found proactiveness to predict firm performance significantly.

Waibe *et al*. (2018) suggested that proactiveness and innovativeness indirectly influence SME performance. Similarly, Suder (2023) confirmed the positive impact of proactiveness on performance. This cumulative evidence underscores the strategic importance of proactiveness in achieving superior performance. This leads to the fourth hypothesis: H4: Proactiveness significantly impacts organizational performance.

2.3.5. Competitive aggressiveness

Competitive aggressiveness refers to a firm's tendency to intensely challenge its competitors to outperform them (Lumpkin and Dess, 1996). Cooper and Dunkelberg (1986) emphasized unconventional competing methods, such as aggressive marketing and targeting competitors' weaknesses.

Linyiru *et al.* (2017) found competitive aggressiveness to be a key determinant of firm performance for commercial state corporations. This perspective illustrates the critical role of competitive aggressiveness in achieving and sustaining a competitive edge. Nonetheless, this approach can be double-edged, potentially leading to negative consequences if not managed properly. This leads to the fifth hypothesis: H5: Competitive aggressiveness significantly impacts organizational performance.

2.4. Organizational Performance

The success of organizations is fundamentally dependent on their performance. Gavrea *et al.* (2007) state that "organizations have an important role in our daily lives and therefore, successful organizations represent a key ingredient for developing nations." This assertion underscores the significance of organizational performance in broader economic development.

To elucidate the role of Entrepreneurial Orientation (EO) and its linkage to performance, we turn to the research conducted by Lumpkin and Dess. They aimed to identify and establish a linkage between EO and organizational performance, positing a positive relationship between EO and performance. This helped develop and identify the EO dimensions framework, enabling researchers to investigate the relationship between EO dimensions and organizational performance.

Several studies have supported the positive relationship between EO and organizational performance. For instance, Suder (2023) found that proactiveness and risk-taking significantly affected firm performance. Similarly, Aloulou (2023) examined the relationship between EO dimensions (behavioral dimension EOBD, attitudinal dimension EOAD) and firm performance in KSA, finding significant relationships between EO dimensions and innovative capability.

Abdulrab *et al.* (2020) also investigated the joint effect of EO, market orientation, and technology orientation on SMEs' financial and non-financial performance in KSA, finding that five out of six hypotheses were accepted. These findings underscore the positive impact of EO on performance, highlighting the importance of a well-rounded EO approach in enhancing organizational success.

2.5. Literature gaps

While the existing literature has extensively explored the relationship between Entrepreneurial Orientation (EO) and organizational performance, there is a notable gap in understanding how EO dimensions specifically impact performance within the context of Saudi Arabian SMEs. Previous studies have generally established a positive link between EO and performance (Lumpkin and Dess, 1996; Suder, 2023; Aloulou, 2023; Abdulrab *et al.* 2020), yet they have not sufficiently addressed the unique economic and cultural landscape of Saudi Arabia.

This study aims to fill this gap by comprehensively analyzing EO dimensions—Autonomy, Innovativeness, Risk-taking, Proactiveness, and Competitive Aggressiveness—and their specific impacts on organizational performance in Saudi Arabian SMEs. This research contributes to a more nuanced understanding of EO in a non-Western context, offering valuable insights for practitioners and policymakers in Saudi Arabia.

Based on the identified research gap and the review of the literature, the following hypotheses have been developed:

H1: Autonomy significantly impacts organizational performance.
H2: Innovativeness significantly impacts organizational performance.
H3: Risk-taking significantly impacts organizational performance.
H4: Proactiveness significantly impacts organizational performance.
H5: Competitive aggressiveness significantly impacts organizational performance.

3. Methodology

3.1. Research design

This research follows a deductive positivism paradigm emphasizing measurement and logical reasoning. Starting with the theories of entrepreneurship and EO, the study builds on these theories by explaining the network of relationships between variables. This framework guides the development of hypotheses, which are then empirically tested to explain the causal relationships of the identified variables.

Hypothesis testing is central to this research and was used to explore variance in the dependent variable—organizational performance. The study forecasts organizational outcomes, such as low or high performance, using statistical methods discussed in Section 4, Results and Discussion. The research adopts an applied approach, aiming to improve understanding and provide solutions to specific business and management problems (Saunders *et al.* 2012).

