Moderating Role of Competitive Intensity on Market and Entrepreneurial Orientation

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Abstract: - The aim of the paper is to develop and test a structural equitation model for the relationship between entrepreneurial orientation and market orientation. The model includes both moderator and mediator factors. In this paper, it is argued that entrepreneurial orientation is antecedent of both type of market orientation, so the market orientation is considered as a mediator factor. It is also stated that the relationship between entrepreneurial orientation and market orientation is affected by high level competition in the market, means the competition level moderate the relationship. Then, market orientation is used in two construct; responsive and proactive market orientation. To discuss all above, this study was conducted with 720 Small and Medium Sized Enterprises. The results indicated that entrepreneurial orientation and responsive market orientation have positive and significant impact on performance, whereas proactive market orientation has negative effect. In addition, environmental competition moderate the relations in the model.

Key-Words: - Entrepreneurial orientation, Responsive market orientation, Proactive market orientation, Mediator effect test, Moderator Effect, Multiple regression, SMEs.

1 Introduction

Today's economic condition is characterized by rapid changes, shortened lead-time and rampant entrepreneurial activities. In this economic climate, the biggest challenge of firms is to achieve and sustain competitive advantages. This challenge is relevant all size of firms. However, it is more crucial for Small and Medium Sized Enterprises (SMEs). SMEs have lack of resources to adopt rapid market changes [1]. It is generally accepted that market orientation (MO) and entrepreneurial orientation (EO) are the two main organizational capabilities to achieve and to sustain competitive advantages for SMEs [2- 5]. Both MO and EO as a strategic orientation, are describe as a corporate posture that combines the strategic behavior traits needed to deal with the current challenges of the economic landscape [6]. Research concentrate on strategic orientation such as MO and EO, is an important emerging issue for SMEs [7]. Although there are general agreement on the importance of strategic orientation for SMEs, there is no agreement on which strategic orientation is antecedent of the other or they are on the same level.

In the literature, there are three main research streams: the first stream considers entrepreneurship as antecedents to MO; the second stream considers entrepreneurship as a mediator between firm's MO and performance; and the third stream considers both MO and EO as organizational capabilities. Some researchers argued all three research streams

have jointly contributed to achieve completive advantages while others argued that all firms have some degree of EO so that EO transcends the other firm orientation [8, 9]. In this paper, unlike the previous research streams, it is argued that EO leads better firm performance, and MO mediates the relationship between EO and firm performance.

There are a number of studies on the relationship between EO and performance and, MO and performance. Both of them are associated with superior performance in one or more of factors such as profitability, sales, growth, and new product success. However, research on the mediating effect of MO on the relationship between EO and performance rarely seen.

The majority of the studies on the relationship between MO and performance is based on either conceptualization of Narver and Slater or Kohli and Jaworski [2, 3]. For example, in one study, it was pointed out that MO has two different perspectives; responsive market orientation (RMO) and proactive market orientation (PMO) [10]. In the case of literature, there are limited number of researches on this perspective of market orientation.

Several studies have also examined the degree to which the intensity of market competition affecting the relationship between EO, MO and organizational performance [11, 12]. However, the majority of the studies were conducted in developed countries. Examining the moderator effect of competition in developing countries is rarely seen in the literature.

In this paper, an attempt is made to address the research gab on mediator effect of RMO and PMO on the relationship between EO and performance. In addition, the moderator effect of intensity of competition on those relationships by developing a structural equation model.

2 Theoretical Background and Conceptual Framework

The general framework of this study is to develop and test a structural model for the relationship between entrepreneurial orientation and market orientation by using survey technique. For the purposes of this study, resource-based view (RBV) theory [13] is adopted as the theoretical background of the paper. According to RBV, companies use their physical assets, human assets, and organizational assets to develop long-term competitive advantages and, in turn, achieve superior company performance [14]. It is argued that MO and EO are organizational capabilities that contribute to the creation of a unique resource, 'positional advantage', which positively affects performance [8]. Therefore we consider EO and MO as a firm's resources.

2.1 Entrepreneurial Orientation

The concept of EO refers to firm-level processes, practices, decision-making styles, and strategic orientations that help a firm to gain a competitive advantage and exhibit superior performance [15]. EO is an expression of an entrepreneurial firm's entrepreneurial mindset as an organization which has an influence on strategic processes and performance [16].

