**Assessing the role of environmental, organizational and managerial characteristics as antecedents of** **entrepreneurial orientation**

**Abstract**

**Purpose** - The aim of this study is to empirically examine the impact of several environmental, organizational and managerial characteristics on entrepreneurial orientation.

**Design / methodology / approach** - Based on RBV (Resource Based View) theory, This study built on a quantitative research method. Data was collected through a structured questionnaire and analyzed by Smart PLS-SEM 3 software. The sample included 185 managers of domestic Israeli companies from various industries.

**Findings** - The data analysis have shown that market turbulence, technological turbulence and risk-taking tendency, positively affect entrepreneurial orientation. Moreover, centralization negatively affected entrepreneurial orientation while formalization did not affect at all.

**Originality/ value** - This study emphasizing the importance of environmental, organizational and managerial characteristics as organizational capabilities and has practical implications for managers how to achieve competitive advantage in order to promote their entrepreneurial orientation.

**Keywords** Entrepreneurial orientation; Market turbulence; Technological turbulence; Risk taking; Formalization; Centralization.

**Paper type:** Research paper

**Introduction**

Strategic orientations of the firms are perceived as conceptions that guide firms' activities and direct behaviors needed for long-term viability and performance (Hakala, 2011). They shape organizational attitudes and behaviors (Hong *et al*., 2013).

The marketing literature offers wide range of organizational strategies such as: market orientation (Jaworski and Kohli, 1993), entrepreneurial orientation (Lumpkin and Dess, 2001), customer orientation (Liu *et al*., 2002), competitor orientation (Lengler *et al*., 2013) and pioneering orientation (Ortega and Garcia-Villaverde, 2011). These orientations are reflecting firms' strategies that include ways of thinking, processes and actions. According to these orientations, managers are working in order to gain a competitive advantage. Accordingly, this study focused on entrepreneurial orientation and considered it as important firm' strategy.

Most previous researches have examined the impact of entrepreneurial orientation on firm performance. For example: Hong *et al*. (2013) argued that entrepreneurial orientation contributes to new product performance. Covin and Slevin (1991) argued that the entrepreneurial posture of a firm is positively related to both the generated revenue and profitability of a firm. Similarly, Lau *et al*. (2012) found a positive relationship between entrepreneurial competence and firm growth. Zahra (1991) found that corporate entrepreneurship contributes to superior corporate financial performance.

However, this study seeks to explore entrepreneurial orientation from a different point of view. It examines several antecedents that may influence entrepreneurial orientation. Specifically, this study focuses on three different sets of characteristics; environmental characteristics such: market turbulence and technological turbulence, managerial characteristic reflected as risk taking propensity of managers, and organizational characteristics such: formalization and centralization.

The research about entrepreneurial orientation has been documented in vast bodies of studies. Scholars mostly have investigated each characteristic separately. Some scholars may have examined the advantages or disadvantages of some antecedents of entrepreneurial orientation but did not generate an integrative model designed to examine those characteristics in one model in order to examine their impact on entrepreneurial orientation simultaneously. Therefore, this study seeks to make an important contribution to marketing literature by bridging this gap. The main goal of this study is to explores and assess the extent to which these three sets of characteristics influence entrepreneurial orientation.

Against this background, this study includes an integrative model (see Figure 1) that was developed with three sets of characteristics (environmental, managerial and organizational) which served as antecedents of entrepreneurial orientation. Using Resource-Based-View of the firm (RBV) as a theoretical lens, the entrepreneurial orientation is considered as valuable resource, which finally should contribute to organizations achieving their goals.

**Literature review**

**Entrepreneurial orientation**

Entrepreneurial orientation (EO) reflects a firm' strategy whereby managers work and act. It entails the procedures, practices, and decision-making activities that make firms entrepreneurial (Lumpkin and Dess, 1996). Recognizing that entrepreneurs contribute to the exploration of business opportunities, especially in the pursuit of new ventures, EO is a substantial factor in the exploration of domestic and global opportunities (McDougall and Oviatt, 2000). Grinstein (2008, p. 118) argued that "entrepreneurial values enhance organizational transformation and renewal, can help build new competencies, and create new businesses within the existing business". Głodowska *et al*. (2019) argued that EO refers to the internationalization process of firms.