An explanatory design addresses the research question, particularly due to the limited information on the phenomenon in the KSA context. A survey strategy via a self-administered questionnaire facilitates data collection from many participants across multiple regions. This approach enhances generalizability and maintains objectivity, as there is minimal researcher interference and no data manipulation.

The research employs a cross-sectional design, capturing data at a single point in time, and is conducted in a non-contrived setting, allowing events to proceed normally (Sekaran and Bougie, 2016). The unit of analysis is the organization, reflecting the strategic decision-making nature of EO. This systematic approach ensures a comprehensive understanding of EO's impact on organizational performance within Saudi Arabian SMEs.

3.2. Sampling Method

The sample frame for this research comprises Saudi entrepreneurs, owners, and managers of SMEs. According to Monsha'at's Quarterly Report Q1 2023 SMEs monitor, the total number of enterprises in the Kingdom reached 1.2 million, most falling under the Micro, Small, and Medium categories.

In Q3 2023, there was an increase in the number of enterprises, with Micro enterprises showing a 4% increase, while small and medium enterprises experienced slight fluctuations.

Table 1. Number of enterprises by size in Q3 2023

Enterprise Size	Q2 2023	Q3 2023	Change (%)
Micro	1,060,000	1,100,000	4%
Small	152,825	151,170	-2%
Medium	17,888	18,176	2%
Total	1,230,000	1,270,000	3%

Source: Monsha'at (2023)

Riyadh city accounted for the largest share of total SMEs, followed by Makkah and the Eastern province.

Table 2. Regional distribution of SMEs in Q3 2023

Province	No. of SMEs ('000)	Percentage of Total
Riyadh	549.35	43.3%
Makkah	232.04	18.3%
Eastern Province	136.69	10.8%
Other Provinces	351.19	27.7%

Source: Monsha'at (2023)

A random sampling method was used to select 300 SMEs, but only 100 responses were collected due to time limitations; the probability sampling method was used to ensure the representation of the entire population. The sample was drawn from three major cities: Riyadh, representing the central region; Jeddah, for the Western region; and Dammam, for the Eastern region.

3.3. Data collection

The data collection method that was applied and used to target the respondents was a self-administered structured questionnaire that was distributed online via a direct link to the survey; the online questionnaire has an advantage due to its ability to reach a huge number of people, the respondents were contacted via e-mail or phone and participants were asked to participate, respondents received the direct link via email or a WhatsApp message, with a brief description of the purpose of the study, a very brief introduction of the researchers was also provided, along with the contact information of the corresponding author. Messages via WhatsApp or email had a hyperlink that directly led to the web-based questionnaire. The questionnaire did not contain any sensitive or confidential data, and respondents were given the assurance as such.

The constructs of the questionnaire items were developed to measure the five items of EO. Participants were asked to respond to the statements that will be measured using a five-point Likert scale ranging from 1=strongly disagree and 5=strongly agree; as for the dependent variable OP, the measurement was a four-scale ranging from very low to very high, the reason for choosing four scales is to avoid neutral responses while comparing organization performance for current and last year. The respondents will choose to respond by selecting one or two, which indicates a low performance, or if three or four were selected, it would indicate a high performance; afterwards, the scale was transformed during data preparation and given binary values of zero that indicate a low OP, and one that indicated the higher performance.

In the preparation stage before the data analysis, the data of the one hundred respondents were downloaded in Excel, recorded, and checked to see if there were missing values to deal with using statistical techniques such as imputation methods. However, there were no missing values in the dataset. Another thing to be considered during the preparation is transforming the performance scale from four scales, from very low to very high, into two categorical scales (Low, High). The binary values of 0 indicate a low OP, and 1 indicates a higher performance. Thus, logistic regression can be applied as the response variable has two classes.

In the next step, the data was analyzed with software packages such as SPSS version 22; the data analysis was conducted in several stages: first, Descriptive statistical analysis, then Exploratory Factor analysis was used, the last step, the logistic regression analysis was employed

in this research to test the impact of five independent variables, namely, Proactiveness, calculated Risk-taking, Innovativeness, Autonomy, and Competitiveness aggressiveness, on one dependent variable (Organizational Performance), and the purpose to use the Logistic regression is to gain a deeper understanding on the factors that contributed to higher performance.

