EXPECTATIONS MOTIVATING THE MACEDONIAN FARMERS IN ATTAINING EU STANDARDS

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Abstract

EU accession means reaching EU standards, and the agricultural sector will expectedly be one of the key areas that will require adjustment in the case of Macedonian farmers. This paper is investigating the factors that motivate farmers to a certain planned adjustments, in order to provide further existence. This problem is addressed through the lenses of the theory of planned behaviour, by the use of factor analysis and stepwise regression. The results showed the perception of the market as the strongest motivational factor, and as such it should be used when designing the educational/informational approaches to farmers.

Key words: Macedonian farmers, motivation, TPB

Introduction

The agricultural sector is expected to be one of the key areas that will require adjustment in the case of Macedonian EU accession. There have been many changes for the Macedonian farmer in the last few decades: the switch to market economy after gaining independence in 1991, causing ten-fold decrease of the market size, the adjustment to the new conditions in the next period, trade agreements with the neighbouring countries and EU, the EU stabilisation and association agreement and finally the EU candidate status in 2005, that confirmed the EU orientation of the Macedonian agriculture and justified the process of adjustment. If thfarmersey want to compete in the highly competitive EU market, farmers would have to reach the EU standards, so arguably they would have to adapt and adjust. The question is how prepared are the Macedonian farmers and what is their opinion and expectation from the EU accession and the entry to the common EU market. Besides, given these expected changes, how are they going to act, given their background, expectations and beliefs. The policy makers and the farmer advisors need to know how to influence farmer's perception in order to influence the planned adjustment hence the farm can survive and be competitive at the European market.

According to the theory of planned behaviour (TPB) by Ajzen (1991), the individual intention to perform a given behaviour determines the performance itself. Intention is the central factor in TPB, capturing the motivational factors influencing human behavior. The behavior is also affected by other non-motivational factors as well, such as availability of resources and opportunities (Ajzen, 1991). The assumption behind the resource based theory (RBT) fits very well with the characteristics of farming environment: heterogeneous and immobile resources; and farmers as "boundedly rational utility maximizers" (Barney and Arikan, 2005). Knowledge has gained a position as the most important resource that can be controlled by the firm/farm (*ibid*). Thus, the know-how to manage is being recognised as crutial 'farm resource' since farming is characterized with the use of a bundle of resources to produce a bundle of products (Mahoney 1995). In addition, beliefs, values, and objectives play a crucial role in decision-making by individuals (Öhmér *et al*., 1998). According to the decision making model, the needs and motives expressed by the farmer's values are strongly linked with the development of goals a farmer strives to, while unsatisfied needs stimulate motivation. Motivation is found to be an integral part of all three theories: as behavioral intention in TPB, as intangible resource in RBT, and as driving force in the decision making process. The linkage between motivation and knowledge is also explained by the job performance theories (Weitz et al, 1986).

The objective of this paper is to deepen the understanding of the expactations motivating the Macedonian farmers in attaining EU standards in order to provide further existance on the common European market.

Method

The conceptual model trying to explain farmer perception of EU accession and his willingness to adjust appropriately is an intersection of TPB, RBT and decision making theory (Figure 1, as adjusted from Ajzen, 1991). The farmer gives an opinion on a list of statements: expectations as an expression of *attitudes* toward EU accession, expectations from the surrounding changes (*subjective norms)*, and expectations of personal abilities to use the potential changes in the environment as opportunities and threats (*perceived behavioral control*). The model assumes that the perception of farm resources including knowledge impact the adjusted perceived behavioral control, thus influencing the adjusted behavior. The concept of knowledge, perception of available resources and all these kinds of expectations affect the planned behavior where motivation is an intermediate variable. The behavior of interest is the planned adjustment.