Eo has been conceptualized in the research literature in varied ways. For example: Lumpkin and Dess (1996; 2001) defined EO with five dimensions which includes autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness. Kropp *et al*. (2006; 2008) have conceptualized Eo along a three-dimensional structure, namely: proactiveness, innovativeness, and risk-taking and examined its role in the decision to enter a new venture. Hult *et al*. (2007) defined Eo as unidimensional construct that included five items.

Covin and Slevin (1991) viewed entrepreneurship as a dimension of strategic posture represented by firms' risk-taking propensity, tendency to act in competitively aggressive, proactive manners, and reliance on frequent and extensive product innovation. Miller (1983, p. 771) defined an entrepreneurial firm as one that "engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch".

EO represents wide lens through which firms act in their environment. Several studies have discussed about a wide range of antecedents that may influence EO. For example: environmental turbulence (Wang *et al*., 2021), psychological traits and contextual factors (Pittino *et al*., 2017), conflicts and connectedness among employees within the organization departments (Dahan and Shoham, 2014),organizational structure (Covin and Slevin, 1991),communication components of Eo (Kropp *et al*., 2006). However, this study emphasizes three important sets of characteristics (environmental, managerial and organizational) and examined their impact on Eo as detail below.

**Theoretical background**

This study based on resource-based view (RBV) theory. Armstrong and Shimizu (2007) have noted that RBV is considered as accepted theoretical framework in the strategic management literature and it enables firms to identify the conditions that help them to achieve competitive advantage. According to Barney (1991), firms who seek to gain sustained competitive advantages must possessed resources which meet four criteria: they must be valuable, rare, hard to imitate, and hard to substitute. The more developed a resource along these attributes, the more difficult it is for other firms to imitate and copy it. Similarly, Kozlenkova *et al*. (2014) added that researchers need to identify organizational processes that may enable firms to take advantage of its valuable, rare, and imperfectly imitable resources.

Daft (1983) argued that resources are include assets, capabilities, processes, knowledge and information which are controlled by firm and enable it to implement its strategies in efficiency and effectiveness manner. Bertram (2016), in his book, widely reviewed the development of the RBV theory along the years, and argued that RBV, in its core, states that the resources that company possesses are the basis for achieving competitive advantage. Strategy in its essence entails the deployment of resources to achieve organizational aims and objectives (O'Regan and Ghobadian, 2004).

The link between RBV and entrepreneurial orientation already was discussed in the research literature. For example, Hult and Ketchen (2001) noted that entrepreneurial orientation is considered as a firm' capability that can form the basis for gaining a sustainable advantage. Similarly, Alvarez and Busenitz (2001, p. 755) argued that "entrepreneurs have individual-specific resources that facilitate the recognition of new opportunities and the assembling of resources for the venture".

Against this background, this study views entrepreneurial orientation as unique firm' resource and considering it as valuable, rare, and inimitable and non-substitutable resource. Based on RBV theory, the research model integrate three facets of characteristics (environmental, managerial and organizational) and examine their impact on entrepreneurial orientations as presenting in Figure 1.

[Insert Figure 1 about Here]

**Hypothesis development**

The development of the hypotheses of this study was based on studies from the marketing literature. In each of the hypothesis path, an attempt was made to strengthen the basis of the hypothesis. Below is the background for each of the research hypotheses.

