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# The role of trust in fruit and vegetable producer organisations – Case study from Hungary

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## **Abstract**

Taking into account the underdeveloped situation of Hungarian fruit and vegetable producer organisations (POs) as a starting point, present paper examines the role and impact of two (affective and cognitive) dimensions of trust in two POs based on empirical data collection supplied by members of two the organisations. Evaluation of databases was done by the help of descriptive statistics and we used variance analysis (ANOVA) as well as multivariate regression models. According to our findings we can state that trust has key role in POs and it has - statistically proved - influence on group cohesion, satisfaction and activity of members.

**Keywords:** co-operative, producer organisations, trust, membership satisfaction, group cohesion.

## **Introduction**

It is very unfortunate that the market shares of producer organisations like marketing co-operatives (co-op) is relatively low in New Member States – below 20% in Hungary – since these organisations have key co-ordination roles in the major vegetable-fruit producing member states of the European Union (see for example Bijman et al., 2012; Szabó, 2012a,b). Researchers working on the topic mostly agree that this phenomenon can basically be explained by the low level of farmers' trust. Taking into account this situation as a starting point, present paper examines the role of trust in Hungarian fruit and vegetable producer organisations. In this paper we analyse the role and impact of two dimensions of trust in two co-operatives, with special regard to group cohesion, satisfaction and activity of members.

Trust in co-operatives is usually considered as one of the main advantages which can help co-operative members to realise their economic and non-economic aims. According to many authors (e.g. Wilson, 2000; Borgen, 2001; Hansen et al., 2002 etc.), one of the sources of increasing the competitiveness of co-ops (for example by decreasing transaction costs) can be traced back to trust which exists between the members and the co-operative (management), as well as among the members. Trust, as subject of analysis, is a relatively new phenomenon in agricultural economy research. In spite of this, however, quite a few trust-definitions and categorisations have been published in the last few decades in the literature. Out of these numerous types of trust approaches, the present paper uses McAllister's categorisation as a basis (McAllister, 1995). The author of one of the most cited paper identifies two main types of trust: affective and cognitive. The former is more subjective and emotional bonded, while the latter is mainly based on rational calculations and empirical evidence.

Hansen et al. (2002) develop these categories further and using a process based approach they analyse the role of trust on co-operative retention, performance and members' satisfaction by examining trust along two dimensions: cognitive and affective. They also "argue that cognitive and affective trusts refer to the process by which one determines that an individual, group or organization is trustworthy" (Hansen et al., 2002: 43). They also distinguish two types trust: among members and also between members and the management. Their empirical findings based on the evaluation and test of two marketing co-operatives suggest that "...trust among members and trust between members and co-op management are important predictors of group cohesion, which is a measure of the strength of the members' desires to remain in a group (co-op) and their commitment to it" (Hansen et al., 2002: 1).

The above work by of Hansen et al. (2002) had motivated two researches in Hungary dealing with surveys among members of two fruit and vegetable organisations (Bakucs et al., 2008; Dudás, 2009). This study presents further experiences of above two surveys.

## Data and Methods

Database of present study is consisted of empirical data collection supplied by members of two Hungarian fruit and vegetable producer organisations. The first survey asked members of MÓRAKERT Purchasing and Service Co-operative in 2006 (Bakucs et al., 2008). This co-operative was the first officially recognised and biggest PO in Hungary and extended its membership and turnover considerably during the period of 1995-2007. However, this co-operative is currently under bankruptcy and almost ceased to exist. It had more than 500 members at the time of the survey and 136 of them answered to list of queries.

The second survey asked members of ZÖLD-TERMÉK Co-operative in 2008 (Dudás, 2009). It had got preliminary recognition on 25 August 2003 and was officially recognised PO from 1 January 2009. It is still active in the fruit and vegetable sector. It had 99 members at the time of the survey and 57 of them answered to list of queries.

The surveys had been carried out by two research groups therefore the lists of queries are in some cases are different, however there are many overlapping questions which made the comparison possible. In present paper we analyse the results of those overlapping parts of the surveys.