The questionnaire was organized into four sections; in total, twenty-nine questions were asked in the questionnaire. The EO and the organizational performance measures used in the questionnaires were adapted from a previous study (Kusumawardhani, 2013). All the survey questions with their respective sources are presented in Table 3 below. some of the questions were modified.

Table 3. Survey questions with their respective sources

No.	Instruments (Items). EO	Source.
Q1.	Employees in my firm are given freedom and independence in doing their work, without depending on the owner/ manager's direction.	Lumpkin *et al.* (2009).
Q2.	In this firm, the owner/manager (rather than employee initiatives) plays a major role in identifying and selecting the entrepreneurial opportunities this firm pursues*.	Lumpkin *et al.* (2009).
Q3.	The owner/manager of this firm believes that the best results occur when employees, individuals or a team, are able to decide for themselves what business opportunities to pursue.	Lumpkin *et al.* (2009).
Q4.	In this firm, the individuals and/or team pursuing business opportunities have to obtain approval from their manager before making decisions*.	Lumpkin *et al.* (2009).
Q5.	In general, the owner/manager believes that employees will work effectively when they decide on their own target.	Lumpkin *et al.* (2009).
Q6.	Employees in my firm are given authority and responsibility to act alone if they think it is in the best interests of the business.	Lumpkin *et al.* (2009).
Q7.	This firm is always creative in its methods of operation.	Lumpkin *et al.* (2009).
Q8.	This firm prefers to design its own unique new methods of production rather than adapting the methods of other firms.	
Q9.	In the last three years, this firm has marketed no new lines of products or services*	Lumpkin *et al.* (2009).
Q10.	The owner/manager of this firm favors their own original approaches to solve problems rather imitating methods that other firms have used for solving their problems.	Lumpkin *et al.* (2009).
Q11.	When confronted with decision-making situations involving uncertainty, this firm typically adopts a cautious, 'wait-and see' posture to minimize the probability of making costly decisions (as compared with a bold, aggressive posture to maximize the probability of exploiting potential opportunities)	Lumpkin *et al.* (2009).
Q12.	The top managers of this firm have a strong proclivity for high-risk projects (with chances of very high return), rather than low-risk projects (with normal rates of return).	Lumpkin *et al.* (2009), Covin and Slevin (1986; 1989).
Q13.	Employees in this firm are encouraged to take calculated risks with new ideas.	Lumpkin *et al.* (2009).
Q14.	In dealing with competitors, this firm typically initiates actions to which competitors then respond.	Covin and Slevin (1986; 1989).
Q15.	In dealing with competitors, my firm is often the first business to introduce new products/services.	Covin and Slevin (1986; 1989)

Table 3. Continued

Q16.	*The owner/manager of this firm has a strong tendency to 'follow the leader' in introducing new products or ideas*.*	Lumpkin *et al.* (2009), Lumpkin and Dess (2001).
Q17.	*This firm avoids a confrontation with the competitors, and lets them act**	Covin and Slevin (1989), Lumpkin *et al.* (2009)
Q18.	In general, our business takes a bold and aggressive approach when competing	Lumpkin and Dess (2001)
Q19.	Our business competes intensely in the furniture industry.	Lumpkin and Dess (2001)
Q20.	We try to undo and out-maneuver the competition as best we can.	Covin and Slevin (1986; 1989), Lumpkin and Dess (2001)
No.	**Instruments (Items) Organizational Performance**	**Source**
Q21.	Compared to previous years (since 2007), sales of products in 2009 in terms of volume (unit) are now…	Arvis *et al.* (2000), Naldi *et al.* (2007), Stam and Elfring (2008)
Q22	Compared to previous years (since 2007), sales of our products in 2009 in terms of rupiah are now…	Arvis *et al.* (2000), Naldi *et al.* (2007), Stam and Elfring (2008)
Q23.	Compared to previous years (since 2007), our annual profit in 2009 is now…	Stam and Elfring (2008), Wang and Zhang (2009)
Q24.	Compared to previous years (since 2007), the number of full-time employees in our firm in 2009 has changed to…	Stam and Elfring (2008)
Q25.	Compared to previous years (since 2007), the number of part-time employees in our firm in 2009 has changed to…	Stam and Elfring (2008)
Q26.	Compared to previous years (since 2007), our average late product deliveries in 2009 are now…	Abdel-Maksoud *et al.* (2005)
Q27	Compared to previous years (since 2007), the number of complaints about our products in 2009 is now…	Wiklund and Shepherd (2003), Abdel Maksoud *et al.* (2005)

Source: Kusumawardhani (2013)

The first section consists of three demographic questions, in total three demographic questions were asked so that the respondent can be classified by region, and to indicate the years of experience the respondents have.