***Environmental characteristics and EO***

This set of characteristics represents two important market conditions under which companies operate: market turbulence and technological turbulence. Market turbulence, for its part, is characterized by "continuous changes in customers’ preferences/demands, in price/ cost structures, and in the composition of competitors" (Calantone *et al*., 2003, p. 92). While technological turbulence refers to the "rate of technological advancement within an industry" (Autry *et al*., 2010 p. 528).‏ Both reflect the dynamic changes that often occur in the business environment. According to them, managers need to respond in the most appropriate way in order to maintain their competitive advantage over their rivals. "The core of entrepreneurship is a positive energy that challenges or changes existing conventions by acutely responding to the changing environments with an innovative and creative mind" (Park, 2017, p. 160).

Several studies have found a positive influence of market and technological turbulence on entrepreneurial orientation. For example: Davis, *et al*. (1991) argued that environmental turbulence has a significant causal impact on the entrepreneurship level of the firm. Additionally, Hall and Rosson (2006) argued that technological turbulence creates entrepreneurial opportunities, a challenge to incumbents and established norms. Lumpkin and Dess (1996) argued that EO is associated with performance especially when combined with an appropriate strategy under the proper environmental conditions. Wang *et al*. (2021) found a relationship between environmental turbulence and a firm’s EO. So, it can be expected that:

***H***1***:******Market Turbulence Positively Affect EO.***

***H2:******Technological Turbulence Positively Affect EO.***

***Managerial characteristic and EO***

The managerial characteristic represents the risk-taking propensity of managers in the organization. Actually, it is a manager's tendency to take risky actions (Lammers *et al*., 2010). Managers are mostly operating according to their behavioral propensities. Some of them act intuitively while other more logically (Lu, 1995). Masters and Meier (1988, p.33) defined risk taking propensity as "the perceived probability of receiving the reward associate with success of a proposed situation". Crant (2000, p. 437) noted that "proactive people actively seek information and opportunities for improving things; they don’t passively wait for information and opportunities to come to them". The European Conference on Entrepreneurship Education (2006) highlighted that entrepreneurship education must teach some personal attributes and skills that form the basis of an entrepreneurial mind-set and behavior (e.g., creativity, sense of initiatives, risk taking, autonomy, self-confidence, leadership). Chu and Li (2018) noted that entrepreneurs should minimize risks, but at the same time should also recognize on business risks while trying to take advantage of opportunities under uncertainty.

While risk-taking is a definitional dimension of EO (Kropp *et al*., 2008; Miller, 1983). However, several studies have treated the two concepts separately and discussed the relationship between risk-taking and entrepreneurship (Brockhaus, 1980;.Covin and Slevin, 1991), and more specifically in the context of innovation (Craig *et al*., 2014; Zhang *et al*., 2018). Against this background, this study considers risk taking' propensity as an antecedent of EO and examines the relationship between the two.

This relationship has been discussed already in the marketing literature. Naldi *et al*. (2007) concluded that risk-taking is a distinct dimension of Eo and that it is positively associated with proactiveness and innovation. In today's rapidly changing and highly uncertain markets, entrepreneurial firms must be willing to take risks because "without risk-taking, the prospects for business growth wane" (Ward, 1997, p. 326). Avlonitis and Salavou (2007) documented that active entrepreneur adopts an aggressive orientation characterized by willingness to undertake high-risk actions. So, it can be expected that:

***H3: Risk-Taking Positively Affect EO.***

***Organizational characteristics and EO***

This set of characteristics represents organizational structure and includes two components: *formalization* and *centralization*. Both characteristics have been reported in the marketing literature as performance-reducing (Caruana *et al*., 2002; Covin and Slevin, 1991; Jaworski and Kohli, 1993). Regarding to formalization, Caruana *et al*. (1998, p. 19) argued that "formalization refers to the existence of formal rules and regulations and the organization's efforts to enforce those rules". Jaworski and Kohli (1993, p. 56) added that "formalization represents the degree to which rules define roles, positions, authorities, communications, norms, sanctions, and procedures within an organization". Moreover, Toivonen and Rivera-Santos (2016) noted that formalization is measured by the internal documentation of the organization, and expressed by rules, procedures, policy and regulations that written in the organization.