Based on Hansen et al. (2002) both research groups analysed the role of trust on co-operative retention and performance by examining trust along two dimensions: cognitive and affective. They also tried to find correlations between those two dimensions and members' satisfaction, as well as group cohesion. Table 1 contains relevant questions of the surveys, respondents used scale 1-7 (1= „I do not agree at all”, 7= „I agree maximally”) to answer them.

Among some other items, like control variables, the list of queries used during the research contained questions on demographic characteristics (like age [AGE] and level of education [EDU] etc.) of the members and it measured the level affective and cognitive trust among the members as well between the members and the management with measuring members' satisfaction and group cohesion. It has measured the level of activity of members (activity rate: A) in the co-operative as well.

**Table 1: Questions and variables used in the surveys**

<p><b>COGNITIVE TRUST</b>            (1) I used a business-like approach to determine if I could trust other cooperative members (<i>level of cognitive trust towards to another co-operative member, CT1</i>)            (2) I used a business-like approach to determine if I could trust cooperative management (<i>level of cognitive trust towards to co-operative management, CT2</i>)</p>
<p><b>AFFECTIVE TRUST</b>            (1) I feel that other cooperative members are trustworthy (<i>level of affective trust towards to another co-operative member, AT1</i>)            (2) I feel that cooperative management is trustworthy (<i>level of affective trust towards to co-operative management, AT2</i>)</p>
<p><b>SATISFACTION</b>            (1) My cooperative membership has resulted in increased profits (<i>S</i>)</p>
<p><b>GROUP COHESION</b>            (1) I feel a sense of belonging to cooperative (<i>GC</i>)</p>

Source: own calculation

Evaluation of databases was done by the help descriptive statistics and we used variance analysis (ANOVA) as well as multivariate regression models also. Regarding the methods used, it is important to mention that we presented variables in the regression models in standardised form which action made possible to compare the calculated model parameters in a correct manner.

## Results

We use the following logic in our examination process (see Table 2): first we analysed how control and trust variables made effects on member satisfaction in the multivariate regression models constructed in individual cases of each co-operative (M1). Secondly, we tried to identify factors influencing group cohesion involving member satisfaction among explanation factors by a kind of “chain analysis” (M2). Finally, as the last step we analysed the effects on activity rate by explanation items supplemented by group cohesion factors (M3).

According to the logic introduced above, first we tried to identify factors influencing member satisfaction. In cases of both co-operatives we were successful to construct statistically validated regression models. We summarise the most important parameters of both models in column M1. Summarising experiences briefly, it can be stated that only the partial determining effect of the affective dimension of trust on membership satisfaction was justified among all examined variables. Co-operatives show differences, while in case of MÓRAKERT Co-operative affective trust towards management (AT2) then in case of ZÖLD-TERMÉK Co-operative affective trust among members (AT1) were the only significant factors.

**Table 2: Examination of variables influencing member satisfaction, group cohesion and members’ activity in co-operative (overall table of outputs of regression models)**

Independent variables	MÓRAKERT Co-op			ZÖLD-TERMÉK Co-op		
	Dependent variables			Dependent variables		
	sS (M1)	sGC (M2)	sA (M3)	sS (M1)	sGC (M2)	sA (M3)
	Standardized (beta) coefficients					
sAGE [-]	0.027	0.078	<b>-0.138*</b>	-0.005	0.182	-0.089
sEDU [-]	0.062	-0.025	<b>-0.202*</b>	0.123	-0.153	0.259
sCT1 [-]	0.025	0.222*	-0.101	-0.322	-0.092	-0.466
sCT2 [-]	-0.060	-0.016	0.124	0.297	<b>0.448*</b>	0.139
sAT1 [-]	0.053	-0.051	-0.079	<b>0.548**</b>	<b>0.452*</b>	0.095
sAT2 [-]	<b>0.614**</b>	<b>0.398**</b>	<b>0.265*</b>	-0.014	<b>-0.534*</b>	-0.062
sS [-]		<b>0.334**</b>	-0.123		<b>0.455*</b>	-0.266
sGC [-]			0.158			0.091
Constant [-]	0.000	-0.000	0.049	0.000	0.000	0.050
<b>Model-valid.</b>	<b>R<sup>2</sup>: 0.37;</b> <b>F-sig.: 0.000</b>	<b>R<sup>2</sup>: 0.47;</b> <b>F-sig.: 0.000</b>	<b>R<sup>2</sup>: 0.191;</b> <b>F-sig.: 0.001</b>	<b>R<sup>2</sup>: 0.33;</b> <b>F-sig.: 0.003</b>	<b>R<sup>2</sup>: 0.48;</b> <b>F-sig.: 0.000</b>	<b>R<sup>2</sup>: 0.25;</b> <b>F-sig.: 0.008</b>