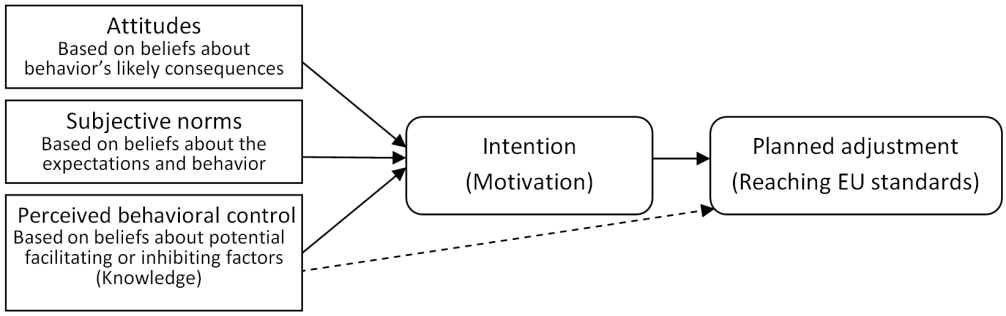

Figure 1: Conceptual model

The data utilized for the purpose of this study were collected in face-to-face interviews of 484 farmers in Republic of Macedonia in the period March-April 2012. Most of the answers were closed with answers given on a four-point Likert scale (mainly from strongly agree to strongly disagree), but in order to obtain a full picture of the farming environment the questionnaire includes some semi-opened questions and answers using altered scales and values.

The factor analysisis was used to identify the latent underlying structure among the statements regarding the expectations from EU accession, and as data reduction technique for the subsequent regression analysis. The 18 expectational statements were subjected to a principal component analysis (PCA) using SPSS version 17; the number of components was determined using the Kaiser's latent root criterion, the scree plot and also the Parallel Analysis; and the interpretation of the components was performed by Varimax orthogonal rotation.

A stepwise multiple linear regression was conducted to evaluate whether all components are necessary to predict planned behavior and describe the relationship between the statements. TPB is receptive to introduction of other variables as predictors that could improve the variance explained (Ajzen, 1991). Hence, also as suggested in Bergevoet *et al.* (2004), the resulting model was improved by adding variables explaining the farmer profile.

Results and discussion

The analysis revealed that only 21.7% of the surveyed farmers are strongly motivated to invest in order to attain the EU quality standards, while 12.2% are not willing to invest at all. The remaining two thirds are with less apprehensive opinion on this issue, agreeing more (36%) or less (30%).

The factor analysis grouped the expectational statements into four factor components, explaining 62.471% of the total variance: knowledge, market, finances and quality. The first component (explaining 34.212% of the variance) is the perception of available knowledge (*'knowledge'*) focused on the ease to access to additional trainings and information, or the ease to apply new technology. The second component (12.456%) is the perception of market opportunities (*'market'*) in terms of estimation of the potential marketing opportunities, perceived own competitiveness without additional financial support, and inputs price development (the output price development was excluded in the process of analysis due to cross-loading with other components). The third component *'finances'* (8.612%) is the perceived necessity of financial support to stay and be competitive on the European market and the anticipated opportunities for sources of financial support, either from for additional employment and income or credit access. The last component *'quality'* (7.191%) is the perception of quality standards requirements, in terms of the perceived quality of the product or the need for improvements, awareness of the need for application for EU standards in order to be competitive on the EU market, as well as the awareness of the stronger competition they are going to face on the European market.

The stepwise regression revealed the factors contributing significantly to the explanation of farmers' readiness to participate financially to adjust to the EU standard requirements (Table 1). The market component seems to be the most important ($\beta m=.406$), almost double than knowledge and quality components ($\beta k=.251$ and $\beta q=.192$). Surprisingly, but the finances component has the lowest impact as a motivational factor toward adjusted behavior ($\beta f=.104$). Given the sample size and number of independent variable, the percentage of total variation explained with this model ($R^2=.276$) is statistically significant (Hair *et al.* 2006, p. 195). The ratio between the explained versus unexplained variance is 43.56%, confirming the significance of the overall model (sig.<.05). The analysis of the increasing adjusted R^2 shows that the inclusion of all components as independent variables in the model is reasonable.

In order to improve the regression equation and better describe the relationship between the farmers' expectations and the motivation for planned adjustment, few more variables describing the farmer and his farm were added in the subsequent regression analysis. More precisely, the added variables relate to farm size ('Land_T_ha'), farmer attitude toward risk taking ('Risk') and the farmer perception of the knowledge regarding CAP ('CAP'). Adding the additional variables in the model improved the variance explained ($R^2=.333$), without causing problems with milticollinearity.

