

## **THE IMPACT OF TRUST ON COOPERATIVE MEMBERSHIP PERFORMANCE AND SATISFACTION IN THE HUNGARIAN HORTICULTURE**

**LAJOS ZOLTÁN BAKUCS**

research fellow, Institute of Economics Hungarian Academy of Sciences, Budapest, Hungary.

Email: bakucs@econ.core.hu.

**IMRE FERTŐ**

senior research fellow, Institute of Economics Hungarian Academy of Sciences, Budapest, Hungary. Email: fertő@econ.core.hu .

**GÁBOR G: SZABÓ**

senior research fellow, Institute of Economics Hungarian Academy of Sciences, Budapest, Hungary. Email: szabogg@econ.core.hu



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## **ABSTRACT**

The paper investigates the impacts of trust on the relationships among members and between members and the management in an agricultural marketing cooperative in the Hungarian horticultural sector. We focus on the effects of trust on cooperative members' performance and satisfaction and their commitment to remaining a part of cooperative. We analyse the trust along two dimensions: cognitive and affective. Our results suggest that trust among cooperative members and trust between cooperative and management have positive effects on group cohesions. In line with a priori hypotheses we found differences between cognitive and affective trust influencing the group cohesion and cooperative members' satisfaction.

**Keywords:** trust, marketing cooperative, Hungary.

## **1 INTRODUCTION**

There is growing literature focusing on the transformation of agricultural cooperative enterprise from socialist collective farming (GARDNER and LERMAN 2006). Similarly, there is a wealth of literature on marketing cooperative, but research on their role in transition agriculture is scarce. Recent studies emphasise the role of trust in cooperative performance (HANSEN et al 2002) and in producers' marketing decision (JAMES and SYKUTA 2005) but the research on this field is still limited. Marketing cooperatives may solve many problems of vertical coordination; however the numbers of cooperatives are still low in transition countries (FERTŐ and SZABÓ 2002). One of possible explanation for this phenomenon is the lack of trust among farmers and between farmers and their partners. Furthermore trust plays an important role for farmers to join a marketing cooperative in transition country (BAKUCS et al. 2007).

The paper tries to contribute to the literature at least two ways. First, we present a case study on a marketing cooperative in Hungary to better understand this organisation form in an uncertain environment. We analyse the 'Mórákert' cooperative which is one of the most successful cooperatives in terms of increasing annual turnover and membership. Second, we focus on the role of trust in the explanation of the success of a marketing cooperative in a transition country. We can hypothesise that the importance of trust may be greater in transition countries including Hungary than in developed economies. This paper is the first to systematically investigate different types of trust amongst marketing cooperative members and between members and management in a transition country. Thus, the aim of the paper is to empirically test the importance of trust on the economic relationships entailed by marketing coop membership in Hungarian horticulture. More specifically, this paper focuses on the impact of trust on cooperative members' performance, satisfaction and their commitment of remaining cooperative members. The structure of the paper is as follows: section 2 provides a brief history on the 'Mórákert' cooperative, section 3 presents some of the theoretical background, section 4 discusses the methodology employed, section 5 presents the dataset and the empirical analysis, and final section summarises our results and concludes.

## **2 THE BRIEF HISTORY OF MÓRAKERT COOPERATIVE**

In this section we provide a brief description of development of the 'Mórákert' Purchasing and Service Cooperative. 'Mórákert' cooperative is active in the fruit and vegetable sector and it was the first officially acknowledged Producers' Organisation (PO) in Hungary certified in 2002. It works as a very successful cooperative (e.g. in terms of increasing annual turnover

and membership) thus being a good example for a number of emerging producer organisations.

In 1993 the Department of Agriculture of the local authority was established in order to help small-holders submit forms for various applications. The main incentive for establishing a cooperative was very similar to the Danish tradition: economic necessity, arising from the economic and market situation at the beginning of the 1990s. Thus an organisation was established to build up countervailing power, help the farmers with information and to strengthen their negotiation power against retailing and processing industries.

