The effect of trust on the performance and satisfaction of co-operative members at the 'Zöld - termék' producer organization

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SUMMARY FINDINGS, CONCLUSIONS, RECOMMENDATIONS

The paper investigates the effect of trust between members and between members and the management in an agricultural marketing co-operative in the Hungarian horticultural sector. More specifically, we looked at how trust affected the performance and satisfaction of members of the co-operative, as well as their intention to remain part of the co-operative. We analyzed the role of trust from two aspects: cognitive and affective. In line with our prior hypothesis, we found differences between cognitive and affective trust in terms of how it affected group cohesion and the level of satisfaction of co-op members.

Our results suggest that trust between co-operative members has a positive effect on group cohesion. The trust between members (cognitive and affective together) affects group cohesion to a greater effect than trust between members and management (cognitive and affective together). Affective trust between the members and affective trust between members and the management, when looked at together, has a greater impact on group cohesion than cognitive trust between members plus cognitive trust between members and the management. Our results confirm that group cohesion has a positive effect on the members' satisfaction. Additionally, affective trust has a greater impact on members' satisfaction than cognitive trust does.

The greater impact of affective trust indicates that currently, the emotional basis of co-operation is stronger than its tangible economic benefits. The management of the Producer Organization (PO) should improve the reliab ility of the PO and strengthen personal relationships (between members, as well as between members and the management) in order to boost cohesion within the organization. This would increase satisfaction of the members and help retain members. Naturally, the PO has to ensure safe sale and marketing, which is the most important expectation of the members to the OP.

INTRODUCTION

In Hungary the political and economic changes in the early 1990s resulted in a complete transformation of the structure of the agricultural sector. The earlier co-operatives and state farms were disbanded, and the resulting vacuum gave rise to a large number of privately-owned farms. As a consequence, the sector is characterised by structural problems, lack of sufficient capital, and low efficiency. The co-operation could be the solution for these privately-owned farms (*Baranyai – Takács, 2007*). There is a wealth of literature on marketing co-operative, but research on their role in transition agriculture is scarce. Marketing co-operatives may solve many problems of vertical co-ordination; however the numbers of co-operatives are still low in transition countri-

es (*Fertő – 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 co-operative in transition country (*Bakucs et al., 2007*). The paper tries to contribute to the literature at least two ways. After the overview of theoretical background we present a case study on a marketing co-operative in Hungary to better understand this organisation form. Second, we focus on the role of trust in the explanation of the success of a marketing co-operative. The aim of the paper is to empirically test the importance of trust on the economic relationships.

THEORETICAL BACKGROUND

Co-operation is a process, developed by different parties to interact and form business relationships for mutual benefits. Theoretically, higher levels of co-operation are expected to improve business coordination, which in turn leads to better human and product performance (*Smith et al., 1995*). Successful cooperation requires higher levels of trust. In case of a cooperative, trust is potentially able to reduce transaction costs (shorter negotiations, easier contracting, etc.). Although various definitions of trust exist 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 co-operative 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. *Hansen et al. (2002)* develop slightly different definitions for cognitive and affection based trust. They emphasise the nature of cognitive trust is more objective whilst the nature of affective trust is more subjective. Members join a co-operative in order to fulfil a goal that might be of economic nature (better prices, 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 co-operative management is more of a cognitive nature. 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 co-operative. *Hansen et al. (2002)* argue that both types of trust are likely to have a positive effect upon co-operative members' satisfactions and economic performance. More, higher levels of group cohesion have also a positive impact on perceptions of satisfaction and performance.

On the basis of the research of *Hansen at al. (2002)*, *Bakucs et al. (2007)* examined the role of trust at the MÓRAKERT Co-operative in Hungary. *Baranyai et al.*

(2008) also examined the main factors of the producers' willingness of co-operation but from other view-point. Their research proved that the willingness to co-operate is in negative relation to farm size and positive relation to assets deficiency.