The second part concerns the EO dimensions, and the first dimension is Autonomy. In terms of the independent action of an individual and the ability to be self-directed in creating opportunities, in total, there are six questions for Autonomy to test the impact of this dimension on the performance of the organizations. The second factor of the application will manifest the Innovativeness dimension, the innovativeness in terms of new products, services, processes, or a combination of three questions for Innovativeness. The third factor is risk-taking, which refers to the risk associated with conducting business and making decisions in new ventures; three questions were asked about this dimension. The fourth dimension is Proactiveness, which refers to the initiative to take the first action rather than being reactive; in total, five questions were asked

to test the impact of proactiveness on the OP. The last EO dimension is competitiveness aggressiveness, which refers to the engagement in challenging actions towards competitors; three questions were included in the survey that tested this factor.

The third and fourth parts were designed for the dependent variable OP; as mentioned above, the scale was given and designed to indicate the OP Across the performance of product sales in unit/riyals, annual profit, and number of full-time employees. In total, six questions were asked to measure the OP.

For this research, a pilot test was carried out before the survey was launched; the purpose of the pilot study was to investigate the reliability of the questions and to identify any errors, in addition to gathering information about the expected time it will take to finish the questionnaire, this information was included in the survey so that the participants will know how much time it will take them to fill it.

The data collected from the questionnaire was used to answer the research question and to investigate whether EO dimensions identified in the literature have been demonstrated within Saudi SMEs. To achieve this objective, factor analysis was employed, and the next step was to test the impact of EO dimensions on the organizational performance and to identify whether the dimensions contributed to a higher OP; this was achieved via logistic regression, in which the dependent variable OP was given a categorical number of 0 and 1, in which 0 indicates a low performance, and 1 indicated a higher performance, the purpose was to have a forecast of the factors that can help the entrepreneur to use and employ to have a higher performance.

4. Results and discussion

4.1. Demographic analysis

The demographic questions aimed to gather general information about the respondents.

Table 4. Demographic information

Demographic Question	Percentage of Respondents
Region	
- Western	58%
- Central	20%
- Eastern	22%
Work Experience (in years)	
- 0-5	30%
- 6-10	45%
- 11-15	15%
- 16-20	10%
Age Range	
- 20-30	5%
- 31-40	25%
- 41-50	50%
- 51-60	15%
- 61 and above	5%

Table 4 represents the responses to the three demographic questions; respondents were first asked to specify their region, with the majority (58%) working in the Western region of Saudi Arabia. Next, respondents were questioned about their years of work experience, as shown in Table 4, indicating that the most common range was between 6 and 10 years. The final demographic inquiry pertained to the age range of the respondents, as shown in Table 4, illustrating that the majority fell within the 41 to 50 age group. Table 4 summarizes the distribution of respondents based on their region, years of work experience, and age range.

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4.2. Descriptive statistics

The summary of descriptive statistics is represented in Table 5 for the EO's component, which includes the independent variables and the organization performance component presenting the dependent variables.

Table 5. Summary statistics

Comp.	Item no.	Variable Description	Min.	Max.	Mean	Std. dev.
Entrepreneurial-Orientation	S3	Self-Decide	1	5	3.460	1.201
	S5	Work Target	1	5	3.290	1.313
	S2	Opportunity Seeker	1	5	3.660	1.241
	S4	Discretion	1	5	4.030	1.235
	S17	Competitive Posture	1	5	3.220	1.276
	S16	Initiating new product	1	5	3.670	1.207
	S15	Being first to Market	1	5	3.490	1.227
	S6	Authority for Employees	1	5	3.170	1.422
	S14	Initiates Actions	1	5	3.600	1.146
	S7	Creativity	1	5	3.570	1.233
	S10	Own Problem-solving approach	1	5	3.750	1.149
	S8	Own Production method	1	5	3.740	1.177
	S20	Undo the competition	1	5	3.570	1.121
	S19	Intense competition	1	5	3.950	1.158
	S18	Bold approach	1	5	3.660	1.273
	S1	Freedom in Work	1	5	3.330	1.303
	S11	Decision-making style	1	5	3.620	1.117
	S12	Risk-taking proclivity	1	5	3.250	1.366
	S13	Risk-taking support	1	5	3.550	1.209
	S9	New product lines	1	5	3.750	1.167
Organization Performance	P1	Product sale by unit	1	4	3.060	0.093
	P2	Product sale by Riyals	1	4	2.990	0.088
	P3	Annual profit	1	4	2.960	0.083
	P4	Number of full-time employees	1	4	3.010	0.098
	P5	Number of part-time employees	1	4	2.660	0.111
	P6	Number of complaints	1	4	2.830	0.106