In the second step, the 'Common Agricultural and Entrepreneurial Society', Mórahalom was established in January 1994 with the aim of organizing small-holders within a loose network. 35 members founded this non-profit organization. In addition of submitting joint projects, the main activity was to organise the collective purchasing activities. This type of co-ordination was successful, and in some cases savings of 18 – 20% of the purchase cost were achieved.

These joint purchasing activities were extremely successful, as they could decrease transaction costs, e.g. information, negotiation and transportation costs. However, the main problem was to co-ordinate the marketing of the small-holders' produce. Therefore, in the next step the 'Mórákert Purchasing and Service Cooperative', Mórahalom was established in April 1995.

In the first few years of the coop's existence, the share of retail chains was about 5-10% of the sales. The share of products marketed through wholesale markets and retail chains changed significantly in the 1997-1999 period. According to RÁCZ (2006), now approximately 90% of the products distributed on domestic markets are sold to retail chains (Tesco Global, Auchan Hungary, Csemege-Match, SPAR Hungary, PROFI Hungary, CORA, CBA etc.). In order to increase the value of the members' products, the co-operative seeks export opportunities. Thus, 80% of the produce purchased from members is sold on the domestic market and 20 percent abroad (Estonia, Latvia, Lithuania, The Czech Republic, Slovakia, Slovenia).

The cooperative pays attention to the quality and homogeneity of products, whilst trying to assure a versatile assortment in order to fulfil the requirements set by retail chains. They occasionally buy products on spot markets and sometimes from import. The products of the members however are sold first, and non-member products or import is only used if local quantities are unable to meet the demand of retail chains.

The competitiveness of the cooperative on segmented markets is improved by differentiating its products from those of other producers. The cooperative endeavours to integrate, both horizontally and vertically, the members' farming activities, and encourages activities with higher added value. The cooperative has a site with complete infrastructure. A handling, sorting and packaging line for vegetables and fruits was put into operation in September 1999. In 2002 a so-called "agri-logistics centrum" was set up by the, which covers 4,000m<sup>2</sup> including a cold storage depot accounting for 1/4 of the total area. These investments were crucial to meet the food safety, environment and hygiene requirements of the European Union. The third phase of the development was enlarging the "agri-logistics centrum" with 6,000 m<sup>2</sup> storage facility. In June 2006, the coop was using 15,000 m<sup>2</sup> and 6 hectares facilities in Mórahalom. Thus all activities such as purchasing, handling, sorting and packaging of products from members and other suppliers, as well as the storage and transportation activities may be handled at one place. A computer assisted information system helps the work in the new headquarters.

Whilst having the capacity to fulfil the basic objective, i.e. to help farmers selling their horticultural products, purchasing input materials on their behalf at the most favourable

prices, and offering long term security, 'Mórakert' cooperative also has a radiation effect on the surrounding region. The increase of both membership and the turnover demonstrate that it is operating efficiently. The friendly approach of the local authority, the various sources of development funds, and above all, the human capital and resources within the cooperative are key elements of its success.

A crucial aspect for the future of cooperative is the loyalty of members and the leaders of the cooperative, especially considering the uncertainties dominating the Hungarian fruit and vegetable sector. Trust, interpersonal connections, the capability of the coop to solve the first hold-up problem, e.g. prevent post harvest hold-ups (HENDRIKSE and VEERMAN 2001) are some of the most important factors explaining members' loyalty.