THE BRIEF HISTORY OF 'ZÖLD-TERMÉK' CO-OPERATIVE

The 'ZÖLD-TERMÉK' Co-operative was established 21 January 2003 (*Dudás, 2008*). The co-operative has been acknowledged as a preliminary *Producer Organisation (PO)* in August 2003. The centre of the co-operative is found in Üllés in Csongrád County. The most important products are the different kinds of capsicums (paprika), cabbages, tomatoes, potatoes and carrots. The products are being sold approximately in ratio 60-40% in the domestic and export markets. The main market channels of the domestic fresh products are the wholesalers in Budapest, Nyíregyháza, Győr, Szombathely, Kaposvár and Nagyatád. The export is accomplished mainly through exporter companies. In this case the fresh capsicums (paprika) and cabbages get to the consumers by department chains of Germany, Czech Republic and the Scandinavian countries. The co-operative pay attention to the quality and homogeneity of products, whilst trying assure a versatile assortment in order to fulfil the requirements set by retail chains and wholesalers. They buy products sometimes from non-members and import, but the products of the members are sold first.

In the last years the co-operative is developing continuously. The number of membership increased from 61 to 99, conversely the co-ordinated cultivated area stagnated at 150 hectares. The area of cultivated plough land vegetable production decreased, at the same time the importance of forcing (greenhouse) became stronger. The quantity of products of the membership from the starting 1997 tonnes continuously increased, in 2008 exceeded the 2800 tonnes. The annual turnover is two-times bigger than in the beginning, it approximates the 450 million HUF.

As a result of common projects the co-operative has built up the basic facilities of the effective operation (1000 m² warehouse, 800 m² cold-storage, 400 m² packaging house with packaging machines, offices, social rooms etc.). The co-operative keeps records of farmers about cultivated lands, production forms, technological level, quantity and quality of products. The schedule of supplying, processing and sale are based on these data. A computer assisted information system helps the work in the headquarters. They provide continuous consultation for the farmers about cultivation technology and the farmers acquire new knowledge by trainings in the winter period. As a result of consultations and trainings the using of fertilizers and plant protecting materials decreased. The co-operative decreases the expenditure of cultivation by common purchasing of input materials. Some farmers carry on experimental production in order to know the new brands and their natural and technological demands. The cooperative promotes the environment friendly and integrated production technologies, too.

At the end of 2008 the 'ZÖLD-TERMÉK' Co-operative received the ultimate Producer Organisation acknowledgement from the Hungarian Agricultural Ministry. They interested in the forward collaboration of acknowledged POs, therefore they are founder member of the first Hungarian secondary collaboration of POs (*DATÉSZ Joint Stock Company*).

HYPOTHESES

According to the theoretical considerations following *Hansen et al. (2002) and Bakucs at al. (2007)*, we separately test the role of trust on group cohesion and members' performance and satisfaction. We pay special attention to the distinction betwe-

en 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 co-operative (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 co-operative has a greater effect on group cohesion than cognitive trust between members and management of co-operative.

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 co-operative membership.

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

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

METHODOLOGY

A survey was used to collect data from 'ZÖLD-TERMÉK' Co-operative members needed to test the previous hypotheses. The survey was designed following *Hansen et al. (2002) and Bakucs at al. (2007)* employing the same variables. A total of 55 responses were returned.

The survey contained a 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 co-operative 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.

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 co-operative and the highest level of education of farmers were also includes as controls.

Table 1

The question of the survey

Cognitive trust
I used a business-like approach to determine if I could trust other co-operative members
I used a business-like approach to determine if I could trust co-operative management
Affective trust
I feel that other co-operative members are trustworthy
I feel that co-operative management is trustworthy
I feel that I am trustworthy for other co-operative members
I feel that I am trustworthy co-operative management
Performance and satisfaction
My co-operative membership has resulted in increased profits
Group cohesion
I feel a sense of belonging to co-operative

Source: following Hansen et al. (2002) and Bakucs at al. (2007)

RESULTS

Table 2 shows 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) affec-

tive trust among members, (4) cognitive trust between members and co-operative management, (5) affective trust between members and co-operative management. The statistics for each model iteration can be found in Table 2. In the end, 39% 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 co-operative management. The results indicate that trust among members explained 26.5% of the variance in group cohesion, while trust between members and management explained only 6.2% of the variance in group cohesion. Our estimations support the Hypothesis 1.