4.3. Exploratory factor analysis

Exploratory factor analysis (EFA) Reliability and Validity of the Measurement is a statistical technique used to identify the latent pattern of relationships between variables within a dataset. EFA can be used to evaluate how well variables group together in the context of reliability and validity. A set of highly related measured variables will be organized into separate factors. EFA determines the optimal number of factors that most accurately represent the dataset.

This study had two components: EO dimensions and organizational performance. In total, twenty items measure entrepreneurial orientation, and six items evaluate organizational performance. First, two measures were carried out for EO and OP. The first one is the Kaiser-Meyer-Olkin (KMO) measure, which was 0.854 for both components, suggesting that the dataset is suitable for factor analysis. In addition, this also indicates that the data appears to be well-suited for exploring underlying patterns or factors among the variables used. The second measure is Cronbach's Alphas, with values of 0.913 and 0.879, respectively, indicating significant reliability among the grouped items; this means that the questions or variables used in the analysis consistently measure the same thing, which indicates a high level of internal consistency. Both KMO and Cronbach's Alphas values are included and presented in Tables 7 and 8.

The commonality values are checked to measure the variability of the observed variables that could be explained by the obtained factors. Any communality value that is less than 0.3 is undesirable, and its variable will be excluded. That means a second round of EFA needed to be done. However, as shown in Table 6, the communality values were significantly marked by values

over 0.3 for both constructs. For the EO dimension, the value ranged between 0.443 (S3) and 0.753 (S7), whereas the firm performance's commonality ranged between 0.443 (P6) and 0.749 (P3).

Table 6. Communality values

Component	Item no.	Variable Description	Initial communality	Final commonality
Entrepreneurial-Orientation	S3	Self-Decide	1	0.443
	S5	Work Target	1	0.679
	S2	Opportunity Seeker	1	0.660
	S4	Discretion	1	0.703
	S17	Competitive Posture	1	0.732
	S16	Initiating new product	1	0.594
	S15	Being first to Market	1	0.507
	S6	Authority for Employees	1	0.747
	S14	Initiates Actions	1	0.664
	S7	Creativity	1	0.753
	S10	Own Problem-solving approach	1	0.723
	S8	Own Production method	1	0.687
	S20	Undo the competition	1	0.645
	S19	Intense competition	1	0.657
	S18	Bold approach	1	0.560
	S1	Freedom in Work	1	0.742
	S11	Decision making style	1	0.534
	S12	Risk taking proclivity	1	0.652
	S13	Risk taking support	1	0.745
	S9	New product lines	1	0.742
Organization Performance	P1	Product sale by unit	1	0.687
	P2	Product sale by Riyals	1	0.708
	P3	Annual profit	1	0.749
	P4	Number of full-time employees	1	0.616
	P5	Number of part-time employees	1	0.560
	P6	Number of complaints	1	0.443

To determine the optimal number of factors which include the most correlated variables in each factor. This study utilized a graphical tool called 'scree plot' which displays the eigenvalues of factors in descending order against their respective factors. As shown in Figure 6, the point where the plot levels off, forming an "elbow" or bend, indicates the number of factors that should be considered.

Figure 1. Scree plot

Table 7 summarizes EFA results for EO dimensions, including the loading factors obtained from the varimax rotated component matrix, eigenvalues, and the percentage of

variance in each factor. In Table 7, in line with the five EO dimensions defined by (Lumpkin and Dess, 1996), the variables for the first factor present the Autonomy scale, which lists six variables measuring the EO. This factor contributed the highest variance, explaining 22.22% of the total variance in the data set, which means that the Autonomy factor accounted for 22.22% of the variability in the other fourteen variables. While innovativeness accounted for the lowest variance, only 8.11% of the total variance. The number of generated factors obtained by EFA was consistent with the number of EO dimensions in the literature.