### **3 THEORETICAL BACKGROUND**

#### **3.1 Theoretical considerations**

Cooperation is a process, developed by different parties to interact and form business relationships for mutual benefits. Theoretically, higher levels of cooperation are expected to improve business coordination, which in turn leads to better human and product performance (SMITH et al. 1995). Successful cooperation however, requires building higher levels of trust between those cooperating and the management. Thus, in case of a cooperative, trust is potentially able to reduce transaction costs (shorter negotiations, easier contracting, etc.). Although various definitions of trust exist, (see WILSON 2000 for a detailed review), following HANSEN et al. (2002), one may define trust as 'the extent to which one believes that others will not act to exploit one's vulnerabilities'. Members of a cooperative may develop affective and cognition based trusts amongst themselves. MCALLISTER (1995), defines affective trust as consisting of the emotional bonds between members. On the other hand, cognition based trust arises from empirical evidence of trustworthiness, in the sense that members make this decision based on what they think are 'good reasons' (MCALLISTER 1995). The amount of information needed to develop cognitive trust may be somewhere between 'full knowledge', in which case trust is not needed, and 'total ignorance' when trust may rationally not be developed since there is no basis for it. HANSEN et al. (2002), develop slightly different definitions for cognitive and affection based trust. They emphasise the importance of the process leading to the development of the 'good reasons', arguing that also both types of trust result from social interaction, the nature of cognitive trust is more objective whilst the nature of affective trust is more subjective. Members join a cooperative in order to fulfil a goal that might be of economic nature (better prices, larger marketed quantities, cheaper inputs, etc.), of security reasons (more secure/stable input – output markets), or of a social nature (interactions with other members). HANSEN et al. (2002), argue, that trustworthiness between members is more affection based in nature, whilst between members and cooperative management is more of a cognitive nature, since the fulfilment of economic goals rests mostly on the economic performance of the management, which is easier to analyse from an objective point of view. It is important to emphasise that the distinction is not so clear cut in practice. Both the inter members and members and management trust might have some cognitive and affective characteristics as well. Trust between members may lead to the development of what is called group cohesion, i.e. the bondage or commitment of members. BOLLEN and HOYLE, (1990) discusses the factors and various forms of trust leading to group cohesion. They define group cohesion as 'an individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group'. The sense of belonging is more composed of cognitive components (e.g. past experiences with group members, expectations from membership), whilst feelings of morale are more based on affective components (e.g. moods, feelings, emotions). BOLLEN and HOYLE, (1990)

conclude, that the level of group cohesion is more likely to be due to trust amongst members than trust of members towards the management, and that this trust is more likely to be an affective one. The last issue we need to cover is the relationship between the level of trust and members' performance within the cooperative. HANSEN et al. (2002) argue, that both types of trust are likely to have a positive effect upon cooperative members' satisfactions and economic performance. More, higher levels of group cohesion have also a positive impact on perceptions of satisfaction and performance.

### **3.2 Hypotheses**

According to the theoretical considerations, we separately test the role of trust on group cohesion and members' performance and satisfaction. We pay special attention to the distinction between cognitive and affective trust. Hypotheses 1-3 deal with the relationship between trust and group cohesion, whilst hypotheses 4-6 focus on the impact of trust on members' performance.

Hypothesis 1. Trust among members (cognitive and affective) will have a greater effect on group cohesion than trust between members and management of cooperative (cognitive and affective).

Hypothesis 2. Affective trust among members has a greater impact on group cohesion than cognitive trust among members.

Hypothesis 3. Affective trust between members and management of cooperative has a greater effect on group cohesion than cognitive trust between members and management of cooperative.

Hypothesis 4. Both types of trust (cognitive and affective) at both levels (among members and between members and management) have positive impacts on the members' performance and satisfaction from their cooperative membership.

Hypothesis 5. Affective trust (at both levels) has larger effects on the members' performance and satisfaction from their cooperative membership than cognitive trust (both levels).

Hypothesis 6. Group cohesion has a positive impact on the members' performance and satisfaction from their cooperative membership.

## **4 METHODOLOGY**

A survey was used to collect data from 'Mórakert' cooperative members needed to test the hypotheses in the previous section. The survey was designed following HANSEN et al (2002), employing the same variables. In the first step a pilot study was run on a smaller sub-sample to test the usefulness of questions measuring various types of trust. Preliminary results highlighted that some questions should be excluded from final questionnaire due to poor understanding and a low response rate. A total of 136 responses were returned.

### **4.1 Measures**

The survey contained an one-item scale developed to measure cognitive trust among members and between members and management and two item scales for affective trust among members and between members and management. We collected performance and satisfaction information employing a one scale item to provide a quantitative assessment of performance (my cooperative membership has resulted in increased profits). We used a one scale item to

measure for an individual perception of group cohesion. The questions in the survey are presented in Table 1.