EO has three components: innovativeness, proactiveness, and constructive risk taking [17-19]. Innovativeness reflects a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative processes, thereby departing from established practices and technologies [15]. Being proactive (proactiveness) refers to a posture of anticipating and acting on future wants and needs in the marketplace, and risk taking that is associated with a willingness to commit large amounts of resources to projects where the likelihood and cost of failure may be high [15]. Risk-taking propensity denotes the willingness to commit more resources to projects where the cost of failure may be high or projects have uncertain outcomes or unusually high profits and losses [15, 20, 21].

2.2 Market Orientation

Market orientation has received considerable attention from researchers over the past twenty years, with two general perspectives emerging.

The first perspective is a cultural perspective that centers on values and norms [3]. It was defined that MO is "the organization culture that most effectively and efficiently creates the necessary behavior for the creation superior value for buyers and thus continuous superior performance for the business". These authors have focused on three behavioral components: customer orientation, competitor orientation, and inter-functional coordination.

The second perspective is behavioral in nature where the market orientation is defined as "the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it" [2]. Hence, the market orientation revolves around the continuous collection of information

regarding target-customer needs and competitor capabilities. If this information is carefully analyzed, it leads to the creation of continuously superior customer value. In this study, two market orientation constructs were developed; responsive and proactive market orientation [10]. A responsive market orientation, in the customer-led cultures, may be described as the generation, dissemination, and responsiveness of market information regarding the current product and market domain and focuses on the expressed needs of customers. A proactive market orientation, however, is concerned with discovery and satisfaction of the latent, unarticulated needs of customers through observation of customers' behavior in context to uncover new market opportunities, to discover future needs, and if necessary, by cannibalizing the sales of existing products [10, 22, 23].

3. Hypothesis Development

3.1 Entrepreneurial Orientation and Performance

Entrepreneurial Orientation and its impact on performance have been examined for more than 20 years. Some researchers have argued that EO has a significant impact on performance [15, 24] and this impact increases in the long run [25, 26]. Other studies have discovered that the relationship between EO and firm performance is best represented as curvilinear fashion [27]. Recently, in a meta-analysis of 51 studies, it was found that the correlation of EO with performance is moderately large [16]. In the view of earlier studies, the following hypothesis is proposed:

H1: *EO has a positive impact on firm performance*.

3.2 Market Orientation and Performance

The relationship between market orientation and firm performance has been also discussed in the literature. The vast majority of the studies suggested that being market orientated was associated with superior performance in one or more of profitability, sales, growth, and new product success [23, 28-30].
It was also suggested that MO could comprise either responsive versus proactive behaviour [10]. Responsive market orientation finds the firm catering to suggested or compelled directions provided by customers. This perspective which reflexes the empirical analysis on MO is the theme in the majority of research studies. From this aspect, proactive marketing finds the firm attempting to discover, understand, and satisfy the latent needs of customers. Therefore, the responsive market orientation ultimately could and would be imitated successfully, so just as superior customer benefits become beneficial over time [10]. For any business to create and to maintain sustainable competitive advantages continually, it must increase its proactive market orientation continually. Proactive market orientation may also alert the firm to new market and technology developments and ideas that challenge existing cause effect relationship [31]. It was argued that when firms response to market changes with constantly evolving customer needs which is responsive MO, firm's performance would increase [32]. On the other hand, some researchers support the idea that only proactive MO has an impact on firm performance while some support responsive and proactive MO are independent [33]. The above studies suggest that firms can develop both orientations simultaneously. Thus, the following hypotheses are proposed:

H2: *Responsive Market Orientation (RMO) has a positive impact on firm performance.*
H3: *Proactive Market Orientation (PMO) has a positive impact on firm performance.*

3.3 The Relationship between Entrepreneurial Orientation and Market Orientation

The entrepreneurial orientation encompasses values and behaviors as innovativeness, risk taking, and competitive aggressiveness. Hence, entrepreneurial values may enhance the prospects for developing a breakthrough product or identifying an unserved market segment, both of which are fertile ground for developing competitive advantage [34]. Similarly, EO is antecedents of market orientation [35]. Since EO mainly represents a response of firms to future or potential market needs, it leads both responsive and proactive MO. Therefore, the following hypotheses are proposed:

H4: *Entrepreneurial orientation (EO) is antecedents of responsive market orientation (RMO).*
H5: *Entrepreneurial orientation (EO) is antecedents of proactive market orientation (PMO).*

3.4 Moderator Effect of Competitive Intensity

A dynamic environment poses challenges and offers new opportunities to which firms must respond creatively through entrepreneurship [14]. Therefore,

there were moderator effects of perceived environmental difficulties on the relationship between EO and firm success [16, 36 ,37]. In a hostile environment, the intensity of competition exerts more pressure on the firms [38]. Under high competition conditions, customers have many alternatives to satisfy their expressed needs. The ability to quickly respond to current customer needs becomes more important for a firm that operates within a highly competitive industry. Under these circumstances, learning and problem solving in current market domains made possible by enhanced absorptive capacity and competence in those areas can help a firm achieve better product performance [39]. Therefore, the following hypothesis is proposed.