Table 7. Exploratory factor analysis of entrepreneurial orientation

Code	Variables and Factors	Factor Loadings	Eigenvalues	% of Variance Explained	KMO	Cronbach's Alphas
Factor 1: Autonomy						
S3	Self-decide	0.791				
S5	Work target	0.657				
S2	Opportunity Seeker	0.775	7.899	22.216		
S4	Discretion	0.780				
S1	Freedom in work	0.699				
S6	Authority for employees	0.842				
Factor 2: Proactiveness					0.854	0.913
S17	Competitive posture	0.850				
S16	Initiating new product	0.696				
S15	Being first to market	0.559	1.654	14.731		
S14	Initiates actions	0.577				
S9	New product lines	0.747				
Factor 3: Innovativeness						
S7	Creativity	0.658	1.420	8.111		
S10	Own problem-solving approach	0.694				
S8	Own production method	0.689				
Factor 4: Competitive Aggressiveness						
S20	Undo the competition	0.653				
S19	Intense competition	0.573	1.180	9.441		
S18	Bold approach	0.574				
Factor 5: Risk Taking						
S11	Decision-making style	0.529				
S12	Risk-taking proclivity	0.653	1.014	11.036		
S13	Risk-taking support	0.806				
Total			65.834			

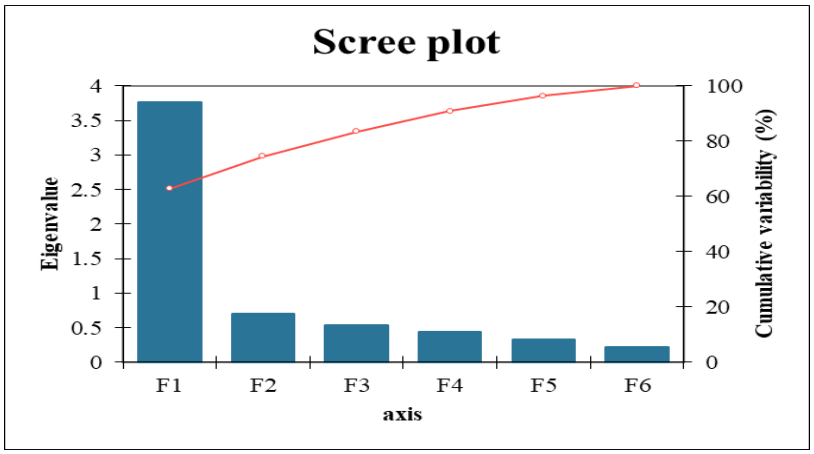

Figure 2. Scree plot 2

The scree plot in Figure 2 of the organization performance is unidimensional, which means that all six performance variables have similar underlying structures. The results of this component are in Table 8, which represents the loading and eigenvalues, the percentage of

variance explained, and KMO and Cronbach's Alphas. As discussed before, the value of the last two measures proves the reliability measure for this component.

Table 8. Exploratory factor analysis of organization performance

Code	Variables and Factors	Factor Loadings	Eigenvalues	% of Variance Explained	KMO	Cronbach's Alphas
P1	Sale product in units	0.829	3.764	62.732	0.854	0.879
P2	Sale product in Riyals	0.842				
P3	Annual profit	0.866				
P4	Number of full-time employees	0.785				
P5	Number of part-time employees	0.748				
P6	Number of Complaints	0.665				

4.4. Logistic regression

Logistic regression is useful for understanding or predicting the effect of one or more variables on a binary response variable. A binary variable means that it can only take two values. For instance, this study has two binary labels to evaluate the organizational performance as high or low. As discussed earlier in the data preparation section, the response variable was transformed to the categorical label to be applicable for the logistic regression. In Figure 3, the bar charts display whether the SMEs' performance was higher or lower this year than last. It was clear for most SMEs that significantly higher performance in terms of product sales by unit and Saudi riyals, Annual profit and increasing the number of full-time employees. Even though the last two measured variables show a higher performance this year, some factors attributed to the lower performances affected the overall organizational performance, where the number of SMEs that had high and low performance was 56 and 44, respectively. Therefore, logistic regression will investigate which EO dimensions affect organizational performance. It also helped to understand the level of the dimensions' effect on OP.