**Table 1: The survey**

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*Cognitive trust*

I used a business-like approach to determine if I could trust other cooperative members

I used a business-like approach to determine if I could trust cooperative management

*Affective trust*

I feel that other cooperative members are trustworthy

I feel that cooperative management is trustworthy

I feel that I am trustworthy for other cooperative members

I feel that I am trustworthy cooperative management

*Performance and satisfaction*

My cooperative membership has resulted in increased profits

*Group cohesion*

I feel a sense of belonging to cooperative

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## 4.2 Control variables

The number of hectares farmed was used to control for variability caused by the size of the member's farm. The number of years they had been members of the cooperative, the age of farmers and the highest level of education of farmers were also includes as controls.

## 5 RESULTS

Table 3 show the results of hierarchical regression analyses used to test the hypotheses on group cohesion. Variables entered the hierarchical regression in the following steps: (1) three control variables, (2) cognitive trust among members, (3) affective trust among members, (4) cognitive trust between members and cooperative management, (5) affective trust between members and cooperative management. The statistics for each model iteration can be found in Table 3. In the end, 44% of the total variance is explained by the model.

Hypothesis 1 claims that both types of trust (cognitive and affective) among members have a greater effect on group cohesion than trust (cognitive and affective) between members and cooperative management. The results indicate that trust among members explained 16.8% of the variance in group cohesion, while trust between members and management explained 26% of the variance in group cohesion. However, both types of trust are significant among members when they enter separately and together in the model, while trusts (cognitive and affective) are significant between members and management only when variables enter sequentially in the model. Therefore we can not reject the hypothesis unambiguously.

Hypothesis 2 states that affective trust among members has a greater effect on group cohesion than cognitive trust among members. The results suggest that affective trust among members explain 11.1% of the variance in group cohesion, while cognitive trust among members only 7.7% of the variance. Furthermore, the coefficient of affective trust is higher than coefficient for cognitive trust. In sum, our estimations support the Hypothesis 2.

**Table 3: Results of hierarchical regression analyses, the effect of cognitive and affective trust on group cohesion**

<b>Step 1</b>	Coef.	P value	F	$\Delta R^2$	$R^2$	N
Land size	-0.0001	0.760	0.64	NA	0.0159	123
Members year	0.0873	0.531				
Education	-0.3105	0.236				
constant	6.4640	0.000				
<b>Step2</b>						
Land size	-0.0001	0.509	2.17	0.057	0.0726	116
Members year	0.0108	0.856				
Education	-0.0337	0.758				
Cognitive trust - member	0.2294	0.006				
constant	4.5369	0.000				
<b>Step3</b>						
Land size	-0.0001	0.334	4.62	0.111	0.1831	109
Members year	0.0016	0.977				
Education	0.0402	0.709				
Cognitive trust - member	0.1613	0.061				
Affective trust - member	0.3638	0.001				
constant	2.8049	0.000				
<b>Step4</b>						
Land size	-0.0001	0.276	5.15	0.049	0.2325	109
Members year	-0.0057	0.919				
Education	0.0520	0.620				
Cognitive trust - member	0.1114	0.193				
Affective trust - member	0.2413	0.035				
Cognitive trust - management	0.2688	0.012				
constant	2.2106	0.004				
<b>Step5</b>						
Land size	-0.0001	0.141	11.40	0.211	0.4438	108
Members year	0.0014	0.976				
Education	-0.0693	0.451				
Cognitive trust - member	0.1934	0.010				
Affective trust - member	9.19e-06	1.000				
Cognitive trust - management	-0.1077	0.323				
Affective trust - management	0.7016	0.000				
constant	1.4475	0.032				

Hypothesis 3 argues that affective trust between members and management has a greater effect on group cohesion than cognitive trust between members and management. Our findings support this hypothesis. Estimations indicate that affective trust between members and management explain 21.1% of the variance in group cohesion, while cognitive trusts between members and management only 4.9% of the variance. In addition, coefficient of cognitive trust is not significant in the final model.