H6: *Intensive competition has moderator effect on the relationship between EO, RMO, PMO, and performance.*

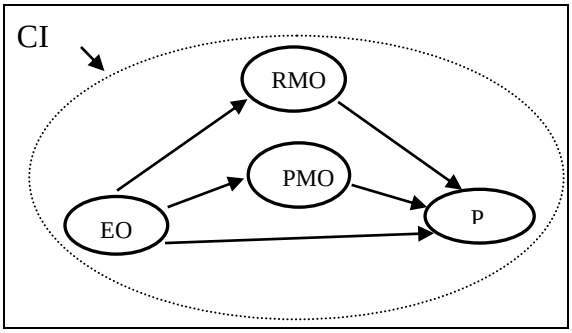

Fig. 1 Proposed Research Model

Based on these hypotheses, a research model is proposed as shown in the above figure (Fig. 1).

4 Methodology

A survey method was used for data collection. For the questionnaire, existing scales seen in the literature were adopted and 5-point- Likert type scale was used. Responsive and proactive market orientation aspects were measured by originally developed scale by Narver et all [10]. 7 scale items were used to measure RMO and 8 scale items were used to measure PMO. EO was measured by a scale developed by Covin and Slevin [11]. Nine items are used to assess the key dimensions of EO, reactiveness, risk taking, and innovativeness. Competitive intensity was measured by 4 variables, the scale was adopted from Jaworski and Kohli, [12]. Competitive intensity were measured based on perception of respondent. The performance was also measured based on the perception of the respondent (changing profits, sales and return-on-investment in 3 years). The reason of choosing subjective measure is that SMEs are often very reluctant to provide 'hard' financial data and objective financial data on SMEs are not publicly available, making it impossible to check the accuracy of any reported financial performance figures [17].

As it was mentioned above a survey method was used for data collection. All above items adopted from literature initially applied for the developed countries. To see the same items could be applicable to the developing countries, Turkey was chosen as a developing country and the same items were used for the questionnaire. After selecting the items from literature, the first step to prepare the questionnaire was to translate the questions in Turkish with the support of experts. The second step was to test the comprehensibility of the questionnaire to abstain from meaning deviations. For this purpose, the preliminary questionnaire was applied to 30 SME owners by face to face interview and minor modifications were applied to reduce the ambiguity on the questionnaire based on their feedbacks.

The empirical research was conducted using a sample of existing Turkish Small and Medium-Sized Enterprises (SMEs) located in Ankara. The sampling framework was constructed from a database provided by Small and Medium Industry Development Organization in Turkey. First, SMEs located in Ankara are determined from the list and among SMEs located Ankara, sample of 2,500 SMEs was selected randomly. Only 770 firm owners agreed to participate in the survey. After discarding 50 of 770 responses that were incomplete, the remaining 720 responses were included for the analysis.

Of 720 respondents 550 (76.3%) were male and 170 (23.6%) were female. In the case of education, the majority of participants (460 (63.8%)) graduated from vocational high school. 192 (26.6%) of 720 graduated from university and only 67 (9.3%) of the participants had graduate degree. In terms of age groups of the participants, 24 (3.3%) are in the range of 18-24, 196 (27.2%) are in the range of 25-34, 287 (39.8%) are in the range of 35-44, 174 (24.1%) are in the range of 45-54 and 39 (5.4%) are in the range of 55-64.

Regarding firm size, European SME definition is adopted in the study. The European definition of SME follows: "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons. The firm has less than 50 employees is considered small business. The firm that number of employee is between 51-250 is considered as medium sized firms. In the sample, 480 (66.6%) of the participants

are small business owner and 240 (33.3%) of them are medium sized business owners.

