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Using Structural Equation Modelling to Survey Entrepreneurial Orientation on Performance

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Abstract

This paper reports the results of a survey of gather the relationship between entrepreneurial orientations on performance in Kurdistan province food manufacturing firms. This applied research as well as correlation studies there. The population of the employees in Food manufacturing which 207 were selected by stratified random sampling. For data analysis, structural equation modeling with LISREL software was used. The results indicate that innovation and risk taking and initiative are having an impact on performance. As well as original hypothesis is based on the relationship between entrepreneurial orientations on performance is impressive.

Keywords: Entrepreneurial Orientation, Performance, Food Manufacturing firms

Introduction:

Entrepreneurial orientation is described as the involvement of a firm to enter a new market (Lumpkin and Dess (1996; Lee and Peterson, 2000). EO reflects the behavior of the entrepreneurs like innovation, proactive and risk taking (Muenjohn and Armstrong, 2008). In this manner, firms have to be innovative involving innovations of products, services and processes, have to be more proactive compared to competitors in all aspect and be risk-oriented. As indicated by Chen, Du and Chen (2011), EO is important to the growth of a company and also to the growth of the economy of a country. In fact, few scholars agreed that EO is a significant contributor to a firm's success and contribute to a healthier business performance (Mahmood and Hanafi, 2013; Zainol and Ayadurai, 2011). Walter, Auer and Ritter (2006) pointed out EO is much needed especially in hostile and technologically sophisticated environments. Many studies has acknowledged the importance of EO to the firms performance (Schindehutte, Morris and Kocak, 2008; Tajeddini, 2010; Hoq and Chauhan, 2011; Fauzul, Takenouchi and Yukiko, 2010; Wang, 2008).

The entrepreneurial orientation (EO) has emerged as a major construct in entrepreneurship literature when it comes to understanding entrepreneurial processes. In fact, EO is one among the few areas in

entrepreneurship research where a cumulative body of research is evident (Lyon et al., 2000; Covin et al., 2006; Rauch et al., 2009; Covin and Miller, 2014). The construct of EO captures the methods, practices, and decision-making styles that managers or owners use to act entrepreneurially. It reflects how a firm operates in value creation regardless of what entrepreneurial activities (such as new market entry) it undertakes (Lumpkin and Dess, 1996).

As has been agreed by Rodrigues and Raposo (2011) and Rodrigues (2005), firms that have a high EO have a superior performance where the market share showed improvements and the number of new products, services and processes has shown some growth. Firms need to be entrepreneurial in order to survive and successfully compete, especially within fast-changing industries (Teece, 2007).

As mentioned by Lindelof & Lofsten (2006), rapid technological progress strengthens competitive pressure and creates a rich pool of technological opportunities that encourage entrepreneurial behavior of firms. Avlonitis and Salavou (2007) posited EO constitutes an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage. Lumpkin and Dess (1996) developed five dimensions that characterize the EO of a firm: innovativeness, proactiveness, risk taking, competitive aggressiveness and autonomy. Innovativeness reflects the tendency to engage in and support new ideas, novelty, experimentation and creative processes resulting in newness. Proactiveness reflects firm's actions in exploiting and anticipating emerging opportunities by develop and introduce as well as making improvement towards a product (Lumpkin and Dess, 1996).

Risk-taking represents the willingness to commit resources to undergo activities and projects which resulted in uncertainty of the outcomes (Lumpkin and Dess, 1996). Risk-taking is defined as the extent to which a firm is willing to make large and risky commitments (Covin and Slevin, 1991). Competitive aggressiveness is the intensity of the firm's to improve their position to outdo and overtake their competitors in the market (Lumpkin and Dess, 1996). In measuring business performance, subjective and self-reported measures by the owners/ managers will be utilized which are consistent with the earlier studies (Covin and Slevin, 1989; Smart and Conant, 1994). As suggested by Knight (2000), majority of earlier studies have adopted self-reported measures to gather business performance data which have proven to be reliable. Moreover, Yang (2008) asserts that public information is unreliable as most of the firms are privately held and they have no legal obligation to disclose information. According to Wiklund (1999), growth and financial performance is a common performance measurement.

The relationship between EO and firm performance has become the main subject of interest in past literatures.

