How Managers React to Crisis?: A Planned Behavior Theory Approach

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Abstract

Purpose - Not all firms are able to completely eliminate the risk arising out of the crisis. Success hides in the ability to perceive the market expectations accurately and take correct decisions. This study aims to analyze the firms' decisions at gross-root level.

Research Design, Data, and Methodology - Primary data is obtained with the help of specially designed questionnaires from the agriproducts export firms that are members of export union of Turkey. The study is based on four theoretical structures: general planned behavior theory model, perception-leading behavior control and subjective norm model, perceived-behavioral-control leading perception and subjective norm models, and perceptions and subjective norms leading behavior control model. Structural Equation Models (SEM) is used to conduct the empirical analysis.

Results - The findings show perceptions and subjective norms leading behavior control model as the best one, concluding that the environmental pressures and positive perceptions have significant effect on the strategic decisions of the agriproducts export firms.

Conclusion - Policy tools like creating positive perception in the markets, providing sufficient information and financial support to the firms and increasing market competition can be used effectively to achieve the said objective.

Keywords: Planned Behavioral Theory, Structural Equation Models, Foreign Trading Firms.

JEL Classifications: D22, G01.

1. Introduction

Globalization has made the economic structure of most of the countries sensitive to global developments. The factors like inflation, interest rates, international capital mobility and need of international currencies are closely related with each other. Unexpected movements in these factors can ignite global crisis. The crisis, in turn, can effect profitability and competitiveness of the firms. To manage the internationalization process effectively, the firms need to correctly predict the market expectations and effectively combat the uncertainty and tough market conditions (Cavusgil & Naor, 1987; Oviatt & McDougall, 2005). This can only be done by making right decision at right time. Therefore, it is vital to know the decision making process of the firms for risk management. Cognitive process is a concept describing the process of getting information, processing and making it useful with the help of individual perception, behavior and motivation. This process effects decision making (Hayes & Allinson, 1994; Haas et al., 2005) and triggers the actions directing firm's behavior (Barney, 1999; Beamish et al., 1993; Dhanaraj & Beamish, 2003). Therefore, many researchers emphasize the combined

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analysis of the firms' and individuals' qualitative characteristics like perceptions, behavior (Ajzen, 1991; Krueger & Carsrud, 1993) and thought processes (Sadler-Smith, 2004; Groves et al., 2011). Pre-determining the cognitive processes makes forecasting firms' behavior and risk management easier. This study focuses on the behavioral trends of the managers of agriproducts export firms. The findings will help identifying firms' behavior beforehand, thus, helping to take necessary actions to minimize economic loss. The rest of the paper is organized as follows. The following section provides a brief review of the literature. The later section gives data and methodology. The next section provides findings and discussion. Lastly, some concluding remarks are given.

2. Literature Review

Analyzing the relation between thinking style and entrepreneurship reveals that global risk perceptions negatively affect chance perceptions, however, chance perceptions positively affect entrepreneurial process (Robinson & Grayson, 2014). Export performance may change depending on firm's resources and capabilities (Liesch et al., 2011; Prashantham & Young, 2011). Therefore, the studies focusing on how the local firms identify and perceive global risks have gained popularity (Kern et al., 2012; Badea et al., 2014). Some studies argue that risk perception and mixed feelings play significant role in entrepreneurial decisions (Podoynitsyna et al., 2011). Intuitional thoughts lie in the bases of entrepreneurship (Wenhong & Liuying, 2010) and these thoughts increase chances of taking risk (Barbosa et al., 2007). The characteristics contributing positively to growth are information (Oviatt & McDougall, 2005) proactive personal characteristics (Lumpkin & Dess, 2001), risk taking trends (Zahra & Garvis, 2000) and organizational motivation (Zahra et al., 2005). In this regard, Kiss et al. (2013) study the degree of the firm's internationalization in the light of risk prejudice and motivation. They show that the perceptional risks and the resulting prejudices decrease with the increase in firms' growth rate. Acedo and Florin (2006) model the internationalization process of the firms. They test the model using SEM and find that the level of IT know-how and risk perception of the CEOs play a vital role for international expansion strategies. Acedo and Jones (2007) model the effects of risk perception, innovation and tolerance to uncertainty using SEM and find the significant effects of risk perception and innovation. Wally and Baum (1994) also find positive effect of cognitive thought process on the decisions in risky environment.