The procedure of the analysis applied in this paper as in the following order. First, reliability of the scale was tested. Second, since the scale was reliable, Confirmatory factor analysis was applied to test validity of the research model. Third, the first five hypotheses (H1-H5) were tested. The procedure for testing as follows: A structural equation modelling technique was applied to test all five hypotheses via path analysis through LISREL 8.51 for full sample [40]. The parameters of the research model were estimated and the validity of the measurement was tested. This approach permitted a comprehensive and confirmatory assessment of both convergent and discriminant validity of all constructs used in the model. LISREL 8.51 can only test the moderator effect for the model, however, in hypothesis 6 (H6) it was purposed to investigate the moderator effect of competitive intensity for each relations in the research model. So, H6 was tested by multiple regression analysis.

5 Application and Findings

Structural equation modeling (SEM) was adopted to validate the instruments for unobserved constructs and test the research models [41]. The first stage of the analysis was the reliability test. It was found that all scales were above the accepted point of 0.7 (RMO: 0.85, PMO: 0.82, EO: 0.80, CI: 76, and P: 0.81). The second stage of the analysis was to apply to Confirmatory Factor Analysis (CFA). CFA determines the effect of each item to its latent variables. In the case of the CFA, since the chi-square and the root mean square error of approximation (RMSEA) ($\chi 2$: 1196.95 (df: 318, p: 0.000), with RMSEA: 0.062, SRMR: 0.059, NFI: 0.84, NNFI: 0.87, CFI: 0.88, IFI: 0.88, GFI: 0.89, AFGI: 0.87) were above/below the expected values, the items had less effect among the latent variable were discarded from the scale. (Acceptable value for SRMR, NFI, NNFI, CFI, IFI, GFI and AFGI is greater than 0.90). From the original items of Narver's at all, RMO1, RMO5, RMO8, PMO2, and PMO6 were eliminated. Similarly, from the original items of Covin and Slevin's scale, EO3, EO4 and EO7 were removed. Then, CFA was applied for the remaining items. The results indicated that the goodness of fit statistics were all sufficient ($\chi 2$: 395.25 (df: 146, p: 0.000), with RMSEA: 0.049, SRMR: 0.046, NFI: 0.91, NNFI: 0.93, CFI: 0.94, IFI: 0.94, GFI: 0.95, AFGI: 0.93) They were illustrated in Fig. 2.

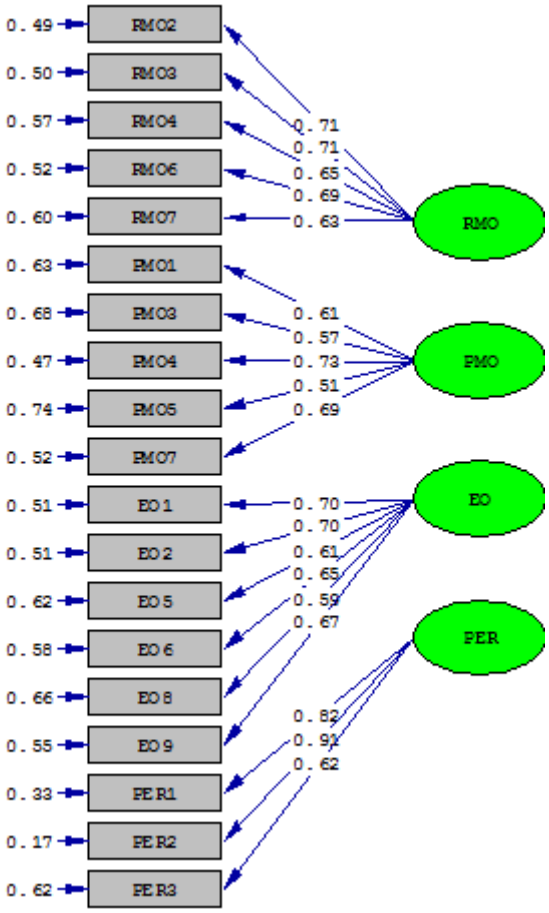

Fig. 2 Confirmatory Factor Analysis results

Average Variance Extracted (AVE) and Construct Validity (CR) are performed for discriminant validity [42, 43]. Squared roots of AVE exceed the correlation of the latent variables. CR is also above the accepted point. (EO: 0.81, RMO: 0.81 and PMO: 0.76). Therefore, discriminant validity is supported and illustrated in Table 1.