With respect to centralization, Zalewska-Turzynska (2018) argued that centralization refers to the decision making' authority and it measured by the number of decisions that are taken by managers in all organizational levels. Similarly, Jaworski and Kohli (1993) noted that centralization refers to the level of decision-making within the organization and reflect the extent to which employees take part in the decision-making process. Caruana *et al*. (2002, p. 48) added that "centralization refers to the extent that decision-making power is concentrated at the top levels of the organization".

Covin and Slevin (1991) proposed that internal organizational structures such formalization and centralization can be as antecedents to entrepreneurship. Moreover, Caruana *et al*. (1998) added that these two components reflect key aspects of the organization structure which affect corporates entrepreneurship. Accordingly, this study uses formalization and centralization as antecedents of entrepreneurial orientation and aims to examine their influence on EO.

The influence of formalization and centralization on EO has been examined in the research literature. Yang *et al*. (2019) argued that organizational structure such centralization and formalization are critical for mobilizing resources to support EO activities.

Organizational structure serves as a critical antecedent to entrepreneurship, which is negatively related to formalization (Covin and Slevin, 1991). Additionally, high units' formalization reduces the level of exploratory innovation (Jansen *et al*., 2006). Several studies suggest that internal organizational structures such as centralization are critical to facilitate development of innovations (e.g., Atuahene-Gima, 2003; Jansen *at al*., 2006; Jaworski and Kohli, 1993).

Caruana *et al*. (1998) argued that high levels of centralization reduce the levels of entrepreneurship. Likewise, Covin and Slevin (1991) argued that entrepreneurial posture is negatively related to a firm's level of structural centralization. Additionally, high levels of centralization in public sector organizations reduced the level of entrepreneurship (Caruana *et al*., 2002). In sum, it can be expected that:

***H4: Formalization*** ***Negatively Affect EO.***

***H5: Centralization Negatively Affect EO.***

**Methodology**

**The questionnaire**

The study questionnaire was developed based on a thorough review of the marketing literature and included two parts. The first part contained several demographic questions, aim to screen out participants who were not suitable for this study. Specifically, beyond the general demographic questions (e.g., age, gender and respondent' job), this part contained three more questions used to establish the reliability and validity of the answers and to ensure that the respondents are capable and sure enough to answer questions about their company’s issues (job seniority and the amount of time and experience the respondents have had as managers in their company). Table I presents the means, medians and standard deviations of the answers to items designed to assess respondents’ expertise. As table I indicates, managers are quite experienced in their areas of responsibility and current companies.

[Insert table I about Here]

The second part is a major part of this study questionnaire and contained 5-point Likert-type scales (1 = strongly disagree to 5 = strongly agree) that were taken from previous researches and represented the questions about main constructs of this study. Only respondents who successfully met all criteria of the first part were allowed to answer this part.

**Data collection and sample**

The data collection of this study was done by ***i*Panel** - an Israeli commercial company that specialize on data collection and serve wide range of academic institutes in Israel. The study's sample consists of 185 managers of Israeli domestic companies from various industry fields such: pharmaceutical , services and manufacturing. It is worth noting that none of the companies is a start-up company.

When 52.43% of the companies had more than 100 employees. With regard to demographics, the average age of respondents was 43 years and 71.9% were male. 62.7% of the respondents were employed as intermediate level managers. Regarding decision-making authority, 41.1% of the respondents make marketing decisions.

**Scales and items**

The scales of this study based on previously validated scales with 5-point Likert-type items (1 = strongly disagree to 5 = strongly agree) taken from the marketing literature research. The EO scale was taken from Hult *et al*. (2007) and included five items. The market turbulence and technological turbulence scales were taken from Jaworski and Kohli (1993) and included six and four items, respectively. Finally, the risk taking, formalization and centralization scales were also based on Jaworski and Kohli (1993) and included five, seven and five items, respectively.