In general, the previous studies have not developed any concrete strategy analyzing perception processes (La-Rocca, 2015).The basic purpose of our study is to put forward the behavioral trends of the firms in risky environment. However, in contrast with the previous studies, planned-behavioral theory (PBT), a socio-psychological theory put forward by (Ajzen & Fishbein, 2005),is used to analyze the firms' behavioral trends in crisis period.

3. Data and Methodology

Primary data is obtained with the help of specially designed questionnaires from the agriproducts export firms that are members of export union of Turkey. The sample size is calculated using the following equation developed by Newbold (1995).

$$n = \frac{Np(1-p)}{(N-1)\sigma_p^2 + p(1-p)} \tag{1}$$

Here, n represents the sample size, N shows the population size (4 896), and p is the prediction rate (0.5 for the maximum sample size) and the probability level confidence interval (95% confidence interval, σp: 0.038265 for %7.5 margin of error from the equation 1.96*σp: 0.075). The sample size (167 firms) is divided per the respective populations of different regions.

A simulated risky environment is presented to the firms' managers and their responses are recorded with the help of a questionnaire and are considered as their decision intentions. The model used is based on PBT. The structural form of the model is shown in Figure 1. There are four hidden variables in the figure. ξ_1 is dependent hidden variable; whereas, η_2, η_3 and η_4 Yare independent hidden variables. X and Y are the observed variables for independent hidden variables and dependent hidden variables, respectively. δ and ε represent the error terms for the independent and dependent hidden variables, respectively. γ show the regression coefficient between dependent and independent variables whereas β represents the regression coefficient between the independent variables and ζ is the error-term variance.

The general form of the mathematical model used is as follows:

$$NIYET = \beta + \gamma 1 + SN + \gamma 2\, b_2\, ADK + \gamma 3\, ANGI + \varepsilon$$
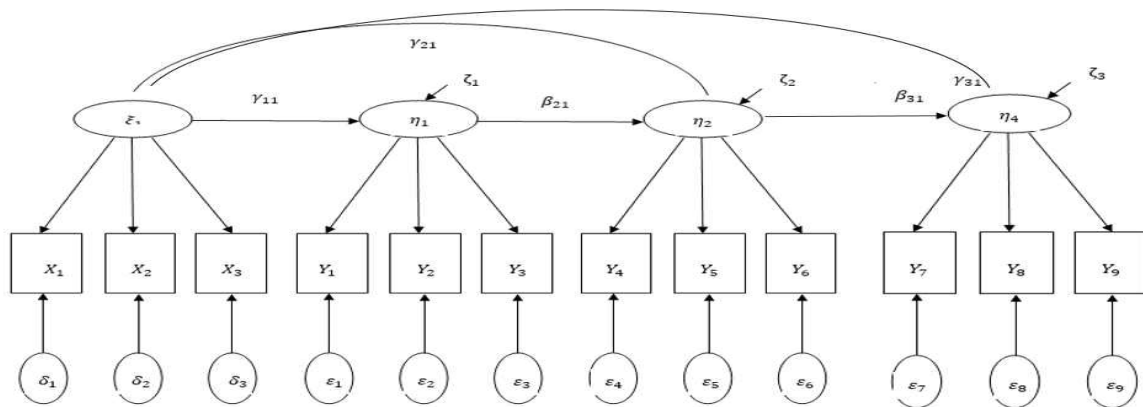
<Figure 1> The structural form of planned behavioral theory model

Here, SN, ADK and ALGI represent subjective norm, perceptional behavioral control and attitude as independent variables, respectively. NIYET represents firm's growth trends as dependent variable. In general, behavioral perceptions and intentions show behavioral attitude; however, social norms represent perceived social pressures. Perceived behavioral control concept is similar to the self-sufficiency concept of Bandura (1977) which defines it as the individual's self-judgment for successfully organizing necessary activities in order to achieve specific performance. Table 1 shows the implicit variables and related materials.