Table 1 Discriminant Validity

	EO	RMO	PMO	PER
EO	***0.65***			
RMO	0.64	***0.67***		
PMO	0.39	0.25	***0.62***	
PER	0,26	0.29	-0.07	***0.78***

The diagonal shows the square roots of AVE

The third stage of the analysis was to test the proposed model and the hypotheses by using LISREL 8.51 [40]. Based on the model fit measures, chi-square statistic of the proposed research model was 411.29 (df = 147, p <0.001). For a goodness of model fit, the ratio $\chi 2/df$ should be as small as possible. A ratio between 2 and 3 is indicative of a good or acceptable data-model fit [44]. The ratio in the study was 2.79. $\chi 2$ statistic was sensitive to sample size whereas RMSEA was relatively

independent of sample size and perform well as indices of practical fit, so RMSEA was considered for this study. Most of the commonly used incremental fit indices exhibit relative independence from sample size and thus are useful indices of practical fit [45]. In the literature, it was suggested that RMSEA values lower than 0.10 indicates a good fit to data, and *RMSEA* values ≤ 0.05 can be considered as a good fit, values between 0.05 and 0.08 as an adequate fit, and values between 0.08 and 0.10 as a mediocre fit, whereas values > 0.10 are not acceptable [44, 46]. The RMSEA of the model is 0.05 which falls in the acceptable range. Additionally, the standardized root mean square residual (SRMR) should be less than 0.05 for a good fit, but in some cases, the values smaller than 0.10 can be interpreted as acceptable [44]. SRMR of the studied model is 0.061 which is within acceptable range. Regarding the other goodness fit statistics, all the goodness fit statistic values are above the expected value of 0.90 (NFI: 0.91, NNFI: 0.93, CFI: 0.94, IFI: 0.94, GFI: 0.94, AGFI: 0.93) (Fig. 3a, b).