**Analysis tool**

This study employed Smart PLS-SEM 3 (Partial Least Squares Structural Equation modelling) as the main analysis tool. Hair *et al*. (2012, p. 428) argued that "PLS-SEM has become a more widely used method in marketing research". Technically, the analysis process was done in two steps. First, examination of the measurement model (also called the outer model) and assessment of several psychometric properties of the model. Then, examination of the structural model and testing the research hypotheses.

**Measurement model**

The measurement model of this study based on constructs of latent variables that conceptualized as reflective variables. According to Hair *et al*. (2012), reflective measurement model should involve several assessments such: indicator reliability, internal consistency reliability, convergent validity and discriminant validity. The calculation of the measurement model properties was done by running the "PLS Algorithm" procedure and included several assessments as detailed below. Figure 2 depict graphically the measurement model.

[Insert Figure 2 about Here]

*Outer Model Loadings*

This assessment determines the indicators' reliability and reflects as the squared standardized outer loading of each indicator. As can be seen in Table II, all the outer loadings are greater (or closer to 0.7) than the acceptable threshold of 0.7 (Wang, 2013). It is important to note that the outer loadings of the indicators Mt3, Mt5, Tech3, Form6, Form7, and Cent2 were 0.508, 0.566, 0.482, 0.408, 0.567 and 0.648, respectively. Since these items did not meet the 0.7 threshold, they were removed from the model as discussed and recommended by Hair *et al*. (2016) about this issue.

[Insert table II about Here]

Internal Consistency Reliability

The internal consistency reliability assessment included calculating of composite reliability (CR) of each construct. As can be seen in Table II, all values of CR are greater than 0.7 and exceeded the recommended threshold (Wang, 2013). So, it can be argued that the reliability of all indicators in the measurement model was achieved.

Convergent Validity

Hair *et al*. (2016, p. 112) defined convergent validity as "the extent to which a measure correlates positively with an alternative measure of the same construct". In order to examine the convergent validity, the average variance extracted (AVE) of each construct was assessed. As shown in Table II, the AVE' values of all constructs are greater than the acceptable threshold of 0.5 (Hair *et al*., 2014). Hence, it can be assumed that convergent validity is confirmed.

Discriminant Validity

This study used the Fornell and Larcker (1981) criterion In order to assess the existence of discriminant validity. Hair *et al*. (2014, p. 112) defined discriminant validity as "the extent to which the construct is empirically distinct from other constructs". According to Fornell and Larcker (1981) method, the square root of AVE of each construct should be higher than the correlation with any other construct.

Table III presents, in its diagonal, the square root of AVE of each construct, and the correlations with any other construct below the diagonal. As can be seen in Table III, all the AVE's values are higher than the correlation with any other construct, supporting the discriminant validity of the study's scales. Thus, I concluded that there is discrimination between the constructs.

[Insert table III about Here]

**Structural model**

Structural model (called the inner model) is the next step in PLS-SEM, to be addressed after the measurement model was established (Hair *et al*., 2019). This step includes reporting on R2 coefficient that reflects the contribution of the exogenous latent variables on the endogenous latent variables (Wang, 2013). As can be seen in Figure 3, the R2 value is 0.433, meaning that 43.3% of the exogenous variables explained the variance.

Additionally, this step includes the statistical results of path coefficients for the study's hypotheses.

[Insert Figure 3 about Here]

In order to assesses the paths coefficients and test the study's hypotheses, I based on Hair *et al*. (2012) recommendation, and I used the bootstrap method in Smart PLS-SEM 3 that included 5,000 bootstrap samples. Table IV presents the results summary of hypotheses tests. As shown in table IV, hypotheses H1, H2, H3 and H5 were found supported, while hypothesis H4 was found not supported.

[Insert table IV about Here]

**Discussion and conclusions**

To briefly reiterate, this study aims to examine the role of three sets of characteristics (environmental, managerial and organizational) as antecedents of entrepreneurial orientation.