<Table 1> The Implicit Variables and Indicator Variables

SN1. I care the market news related to economy
SN2. The intentional reduction in my exports due to uncertain market conditions might be perceived wrongly by my suppliers
SN3. The intentional reduction in my exports due to uncertain market conditions might be perceived wrongly by my customers
SN4. The intentional reduction in my exports due to uncertain market conditions might be perceived wrongly by my competitors
A1. Political instability in the country you are exporting to (Political)
A2. Increase in unpaid checks in the market (Trade)
A3. Continuous decrease in exchange rates (Economy)
A4. Speculation on bearish trend in the market (Financial)
ADK1. During risky and uncertain market environment, I may transfer funds from my companies in the other sectors
ADK2. I have trustable suppliers who can cooperate in continuing the firm's operations in risky environment
ADK3. I operated in a secured market that ensures operational continuity of the business even in risky and uncertain market conditions
ADK4. I have enough financial resources to support business operations in risky and uncertain market conditions
ADK5.I am confident about my managerial skills and experience to cope with risky and uncertain market conditions
N2. I will increase the budget to cover the prospective increase in firm's expenses
N3.I will search for alternative markets
N4.I will try to bring my firm better than before crisis position

4. Findings and Discussion

Table 2 shows the general characteristics of the firms included in the study. The distribution of the firms exporting fresh fruits and vegetables, olive oil, oil seeds and dry fruits and vegetables is 38.9%, 9.6%, 29.9% and 21.6%, respectively.

Figure 2 shows the t-statistics of the regression for the implied variables (NIYET, SN, ADK, and ALGI) and the observed variables. Figure 2 also shows the goodness of fit statistic.
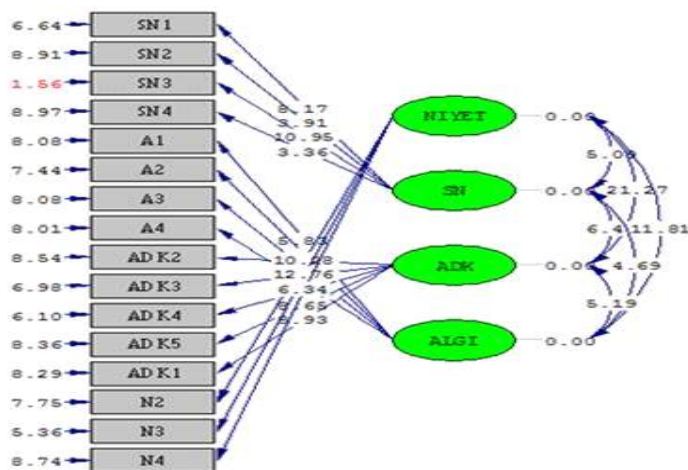
<Table 2> General Characteristics of the Sample Firms

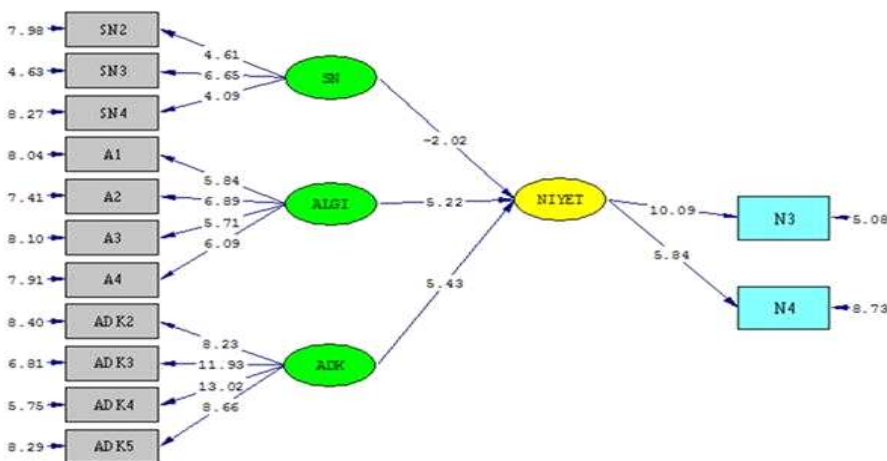| Characteristic		N	%
Operating Area	Fresh fruits & vegetables	65	38.9
	Olives &Olive Oil	16	9.6
	Grain	50	29.9
	Dry fruits & vegetables	36	21.6
Legal Status	Private	102	61.1
	Public	59	35.3
	Others	6	3.6
Education level of the personnel interviewed	Primary	3	1.8
	High School	39	23.4
	Graduate	108	64.7
	Post-Graduate	17	10.2
Ownership Structure	Local	141	84.4
	Foreign	26	15.6
Experience	<11 years	102	61.1
	11-20 years	59	35.3
	>20 years	6	3.6
Total Exports (year/TL)	0-2 million 999	49	29.3
	3 million-4 million 999	48	28.7
	5 million-6 million 999	41	24.6
	7 million-9 million 999	18	10.8
	10 million and above	11	6.6