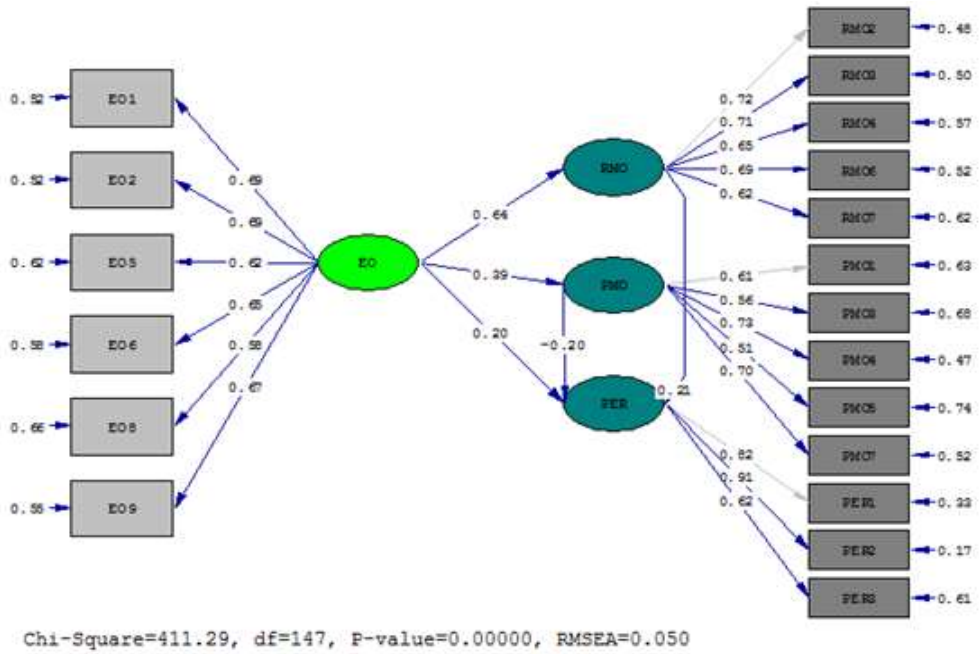

Fig. 3a Assessment of Path Coefficients

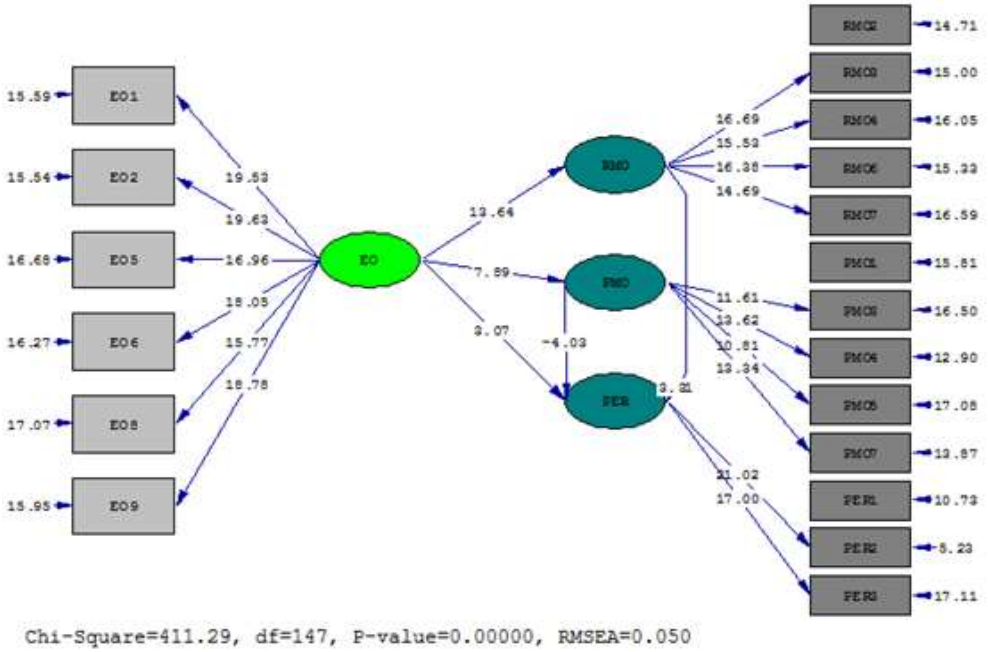

Fig. 3b Assessment of Path t statistics

Path coefficients were all significant at the appropriate significance levels (Fig. 3b and Table 2). According to path analysis results, EO has significantly positive effect on firm performance, so the first hypothesis (H1) is supported. Similarly, the results from path analysis, the path coefficient between RMO and performance is 0.20 with t statistics 3.31 which falls into the acceptable range. This shows the responsive MO has also significant positive effect on firm performance, so H2 is supported. It was proposed in hypothesis 3 (H3), the relation between PMO and performance was positive, however, the result obtained from the path analysis was negative. Although the relation is significant, mainly negatively significant, it contradicts with H3, so it was concluded that H3 is not supported and there is a negative impact on firm performance. Since proactive MO require deep market research and produce new products, this might decrease performance in short term. Regarding the hypotheses H4 and H5, it is found that EO is antecedent of both type of MO.

Table 2 Hypotheses Testing Results

Hypotheses	**Beta**	**t-value**	**Result**
H1	0.20	3.07*	Support
H2	0.20	3.31**	Support
H3	-0.21	-4.03**	No Support
H4	0.64	13.64***	Support
H5	0.39	7.89***	Support

* p<0.05; ** p<0.01; ***p<0.001

Since EO is antecedent of MO, it is also tested direct and indirect effect of EO on performance to understand the mediating effect of MO on relationship between EO and performance. The results indicate that both type of MO enhance the relationship between EO and performance (Table 3).

Table 3 Total and Direct Effect of EO on Performance

Total Effect of EO with PMO and RMO		Direct Effect of EO	
P	0.26 (5.84***)	P	0.20 (3.31**)

t-statistics are shown in parenthesis. * p<0.05; ** p<0.01; ***p<0.001

Then, it is argued that MO has a mediator effect on the relationship. However, since sign of RMO is negative, it is difficult to determine the effect of each MO. Therefore, in order to determine the mediator effect of each MO, the model is run for each MO. It is found that PMO enhance the EO-performance relationship (Table 4) (Direct effect is 0.17, when PMO come into play the effect is 0.26).

Table 4 Total and Direct Effect of EO on Performance with PMO

Path including just PMO (Direct Effect)		Total Effect of EO with PMO	
EO → PMO	0.62 (13.19***)	PMO	0.62 (13.69***)
PMO → P	0.14 (2.35*)		
EO → P	0.17 (2.86*)	P	0.26 (5.93***)

t-statistics are shown in parenthesis. * p<0.05; ** p<0.01; ***p<0.001

However, RMO reduces the impact of EO on performance. Therefore, RMO could not mediate the EO-P relationship (Table 5). While direct effect of EO on performance is 0.31, total effect decline to 0.26 because of impact of RMO.