**Table 4: Results of hierarchical regression analyses, the effect of cognitive and affective trust on membership performance**

<b>Step 1</b>	Coef.	P value	F	$\Delta R^2$	$R^2$	N
Land size	-0.0002	0.034	1.62	N.A.	0.0400	121

Members year	-0.0225	0.703				
Education	0.0288	0.796				
constant	5.43203	0.000				
<b>Step 2</b>						
Land size	-0.0002	0.030	1.48	0.011	0.0509	115
Members year	-0.0386	0.533				
Education	0.0552	0.626				
Cognitive trust - member	0.0890	0.299				
constant	4.9553	0.000				
<b>Step 3</b>						
Land size	-0.0002	0.005	7.06	0.206	0.2572	108
Members year	-0.0407	0.479				
Education	0.1788	0.094				
Cognitive trust - member	-0.0015	0.985				
Affective trust - member	0.5271	0.000				
constant	2.3248	0.002				
<b>Step 4</b>						
Land size	-0.0002	0.003	7.11	0.040	0.2970	108
Members year	-0.0478	0.397				
Education	0.1897	0.070				
Cognitive trust - member	-0.0479	0.570				
Affective trust - member	0.4125	0.000				
Cognitive trust - management	0.2486	0.019				
constant	1.7829	0.020				
<b>Step 5</b>						
Land size	-0.0003	0.001	11.71	0.153	0.4504	108
Members year	-0.0405	0.419				
Education	0.0842	0.374				
Cognitive trust - member	0.0248	0.745				
Affective trust - member	0.2093	0.054				
Cognitive trust - management	-0.0813	0.468				
Affective trust - management	0.6106	0.000				
constant	1.0898	0.113				
<b>Step 6</b>						
Land size	-0.0002	0.002	11.97	0.041	0.4916	108
Members year	-0.0410	0.398				
Education	0.1037	0.259				
Cognitive trust - member	-0.0295	0.698				
Affective trust - member	0.2093	0.046				
Cognitive trust - management	-0.0510	0.639				
Affective trust - management	0.4131	0.002				
Cohesion	0.2815	0.006				
constant	0.6823	0.315				

Table 4 show the results of hierarchical regression analyses used to test the hypothesis concerning the impacts of trust and group cohesion on members' satisfaction and performance from their membership in cooperative. Variables were added to the model in the order indicated in the table. Hypothesis 4 states that both types of trust (cognitive and affective) at both levels (among members and between members and management) have a positive effect on the performance. Our estimations support this hypothesis. When each type of trust is



entered for each level, it has significant and positive effect on performance, except cognitive trust among members. However, in the final model including all variables, only affective trust at both levels have a positive and significant effect on performance.

Hypothesis 5 claims that affective trust (at both levels) has a greater impact on performance than cognitive trust (at both levels). Our results provide strong support this hypothesis. The affective trusts explain 35.9% of the variance in group performance, while cognitive trusts only 5.1% of the variance. Furthermore, the coefficients of affective trust are significant for all specification, but cognitive trust is significant only between members and management.

Finally, as predicted Hypothesis 6, the group cohesion has a significant and positive effect on member's performance. Note that group cohesion explained an additional 4.1% of the variance in performance, for a total  $R^2=49.6\%$ .

## 6 CONCLUSIONS

The paper analyses the role of trust in a successful agricultural marketing cooperative in the Hungarian horticultural sector employing a survey approach. More specifically, we focus on the effects of trust on cooperative members' performance and satisfaction and their commitment to remaining a part of cooperative. We analyse the trust along two dimensions: cognitive and affective. Our results suggest that trust among cooperative members and trust between cooperative and management have positive effects on group cohesions. In line with a priori hypotheses and findings by HANSEN et al (2002) we found namely the affective trust has a greater impact on group cohesions than cognitive trust at both levels. In addition, trust among members has a greater impact on group cohesion and members' satisfaction than trust between members and management. The limitations of our research are inherent in case study approach. Our results can not be generalised across all cooperative in Hungary due to differences in geographical location and commodity handled. Thus, further research is needed to clarify the role of trust in the success of marketing cooperative.

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