With respect to environmental characteristics the findings substantiate a positive impact of market turbulence on EO (β =0.187, t = 2.387, p < .001) as well as technological turbulence was found to affect EO positively (β =0.43, t = 6.837, p < .001). Therefore, hypotheses H1 and H2 were approved. Comparing these β's shows that the impact of technological turbulence on EO is higher than that of market turbulence.

The conclusions that arise from these findings are clear-cut. First, in order to enhance EO, managers should be aware to the changes of market environment. Paying attention to the wants and needs of their customers that change from time to time. Second, improving mechanisms to manage technological turbulence are high priority means for firms seeking to promote EO. For example: innovation, technological developments and improved manufacturing processes such new materials, new machines, new packaging solutions, new manufacturing software may amplify EO.

Regarding to managerial characteristic, the findings show a positive impact of risk-taking on EO (β =0.205, t = 3.174, p < .001). So, hypothesis H3 was approved. This finding is in tune with the notion that risk-taking propensity of managers may cultivate their entrepreneurial behavior. Support for this argument can be found in previous studies. For example, Lee and Peterson (2000) argued that individuals who are willing to accept the uncertainty and riskiness are often considered to be entrepreneurs. Masters and Meier (1988) argued that entrepreneurs and managers have always involved risk taking. Therefore, it can be concluded that managing a risk taking may enhance EO.

Regarding to organizational characteristics, the findings show that formalization did not affect EO. Therefore, hypothesis H4 was not approved. An explanation for this finding is probably based on cultures differences between countries. Hofstede's (2001) *Power Distance Index* (PDI)captured the acceptability of inequality between managers and employees at all levels. Israel is considered as a low-PDI country, which makes Israelis less accepting of organizational inequality, typified by workplaces that have an informal atmosphere.

In contrary to that, centralization was found to affect negatively on EO (β =-0.12, t = 1.798, p < .05) So, hypothesis H5 was approved. Early studies have found similar evidence for this finding. For example: Caruana, et al. (2002) have found among public sector organizations that higher level of centralization, reduce the level of entrepreneurship. Similarly, Engelen (2010) found that the degree of centralization negatively impacts the degree of EO. The conclusion of this finding is obvious. Organizational structure should be decentralized in order to promote EO successfully.

In aggregate, this study has showed, that among the three sets of characteristics (environmental, managerial and organizational) the most influential antecedent of EO is technological turbulence. Firms who seek to enhance their EO, need to be aware to technological environment where they operate and respond quickly to the changes of these environment in order to achieve and maintain their competitive advantage.

**Implications**

The findings of this study provide several insights for practicing marketing managers. First, from an environmental perspective, the most influential antecedent of entrepreneurial orientation, is *technological turbulence*. Meaning that managers must be aware of the technological environment in which they operate. They need to look constantly for new technological improvements and implement them quickly in order to strengthen the entrepreneurial strategy of the organization, thus gaining a competitive advantage.

Second, from a managerial perspective, the findings suggest that managers need to manage their *risk-taking* propensity successfully to ensure entrepreneurship in their organization. Managers should capitalize on opportunities and respond to competitive threats in the marketplace.

Finally, from an organizational perspective, managers need be more decentralized. They should share powers with their subordinates in order to create better cooperation and thus allow autonomy to promote entrepreneurial initiatives. In spirit of RBV theory, these implications make entrepreneurial orientation a multi-purpose resource and a prime choice for investing limited resources.

**Limitations and further research**

Beyond the contribution of this study to the research literature, the current study has several limitations that should be taken into consider in further research. First, this study sample included variety of industries in Israel and didn't focus on specific industry. Examining this study' model in other specific industry such high tech can provide new insights about the impact of those antecedents on entrepreneurial orientation.

Second, the data collection done by a questionnaire included self-reported respondents of managing directors and top managers in subjective manner. Further research should combine interviews with manager in order to strengthen the validity of data. Third, this study focused on several specific organizational characteristics and examined them as antecedents of entrepreneurial orientation. Choosing other kind of organizational characteristics may produce different results.

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