The dependent variable, the overall performance, was calculated by taking the average of the six performance questions. The independent variables were similarly calculated by taking the average of each factor. Thus, we have five independent variables, which represent the following: averages of Autonomy, Proactiveness, Innovativeness, Competitive Aggressiveness and Risk-taking.

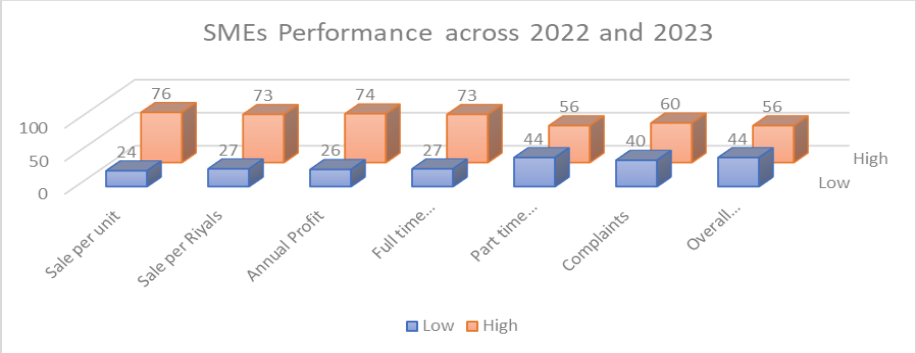

Figure 3. Saudi's SMEs Performance 2022-2023

Table 9 shows the goodness of fit, which indicates the quality of the model, and tests the null hypothesis, which states that the probability of high overall performance is equal to the assumed value of 0.56. Across different statistical tests (Log-Likelihood, Score, and Wald tests), the obtained chi-square values with the associated degrees of freedom and p-values (<0.0001 in all cases) demonstrate statistically significant evidence against the null hypothesis. This suggests

that the observed probability significantly deviates from the hypothesized value of 0.56, implying a substantial difference in the actual probability of overall performance compared to the initially assumed value.

Table 9. The goodness-of-fit statistics

Statistic	DF	Chi-square	Pr > Chi²
-2 Log(Likelihood)	5	40.459	<0.0001
Score	5	33.543	<0.0001
Wald	5	22.497	0.000

The Type II analysis Table 10 provides initial insights into the model, offering valuable information regarding how the variables contribute to explaining the response variable. Based on the probabilities from the Chi-square tests, we observe that the Autonomy dimension has the strongest impact on Organizational performance (p = 0.003).

Table 10. Type 2 analysis

Source	DF	Chi-square (Wald)	Pr > Wald	Chi-square (LR)	Pr > LR
Autonomy	1	8.948	0.003	10.468	0.001
Proactiveness	1	0.000	0.999	0.000	0.999
Innovativeness	1	0.331	0.565	0.329	0.566
Competitive Aggressiveness	1	0.158	0.691	0.158	0.691
Risk Taking	1	1.408	0.235	1.452	0.228

The model parameter for logistic regression, represented in Table 11, showed that there was only one significant parameter, Autonomy; the odds ratio is 3.872, which means that for a one-unit increase in Autonomy, the odds of the organization's performance increase by 3.872 times. A positive coefficient for Autonomy with the value of 1.354 might mean that as Autonomy increases, the likelihood of the organization's performance increases as well.

Table 11. Logistic regression model parameter

Source	Value	Standard error	Wald Chi-Square	Pr > Chi²	Odds ratio
Intercept	-7.491	1.798	17.351	<0.0001	
Autonomy	1.354	0.453	8.948	0.003	3.872
Proactiveness	0.001	0.559	0.000	0.999	1.001
Innovativeness	0.218	0.380	0.331	0.565	1.244
Competitive Aggressiveness	0.138	0.347	0.158	0.691	1.148
Risk Taking	0.510	0.430	1.408	0.235	1.666

Therefore, the study's results supported H1: Autonomy significantly impacts performance, whereas H2, H3, H4, and H5 are not supported.

4.5. Discussion

As discussed above, the findings of this study supported the EO theory by authors (Lumpkin and Dess, 1996), EO dimensions that are identified in the literature, the results of the study supported the assumption that Saudi entrepreneurs, owners, CEOs and managers of SMEs are aware and demonstrating the EO, yet, further analysis suggested that not all EO dimensions are used by Saudi entrepreneurs as a method to enhance the OP as proved by the logistic regression results.