*1 TL = 2.67 USD (average rate of the year 2015)

Figure 3 shows the first model designed for this study. It is formed by modeling the planned behavior theory, directly. In this model, some of the variables are used sometimes as dependent variables and sometimes as independent variables. Here, it needs to be mentioned, in all the models, including the first one, the growth decisions of the firms are considered as dependent variable. Moreover, alternative market search, taking firm to a better position and trends in budget increment are among the other dependent variables. Whereas, 'risk perceptions of the firms' is taken as independent variable. The variables representing these perceptions are political, trade, economic and financial risk perceptions. Perceived behavioral control variables represents the statements of the firms reflecting their confidence level. The statements about secured supply-chain, sufficient financial resources and market information are considered in this regard. The subjective norm variables represent the statements of the firms reflecting the environmental pressures. The statements of the firms about their confidence on the suppliers, competitors and customers are considered in this regard.

<Figure 2> t-statistics for the measurement model

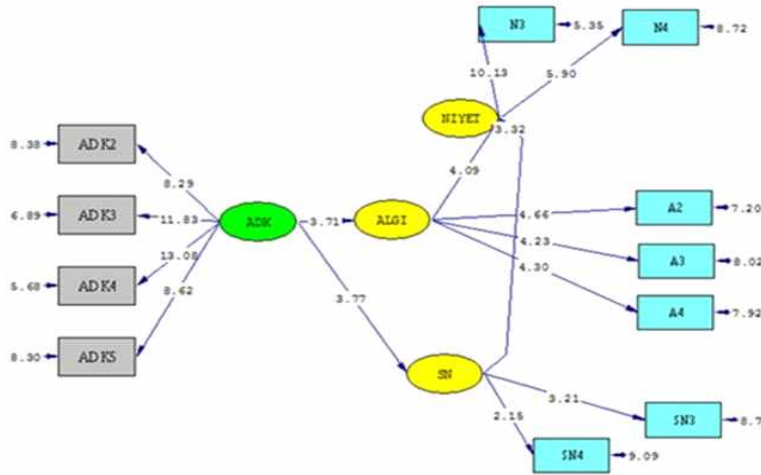<Figure 3> Planned behavior theory and t-test results

Figure 4 presents the second model formed. If the model is valid, individual's confidence level develops and expects similar behavior from its surrounding. For this particular study, this model can be explained as if a firm's manager, because of his past experience or any other reason, has confidence/no-confidence type behavior, he/she is more/less inclined to pay attention to the environmental factors. Self-competence by having direct effect on perception and behavior play significant role on decisions. In connection with this, the firms' decisions in risky environment may get

systematic. In this type of models, the managers' self-confidence plays vital role in decision making.

Figure 5 shows the third model developed. In case, this model is considered as valid, perceptions effect decisions, significantly. For this study, this model can be stated as manager's perceptions about positive trading conditions will increase his self-confidence, and growth decisions will be effected, positively. Likewise, the positive perceptions will cause in feeling increased environmental pressure by the managers and, consequently, they will be bold in making decisions. Here, in this case, perceptional factor has direct effect on other parameters and has indirect effect on decisions. In this type of models, managers' perceptions play central role in firms' decisions.

<Figure 4> Perceptional Behavioral Control (ADK) Leading Model and t-Test

The study uses standard PBT model along with the models having premise variable for perceptions and behavioral controls. However, the fitted models have negative error variance and regression coefficient greater than one, the so-called Heywood cases. Only the best fitted model is discussed here (see Figure 6).Equation 3 shows that perceived behavioral control effects firm's decision by a statistically significant value of 0.86. Explanatory power of the model (R^2) is 73 percent. Moreover, equation 4 shows that the perceptions si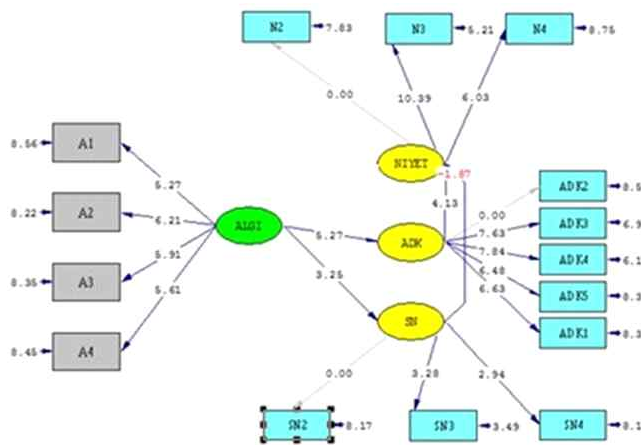gnificantly affect behavioral control and subjective norm by 0.32 and 0.46. R^2 of this model turns out to be 45 percent.