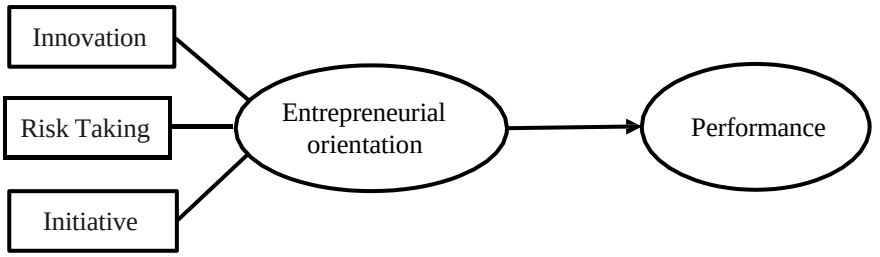
According to Rauch, Wiklund, Lumpkin and Frese (2009), it is likely for firms adopting EO to perform better than companies that adopt conservative orientation. Initially, one could question the importance of EO for the success of enterprises. Thus, previous studies showed that EO could significantly improve business performance (Covin and Slevin, 1991; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2005; Covin and Slevin 1989; Lumpkin and Dess, 2001). Many studies on EO and business performance have been associated to have positive results (Jantunen, Puumalainen, Saarenketo, and Kylaheiko, 2005; Chow, 2006; Coulthard, 2007; Wiklund, 1999; Wiklund and Shepherd, 2003, 2005; Zahra, 1991; Zahra and Covin, 1995; Madsen, 2007; Keh, Nguyen and Ng, 2007; Lee, Lee and Penning, 2001; Lumpkin and Dess, 1996).

However, there is no doubt there are also studies that revealed that EO does not give positive results to business performance (Hart, 1992; Matsuno, Mentzer and Ozsomer, 2002; Morgan and Strong, 2003; Smart and Conant 1994; Naldi, Nordqvist, Sjöberg, and Wiklund, 2007). Thus, the researcher coincide with few studies that on different situation, EO will have a direct and indirect impact towards a firm's performance depending on different environments (Zahra, 2008; Kellermanns, Eddleston, Barnet and Pearson, 2008; Lumpkin and Dess, 1996).

Conceptual model

The conceptual model of the research has been adapted from the study conducted by Engelen et al (2010). In this model, entrepreneurial orientation was the independent variables, and performance was the dependent variable.

Figure 1: Conceptual model



Source: Engelen et al (2010)

Based on this model, the following hypotheses are made:

Hypotheses

Main hypotheses

– There is a significant relationship between entrepreneurial orientation and performance in food manufacturing companies in Kurdistan Province.

Sub hypotheses

– There is a significant relationship between innovation and performance in food manufacturing companies in Kurdistan Province.
– There is a significant relationship between risk taking and performance in food manufacturing companies in Kurdistan Province.
– There is a significant relationship between initiative and performance in food manufacturing companies in Kurdistan Province.

Methodology

In general, research methods can be divided according to two criteria: first, objective research and second, how to collect data. The present study is an applied research and the method of data collection, research is descriptive. Population consists of all of the employees of food companies in Kurdistan Province. The population was classified using random sampling method and the sample size was determined 207 employees of food manufacturing companies of Kurdistan based on Cochran Formula. Data were collected using a questionnaire due to the nature of the subject under study. Structural equation model was used to analyze the data and the research hypothesis respectively. This is a cross-sectional study in

terms of time and was performed in the food manufacturing companies in Kurdistan Province. The questionnaires were distributed among the companies in Kurdistan Province.

Results:

Reliability

Cronbach's alpha was used in this study to determine the reliability of the test. The higher the alpha, the more reliable the scale will be.

Table 1: results of testing the reliability of the items

variable	Number of questions	Cronbach's alpha
Entrepreneurial Orientation	5	0.782
Performance	7	0.823
Innovation	4	0.782
Risk Taking	5	0.870
Initiative	5	0.731
Total	26	0.811

As presented in Table (1), Cronbach's alpha for all of the five constructs is greater than 0.7, which shows high reliability.

Data analysis and hypotheses testing

SPSS software is used to analyze the data. The software conducts data analysis at two levels, namely descriptive and inferential. The first level includes frequency, average, standard deviation and statistical tables and digram. The latter, first, makes use of Kolmogorov – Smirnov test to know that whether the distribution is normal or not, then if the first is the case, Pearson's correlation coefficient and Regression coefficient are employed to do hypotheses testing and assessing size and amount of effects respectively.