Source: own calculation

Note: Significant at \* - 0.005; \*\* - 0.001 level.

Continuing our examinations, as a second step we analysed explanation factors for group cohesion (M2 columns). The most important statements can be summarised as follows: in

case of MÓRAKERT Co-operative the most significant factor which determines group cohesion is the affective trust between the members and the management (AT2) and then member satisfaction (S) is identified as second most influencing factor. Effects on group cohesion of the above two factors can be justified as well in case of ZÖLD-TERMÉK Co-operative and it is supplemented by statistically justified roles of variables CT1 and AT1. However, it is an interesting experience, that affective trust towards management which was the strongest factor influencing group cohesion has negative value which means the higher emotional commitment towards the management decreases group cohesion. In case of MÓRAKERT Co-operative the above connection has positive value.

As a last step in our examination, we built a regression model in order to be able to explain activity in the co-operative. Among the factors which can explain the extent of member activity in a co-operative there is “group cohesion” as variables. The variables used in the examination process could explain the activity as a dependent variable only at a modest rate (19-25%). however we can accept the model as statistically accredited according to ANOVA results (M3 columns). Evaluation of results shows us that the activity of membership of MÓRAKERT Co-operative is mostly determined once more by the affective trust towards management (AT2). Apart from the above facts demographic characteristics (age [AGE] and level of education [EDU] etc.) of the members can identified as important factors as well. It appears as a tendency that membership activity in the co-operative decreases as the level of education and the age of the members increase.

Analysis based on the data coming from ZÖLD-TERMÉK Co-operative could not find partial effect of any explanation variable as a significant one.

## **Discussion**

In this paper we analysed the role and impact of two dimensions of trust in two POs. In more details, we tried answer to the question how trust effects member satisfaction, group cohesion and through these categories members’ activity in co-operative. Following the literature we analysed trust according to two dimensions (affective and cognitive trust). Empirical data were supplied by members of two the co-operative organisations for two earlier survey research.

According to our findings we can state that trust has key role in POs and it has – statistically proved – influence on group cohesion, satisfaction and activity of members.

Among the dimension examined during the research the importance of the affective trust must be emphasised, especially in the relation between members and the management. It has the definitive meaning that the key issue regarding the success of POs is the successful management which can “engage” members on affective basis with high level of trust towards them.

One of the important results is that we shed light on relationships between the demographic characteristics and the activity of members in the co-ops. On one hand it is very promising that the activity of the young farmers is higher, since it can be a sign of changing generations possible in the near future which in turn can stabilise the situation of POs. On the other hand it has been proved that members with lower level of education are more active in the co-op which underlines the justification of existence of such member owned organisations and the importance of them in rural communities. Namely, since co-ops secure different services for the farmers with lower level of education they help to raise competitiveness of their farming on the market.

Naturally there are limits of our research: apart from the limited number of observations (in case of MÓRAKERT Co-operative: n=136. in case of ZÖLD-TERMÉK Co-operative: n=57). there were cases where correlations were valid only in either of the two cases. Our experiences show the direction of further researches on the topic involving more producer organisations and more sectors as well.

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