The findings of this study utilizing the logistic regression model revealed that as autonomy increases, the likelihood of higher organizational performance also increases significantly. This

helped to contribute to the understanding of the factors influencing organizational performance in Saudi SMEs. The significant impact of autonomy suggests that empowering employees and granting them decision-making authority can lead to improved performance outcomes. This aligns with the concept of entrepreneurial orientation, which emphasizes the importance of autonomy in fostering innovation and responsiveness to market dynamics.

While other dimensions of EO, such as proactiveness, innovativeness, competitive aggressiveness, and risk-taking, were included in the analysis, autonomy emerged as the most influential factor in driving organizational performance. This could be attributed to autonomy's fundamental role in fostering an entrepreneurial culture within the organization. While other dimensions are important, autonomy is the foundation upon which these dimensions can thrive. the non-significant effects of other EO dimensions raise interesting questions about their relevance in the Saudi context. Further research may explore the reasons behind these findings and investigate potential contextual factors that influence the relationship between EO dimensions and organizational performance.

4.6. Recommendations

Based on the above-discussed results and analysis, it's recommended that Saudi SME owners/managers re-evaluate their capabilities and whether the EO dimensions can enhance the organizations' performance, leading to a higher OP. As discussed above, since not all EO dimensions can be attributed to boosting organizational performance, it is still recommended to Saudi entrepreneur to identify their strategic direction and be on the lookout for methods that can be beneficial since all SMEs face vulnerable positions due to fierce competition, and the risk associated with their ventures.

Moreover, the results of the study supported H1, which stated that Autonomy has a significant impact on performance; this was the only dimension out of the five factors that had a significant impact on higher organizational performance; therefore, it is recommended that CEOs, managers, and owners of Saudi SMEs should invest heavily in the empowerment of their employees, this empowerment which can be attributed as an Autonomy is enabling the employees to make their own decision or at least to be involved in the decision -making process, training programs, task delegation, brainstorming groups, and motivational methods that are associated with decision-making could be advisable as well.

Besides, as discussed, the Saudi Vision 2030 supports the growth and development of SMEs, and the government is always developing programs to support SMEs. Therefore, it could benefit SMEs to gain advantage of that support that might help them in their endeavors.

5. Conclusion

In conclusion, the study aimed to investigate the EO dimensions defined in the literature on the OP in Saudi Arabia, to answer the research question, what is the effect of applying entrepreneurial orientation dimensions on organizational performance within Saudi SMEs?

To address the research question, the study employed a self-administered questionnaire and collected data from one hundred respondents; the sample consisted of Saudi Entrepreneurs, owners and managers of SMEs.

The EO factors that were included in this research are autonomy, innovativeness, risk-taking, proactiveness, competitiveness, aggressiveness, and organizational performance as dependent variables. The main goal was to test the significance of those dimensions on the OP and to draw a highlight on the OP, giving it qualitative values as high and low. To achieve this, the study employed logistic regression as a data analysis model to gain insight into this phenomenon in the Saudi context.

The data analysis and logistic regression results revealed that EO's dimension of Autonomy significantly impacts Organizational performance, leading to a higher OP.

As recommended in the above section, Saudi entrepreneurs can benefit from the results of this study by understanding the autonomous methods that can help them boost their OP, in addition to gaining benefits from the programs offered by the government.

5.1. Limitations of the study

Besides the benefits and contributions, the study has topical, geographical, and methodological limitations; first, it can incorporate a crucial role of Behavioral factors and explore their pivotal impact on the OP. Second, geographical limitation: Although the study included three major cities in the kingdom, the recommended sample size should be at least three hundred responses, which could not be achieved due to the limited time. Finally, the methodological limitation was manifested in the results that the study could benefit from incorporating more advanced qualitative methods to get a better insight.

5.2. Perspective and future research

For future research in the entrepreneurship field, it's advisable to use a larger sample size, though, in this research, the aim was to enrich the academic discourse surrounding entrepreneurship and business administration while contributing to the gap between theory and practice and providing actionable insights for entrepreneurs, policymakers, and academics. Research's potential impact on the business landscape of Saudi Arabia and beyond always exists.

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