Table 2

Results of hierarchical regression analyses, the effect of cognitive and affective trust on group cohesion

Variables	B Coef.	Sig.	ΔR^2	R^2
Step 1				
Land size	0.038	0.273	NA	0.063
Members year	0.184	0.207		
Education	0.109	0.541		
Step2				
Land size	0.026	0.430	**0.141**	0.204
Members year	0.130	0.341		
Education	0.080	0.632		
Cognitive trust - member	**0.373**	**0.004***		
Step3				
Land size	0.030	0.332	**0.124**	0.328
Members year	0.143	0.262		
Education	0.015	0.925		
Cognitive trust - member	-0.068	0.718		
Affective trust - member	**0.601**	**0.004***		
Step4				
Land size	0.028	0.361	**0.002**	0.330
Members year	0.142	0.268		
Education	0.004	0.982		
Cognitive trust - member	-0.105	0.622		
Affective trust - member	0.582	0.007*		
Cognitive trust - management	0.079	**0.702**		
Step5				
Land size	0.039	0.201	**0.060**	**0.390**
Members year	0.235	0.076		
Education	-0.007	0.963		
Cognitive trust - member	-0.211	0.320		
Affective trust - member	0.853	0.001*		
Cognitive trust - management	0.568	0.066		
Affective trust - management	**-0.746**	**0.037***		

B coefficient (B Coef.) shows the size of the variables and the direction of effect of the variables. Sig. = Significance. R^2 shows the explained part of the model. ΔR^2 shows the explained part of the group cohesion in case of different variables.

Number of respondents: 55 *The level of significance < 5%

Source: Own compilation

Hypothesis 2 states that affective trust among members has a greater effect on group cohesion than cognitive trust among members. In our model the affective trust explains 12.4% of the variance, while cognitive trust explains 14.1%. There is no notable difference between these two values. On the bases of the coefficient we can say that affective trust among members has greater impact on group cohesion (0.601), than cognitive trust among members (0.373). In sum our estimations support the Hypothesis 2.

Table 3

Results of hierarchical regression analyses, the effect of cognitive and affective trust on membership performance

Variables	B Coef.	Sig.	ΔR^2	R^2
Step 1				
Land size	0.025	0.501	NA	0.068
Members year	0.021	0.894		
Education	0.346	0.077		
Step 2				
Land size	0.013	0.718	**0.117**	0.185
Members year	-0.033	0.827		
Education	0.317	0.087		
Cognitive trust - member	**0.369**	**0.010***		
Step 3				
Land size	0.013	0.713	**0.073**	0.258
Members year	-0.011	0.937		
Education	0.365	0.044		
Cognitive trust - member	0.163	0.318		
Affective trust - member	**0.441**	**0.033***		
Step 4				
Land size	0.009	0.799	**0.019**	0.277
Members year	-0.014	0.924		
Education	0.318	0.085		
Cognitive trust - member	0.018	0.932		
Affective trust - member	0.401	0.054		
Cognitive trust - management	0.255	**0.268**		
Step 5				
Land size	0.040	0.210	**0.176**	0.453
Members year	-0.070	0.585		
Education	0.227	0.164		
Cognitive trust - member	0.070	0.704		
Affective trust - member	0.037	0.857		
Cognitive trust - management	-0.210	0.373		
Affective trust - management	**0.870**	**0.000***		
Step 6				
Land size	0.021	0.473	**0.094**	**0.547**
Members year	-0.117	0.326		
Education	0.211	0.159		
Cognitive trust - member	0.012	0.942		
Affective trust - member	-0.025	0.895		
Cognitive trust - management	-0.140	0.521		
Affective trust - management	0.628	0.006*		
Cohesion	**0.421**	**0.003***		

B coefficient (B Coef.) shows the size of the variables and the direction of effect of the variables. Sig. = Significance. R^2 shows the explained part of the model. ΔR^2 shows the explained part of the membership performance in case of different variables.
Number of respondents: 55 *The level of significance < 5%
Source: Own compilation

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, although the variance is very low. Estimations indicate that affective trust between members and management explain 6% of the variance in group cohesion, while cognitive trust between members and management is only 0.2% of the variance. In addition, coefficient of cognitive trust is not significant in Step4 and in the final model.

Table 3 shows 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 co-operative. 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 partially 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 and management in step 4. However, in the final model (after step 6) including all variables, only affective trust between members and management 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 partially support this hypothesis. The affective trust explains 24.9% of the variance in group performance, while cognitive trust 13.6% of the variance. The cognitive trust among members explains higher value of variance (11.7%) than affective trust among members (7.3%). Between members and management the affective trust explains 17.6% of the variance, while cognitive trusts 1.9%. The coefficients of affective trust are significant for all specification, but cognitive trust is significant only among members.

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 9.4% of the variance in performance, for a total R^2=54.7%.

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