Table 5 Total and Direct Effect of EO on Performance with RMO

Path including just RMO (Direct effect)		Total Effect of EO with RMO	
EO → RMO	0.34 (6.96***)	RMO	0.34 (9.96***)
RMO → P	-0.14 (-2.85*)		
EO → P	0.31 (6.39***)	P	0.26 (5.92**)

t-statistics are shown in parenthesis. * p<0.05; ** p<0.01; ***p<0.001

In order to test the hypothesis H6, the multiple regression analysis was used. Four regression models were estimated to investigate the moderator effect of perceived competition intensity on each relationship of dependent and independent variables. The collinearity among independent variables was tested by calculating the variance inflation factor (VIF) for each of the regression coefficients. The VIF ranged from a low of 44.924 to a high of 47.354, well below the cutoff of 100 recommended. However, these values are acceptable when the VIFs, eigenvalues and condition indexes are examined together [47].

Table 6 Results of Regression Analysis for Proposed Model

Variables	Model1 b	Model2 b	Molde3 b	Model4 b
EO	0.364***	0.602***	0.618***	0.618***
RMO	0.463***	0.387***	0.547***	0.301***
PMO	0.155**	0.207***	0.101*	0.341***
EOxCI		-0.217***		
EOxRMOxCI			-0.291***	
EOxPMOxCI				-0.285***
R^2	0.956	0.958	0.96	0.96
F	5276.112 ***	4091.693 ***	4369.011 ***	4368.703 ***

* p<0.05; ** p<0.01; ***p<0.001

The results show that CI negatively moderates the relationship between EO and performance, EO-

RMO and performance, and EO-PMO and performance. These finding indicate highly competitive environment places SMEs under pressure (Table 6).

6 Conclusion

The proposed structural equation model is an application in emerging market and validates our hypothesis. The following question can be answered by the model: "Which construct is antecedent of others?" or "Do they have equally impact on performance?

In the light of the available literature, this paper made an attempt to determine the moderator effect of competitive intensity and the mediator effect of responsive and proactive market orientation on the relationship between entrepreneurial orientation and firm performance by survey technique. There were 6 proposed hypotheses (H1-H6). The hypotheses H1-H5 were tested by the software Lisrel 8.51. However, since Lisrel 8.51 did not work for H6, it was tested by multiple regression analysis.

The results show that there are five contributions of this study to the literature;

- This paper tries to increase understanding whether EO is antecedent of MO. Similar to findings in literature [32], the results show that EO is antecedent of MO. Therefore, it can be argued that all firms have an EO. In other words, while a company may or may not be market oriented, it has some level of innovativeness, risk taking, and proactiveness, even if the level is quite low [9].
- Knowing that EO has an impact on firm performance, in this study, in order to enhance, the impact of MO on a firm performance was added to study. The results indicated that MO can mediate the relationship between EO and performance.
- The majority of previous studies took either Narver or Slater's construct or Kohli and Jaworski's construct into consideration. In this study it was used two MO constructs [10]. The results indicate that responsive and proactive MO has different mediation effect on EO-performance relationship.
- The majority of studies examined the impact of MO and EO on performance have been conducted western economies. Furthermore, the scales were developed in western-developed economies. Therefore, the forth contribution of the paper is to apply the scales in a developing country.
- High level of competition intensity in the market has a negative moderator effect among the EO, RMO, and PMO. In the emerging market, the relationship between EO, PMO, RMO, and performance is affected by intensity of competition [48].

The results indicated that small business owner should focus on EO and responsive MO to increase sales, profit and return on investment in the short term. Proactive MO has a negative impact on performance in the short term. However, proactive MO has no mediator effect on EO. It can be argued that EO and proactive MO could be same level construct. Thus, owners of Turkish Small and Medium-Sized Enterprises should take risk and be more proactive to deal with high level of competition in the market.

This study has some limitations. The research focus on Turkish Small and Medium-Sized Enterprises without any industrial difference and it was conducted under the assumption of age and education of owners has no impact.

For the future research, same construct should be tested in different countries to generalize the results and also a different construct might be tested such as EO and proactive MO are same level construct and responsive MO mediates them. The moderation effect of market conditions-competition has been left for the future studies. Organizational culture, climate and innovation might be added into model. Similar to the research of Leskovar-Špacapan [49], in order to sustain competitive advantage, companies also need to develop culture and climate that support creativity and innovation.

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