$$NIYET = 0.86*ADK \qquad (3)$$
$$(0.13) \qquad (0.081) \qquad error\ var. = 0.27,\ R^2=0.73$$
$$6.57 \qquad 3.29$$

$$ADK = 0.32*ALGI + 0.46*SN \qquad (4)$$
$$(0.13) \quad (0.14) \qquad (0.15) \qquad error\ var. = 0.55,\ R^2 =0.45$$
$$2.41 \quad 3.32 \qquad 3.60$$

<Figure 5> Perceptions (ALGI) Leading Model and t-Test

The values of goodness of fit for the model are inside the acceptable limits (see Table 3). In the cases valid for the said model, individuals may have certain behavioral attitudes. At the same time, the subjective norms (SN) may have developed explaining the thoughts and expectations of his surroundings forcing him to exhibit that behavior. This shapes the individual's self-confidence for the said behavior.

Previous studies find relation between perceived international risk and targets (Caughey and Chetty, 1999; Zahra et. al., 2005). Especially, motivation is important for the level of internationalization (Kiss et. al, 2013). This study finds that the perceptional attitude of the firms against risk and environmental factors effects trading confidence and decisions of the firms. The subjective norm and risk perceptions indirectly effects firm's decisions through perceived behavioral control. Therefore, the environmental interaction of the firms and trading, political, financial and economic risk perceptions effects trading decisions.

<Table 3> Goodness of Fit Statistics for the Best Fitted Model

Goodness of Fit Statistics			
RMSEA	0.093	IFI	0.93
NFI	0.90	GFI	0.91
NNFI	0.92	AGFI	0.86
CFI	0.94	SRMR	0.089

4. Conclusions

Determining market perceptions and cognitive expectations is vital for identifying possible damages to international trade in the face of crisis. This paper studies the effect of cognitive processes of the trading firms' managers on the decisions under risky environment. Four different structural equation models (SEM), based on planned behavioral theory (PBT), are used to identify factors effecting growth decisions of the firms. The models are developed on the basis of cognitive processes of the firms' managers and the relation among the firms' perceived behavioral control trends (self-confidence trends), subjective norm trends (environmental pressures), risk perceptions and growth decisions. In the first model, 'growth decisions' is used as dependent variable and managers' self-confidence, subjective norms and perceptions are used as independent variables. In the second model, perceived behavioral control is used as independent variable. This variable is assumed to effect the decisions in the presence of environmental factors and perceptions. Moreover, this effect also gives significant results in decision making. However, no significant relation is found between behavioral control parameters and environmental pressures. This finding can be regarded as the possibility of the managers having high self-confidence to rule out environmental pressures. The third model considers the variables forming perceptions as independent variable. This model assumes the possible effect of the said variable on the decisions in the presence of environmental factors and self-confidence trends. The perceptions and self-confidence parameters take over in making decisions. Besides this, a significant relation is identified between perceptions and environmental pressures. However, no significant relation is found between the pressures and growth decisions. This can be regarded as the ability of the environment to shape the perceptions. In the last model, the effects of subjective norm trends and risk perceptions on growth decisions is analyzed in the presence of self-confidence trends. The findings show that the environmental pressures increase managers' self-confidence and, consequently, they can take bold growth decisions. Likewise, the managers' confidence level increases as their risk perceptions decrease.

According to this, the positivity in the firms' political, financial, economic and trade risk perceptions positively effects their growth decisions. On the bases of model fitness criteria and general significance level, the second model turns out to be the best one. Therefore, it can be stated that environmental pressures and positive perceptions significantly effect the self-confidence of the managers of agriproducts export firms, resulting a direct effect on growth decisions. The findings urge policy makers to design policies to raise market confidence in order to reduce economic damages during crisis. The policy tools like forming positive perceptions in the market, providing enough information and financial support and taking measures to increase market competition might be helpful. An obvious limitation of the study is that it focuses only on the trading firms from only one country engaged in a specific business. Future work may consider a broader range of firms from various regions. This will help in analyzing and comparing behavioral perceptions of the managers in different fields and regions.

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