The anticipation of the market opportunities as a motivating factor is additionally confirmed with this second regression analysis, since its relative importance increases versus the decrease of the relative importance of the other variables. The knowledge and quality component appear as less important. Regarding the farm size, as an expression of the level of market orientation, the model confirmed the assumption that the bigger the farm, the more commercial and the more market oriented farmer. Although it does not evaluate the level of expectations, the higher level of perceived knowledge about CAP (assuming higher level of understanding what a common market means) has a positive impact on the farmer behavior. The risk-taking propensity is seemed as a measure if the farmer is more proactive trying to anticipate the required actions and take an advantage of others, or more reactive, pushed by the surrounding pressure. The model shows that the more the proactive the farmer, the more likely the behavior to happen. Surprisingly, the finances component seems to be less motivational for farmers' behavior. It should be further investigated what lies behind this result, especially because any planned adjustment need to be supported financially, either from own or other sources.

Table 1: Regression coefficients

Model	b	S.E	β	t	Sig.	R^2
Primary regression						
(Constant)	2.328	.038		61.315	.000	
'Market'	.388	.038	.406	10.203	.000	
'Knowledge'	.240	.038	.251	6.319	.000	
'Quality'	.184	.038	.192	4.838	.000	
'Finances'	.099	.038	.104	2.610	.009	.276
Secondary regression						
(Constant)	1.847	.135		13.635	.000	
'Market'	.395	.037	.413	10.617	.000	
'Knowledge'	.184	.038	.193	4.864	.000	
'Quality'	.160	.037	.168	4.290	.000	
'Land_T_ha'	-.008	.002	-.159	-3.997	.000	
'CAP'	.140	.056	.108	2.493	.013	
'Finances'	.100	.037	.105	2.730	.007	
'Risk'	.082	.036	.097	2.289	.023	.333

Both regression models showed that the perception of the market is the most motivational for farmers to adjust their production capacities and meet the standard requirements defined by the common European market. This knowledge should be included in the next designs of extension programs, vocational education programs or governmental informational programs and materials. Since market perception has a significant influence on farmers' behavior it should be further investigated to see which aspect of markets are the most decisive for them. Still, although less influential, the other components of the regression equation should not be neglected, but when sharing information with farmers some recommendation from other previous researches (Öhmér *et al*., 1998; Ajzen *et al.,* 2011) should be followed.

Swedish research has revealed that farmers have difficulties with information searching and paying attention. Besides being with a lower level of awareness for the existence of a problem, they also find hard the process of finding options (Öhmér *et al*., 1998). Considering that public media (radio/TV and magazines) are the most frequent source of information for the Macedonian farmers as well (Kotevska *et al.,* 2013), the issues focused toward farmers should be carefully designed to be informative and yet motivational. Another approach is increasing farmer perceptive ability by vocational training or specially designed textbooks. No matter what the media, the recommendations are to offer more articles on a same problems giving both the general and detailed picture on the problem and solution actions (Öhmér et al., 1998). In addition, the information provided should be designed to fit farmer's perceptive ability. Personal contacts are also an important source of information for farmers. Thus, facilitation of network building and supporting group discussion on a specific topic is another way to grasp farmers' attention.

Recent research on the knowledge as a prediction of a behavior has defined knowledge as "necessary but not sufficient condition" for performing certain behavior (Ajzen *et al.,* 2011:115). It confirms the dissociations between the knowledge and behavior, and stresses that the most important is people to be motivated in order to perform specific action. As reported, "information accuracy is neither necessary nor sufficient", hence there is not a rule that the well informed one will derive with the desired outcome, or that the misinformed will

fail. The subjectively held information is the one that guides the behavior. For that reason, their recommendation is to reveal what information farmers possess, and accordingly to offer information that can motivate farmers toward certain behavior and adjustment.

Conclusion

Understanding the expectations motivating the Macedonian farmers to adjust their production toward EU standards can be divided in two parts: development of a model describing and explaining the motivational process; and measuring, explaining and predicting the degree of relationship among the observed variables.

The factor analysis of statements regarding farmers'expectations from the EU accession derived in four components regarding their perception of market, access to knowledge, access to finances, and quality requirements. The subsequent stepwise regression analysis of the factor scores subject to the farmers' readiness to invest in order to adjust their production, showed the relative importance of each of the components; with market perception being the most important and access to finances least important. The additional variables added to improve the regression analysis, confirmed that the more commercially oriented the farmer(bigger farm size or proactive farmers), the more likely the expected behavior.

Encouragement to the farmers' adaptation should be increased through appropriate access to information and knowledge. This knowledge outcome should be used when designing plans for extension, educational programs or dissemination of policy related information.

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