Data normality test

Data should first be tested in terms of normality before analysis. The most commonly-used test for this purpose is Kolmogorov-Smirnov Test. This test has also been used in the present study for examining the normality or non-normality of the data used. The results presented in the following table indicates that the data have a normal distribution because the Sig values are higher than 0.05.

Table 2: Data normality test

variable	sig
Entrepreneurial Orientation	0.118
Performance	0.096
Innovation	0.408
Risk Taking	0.112
Initiative	0.112

Main hypothesis: there is a significant relation between entrepreneurial orientation and performance of companies in food manufacturing companies of Kurdistan.

To determine whether there is a correlation between the entrepreneurial orientation and performance of companies in food manufacturing companies of Kurdistan the following hypothesis was made and the following results was obtained:

$$\begin{cases} H_0: \ \rho = 0 \\ H_1: \ \rho \neq 0 \end{cases}$$

The first hypothesis suggests that there is not a relationship between the above-mentioned variables.
The second one suggests that there is a relationship between the above-mentioned variables.

Table 3: Correlation between entrepreneurial orientation and performance in food manufacturing companies of Kurdistan

	entrepreneurial orientation	
performance	Pearson's correlation coefficient	P =0.833
	Probability	o.ooo
	N	207

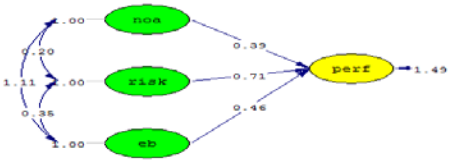
(Source: research data)

Based on the results shown above the following conclusions are derived: the H_0 is rejected and H_1 (the primary hypothesis suggesting a relationship between the entrepreneurial orientation and performance of companies in food manufacturing companies of Kurdistan) is supported. There is a direct relationship between these two variables given the positive correlation obtained through calculation. That is an increase in entrepreneurial orientation will contribute to an increase in the performance of companies in food manufacturing companies of Kurdistan.

Structural model and path analysis

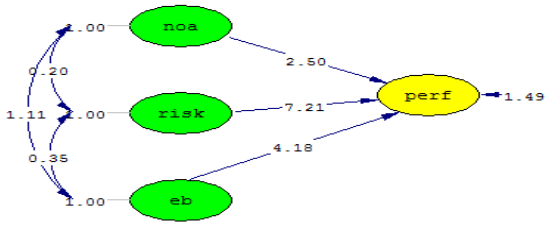
By structural model is meant the causal relationship between latent variables. The goal of this model is to discover both direct and indirect effects of latent exogenous variables on endogenous latent variables, or to provide the path analysis of the research model.

Figure 2. The estimation coefficients of structural model sub hypotheses



Chi-Square=92.74, df=51, P-value=0.00037, RMSEA=0.082

Figure 3. T Value of Structural Model sub hypotheses



Chi-Square=92.74, df=51, P-value=0.00037, RMSEA=0.082

In the table below, the results of hypothesis testing is expressed:

Table 3: sub Hypotheses Test

hypothesis	Factor	T value	Significance level	Results
Innovation on performance	0/39	2/60	0/00037	Accepted
risk taking on performance	0/71	7/21	0/00037	Accepted
Initiative on performance	0/46	4/18	0/00037	Accepted

According to Table (3) H_1 assume all assumptions about the relationship between innovation, risk taking and initiative on performance will be accepted.

Conclusion

The results of this study need to be compared with those of the previous studies so that we can achieve strong theoretical foundations and results. As shown by the analysis, entrepreneurial orientation components affected on corporate performance and this is the answer to question of the research. Compared with the results of the previous studies, the findings of this study confirm the existence of a relationship between entrepreneurial orientation components and performance, as did the most important research conducted in this regard in 2010 by Engelen et al. The findings also show a positive relationship between entrepreneurial orientation in performance, as did the findings of previous studies. because the present study reported relationship between them, and the study conducted by Engelen et al (2014) showed that there is a positive relationship between them.

Suggestions

- Holding regular meetings of strategic and executive committees by the managing directors,
- Providing the cultural backgrounds and training the colleagues by holding seminars
- Holding workshops on entrepreneurial orientation and performance and training courses for representatives of companies associated with the transaction.
- The companies are recommended to use a participatory leadership style, away from orders and imperative behaviors.
- Organizations should always try to provide new services for employees; that is, services which have not already been provided by their competitors.

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