

Drivers of Trust - Some Experiences of an Empirical Survey at 'Paprikakertész' Producer Organisation

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Abstract: The present study aims to identify those factors which contribute to the development of trust in a producer organisation. The focus of research is the empirical testing of a theoretical trust model. According to our results the theoretical model, which leads back trust to the faith in the loyalty and competence of the other party is, is essentially correct. Our calculations have definitely proved that high level of trust among partners is developed when their faith both in loyalty and competence has high values, too. The research, however, also revealed that the above mentioned two factors determine trust to a different extent: as regards trust among partners, the faith in competence is more important; while the trust in management is rather shaped by the faith in loyalty. The results have confirmed the outcomes of former surveys, which were carried out with the same methodological approach as the present research, thus the validity of Sholtes trust model has received further support.

Keywords: faith in competence, faith in loyalty, Sholtes, trust.

1 Introduction

According to the related statistical data, the producer organisations have a key role in the coordination of product path in the major vegetable and fruit producing member states of the European Union. This is basically the result of an organic development. The POs in the vegetable-fruit sectors of the so-called EU15 countries have dominated the market from the second half of the 1990s and - as the result of a permanent expansion - they were responsible for one-third of the total vegetable-fruit market in 2000. This share had grown to more than 40% by 2010. The activity of individual countries is different, which means that the market share of POs from vegetable-fruit sales is quite differentiated: according to data from 2010 the Netherlands and Belgium are outstanding because the market share of these organisations is around 90%; but POs have significant market share – around 50% - in Ireland, the Czech Republic, Sweden and Germany, too. In case of the Mediterranean member countries – which have the highest product turnover – it has been revealed that recognized producer organisations sell about half of the produced vegetables and fruits (Spain and Italy) or even much less proportion (Portugal and Greece). Regarding Hungary, this rate is below 20% ((Bíró – Rácz, 2015). Although – as far as we know - more recent international data are not available, it can be presumed that substantial changes or restructuring processes have not happened in the last few years in these countries. The estimated share in Hungary was around 20.11% in 2015 (Government of Hungary, 2016)

The weak role of Hungarian producer organisations, which is below the EU average in the coordination of vegetable-fruit product paths, can be due to several reasons. The black trade on the wholesale markets considerably hampers the strengthening of POs. (Szabó, 2012). It is a significant competitive disadvantage that while the sales on the wholesale markets often go without invoices and the produce is marketed without origin and quality checks; the POs have to thrive by observing the regulations (taxation, accounting, quality control, etc.). Unfortunately - in the hope of short-term gains - the members often utilize the „possibilities” offered by the black market. (Dudás, 2009)

Dudás (2009) regards the substantial administrative burden on producer organisations as further restricting factors. The permanent changes of the legal environment, which gives the framework for the operation, also render the planning of the operation more difficult. The author concludes that in spite of the fact that the vegetable-fruit sector in principle belongs to the less regulated sectors, the legislation regarding producer organisations is rather bureaucratic.

The examination of trust issues is one of the directions of research connected with producer organisations. Following some international examples (Hansen et al., 2002) Hungarian researchers also analysed the impact of trust within producer organisations. According to the research outcomes, the management of the producer organisations may improve the cohesion within the cooperation, the

contentment felt by the members and their tenacity in the cooperation by increasing the liability of the organisation and strengthening the personal relations. (Dudás – Fertő, 2009).

The present research aims to further explore the area of trust and to provide new results to the topic. As it is fairly obvious, the performance of producer organisations set up for the coordination of the Hungarian vegetable and fruit sector is far behind the expectations; currently their development can rather be described as stagnation. It can also be clearly stated that trust is extremely important for the efficient operation and development of organisations, therefore it is important to reveal and identify those factors which play an important role in the formation and maintenance of trust. This was in the focus of our research, which was based on former research works in the same area (Baranyai et al. (2011) and Baranyai (2016)).

The study has the following structure: the next part briefly summarizes the research works dealing with trust, including the ad hoc trust model which provides the theoretical background of the current research. Following the introduction of research hypotheses, the „Material and Methods” chapter describes the data collection and evaluation connected with the research. Finally, the main outcomes of the research are introduced, as well as the subsequent conclusions based on them.

2 Theoretical background

Trust is especially important in human relations, which explains why it has been put in the centre of interest of several disciplines in the recent years. Trust, as the subject of research is a relatively new phenomenon in the field of economic sciences, although a large number of publications have been published and several trust approaches have been drafted in the last 25-30 years (e.g.: McAllister, 1995; Szabó, 2010; Hansen et al, 2002 and Dudás – Fertő (2009), Sholtes, 1998 etc.). This present study – on the basis of earlier research experiences (e.g. Baranyai et al. (2011) - takes the Sholtes trust model as its basis.

Sholtes (1998) placed trust in the matrix of loyalty and capability. Provided that faith both in loyalty and capability take up high values among partners, it can develop trust (Figure 1). This research work was carried out by using the relations found in the model.

Hypothesis

We have drafted and examined the following hypotheses in our research:

H1. Higher level of trust is developed if the faith in loyalty as well as in capability has high values among the partners.

H2. The faith in the loyalty and capability of partners is equally important regarding the level of trust.

		CAPABILITY	
		low	high
LOYALTY	high	SYMPATHY	TRUST
	low	MISTRUST	RESPECT

"I believe that my partner is well-trained and talented."

"I believe that my partner likes me and will help me in the future."

Figure 1.

Trust development between partners on the basis of the level of both loyalty felt towards each other and perceived capability

Source: own edition on the basis of Sholtes (1998)

3 Material and methods

Our examinations are based on empirical databases: a questionnaire survey was carried out among the members of PAPRIKAKERT PO Producer and Sales Ltd between May and October 2015. Altogether 144 member farms provided information for the survey.

PAPRIKAKERT PO Producer and Sales Ltd (hereinafter referred to as PAPRIKAKERT) was founded with hardly more than 30 founding members on 11th May, 2009, in Pusztaotlaka, Békés County. The preliminary recognition was given to the PO in September 2009 and it was awarded final recognition in 2013. The membership of the organization, the land they use and the volume of products dynamically extended in the years following the foundation. By 2012 the number of members was almost 140; the area of land used by the members was more than 700 hectares, while the volume of the produced fruits and vegetables was about 13.5 thousand tons. On the basis of data from 2015, it can be declared that the number of members is around 300, the area of land used by members is almost 1,400 hectares, out of which about 1,000 hectares are used for vegetable and fruit production. The volume of goods produced in member farms amounts to 24,000 tons.

The membership comes typically from three counties, namely from Békés, Csongrád and Szabolcs-Szatmár-Bereg counties. It is important to note, however, that some members have joined the cooperation from Nógrád, Heves, Pest and Hajdú-Bihar counties, which well indicates that the cooperative arrangement operates on an extensive area.

The main products of the organization are as follows: out of the vegetables several paprika varieties, onion varieties, cabbage varieties, tomato, potato and root vegetables, as well as melons dominate the production structure; while regarding the fruits, the most important are the apple and stone fruits.

Sholtes's theoretical trust model was used for compiling the questions of the questionnaire. It is important to note that the theoretical model was tested in two relations - among members and between members and the management - and the measuring tools were adjusted to this. Question Q1 measured the level of general trust among members, while Q2 was used in the member-management relation. The trust in the loyalty of fellow members and the management was measured by questions Q3 and Q4, while questions Q5 and Q6 helped to survey the faith in competence in the same relations. The respondents could rate their answer on a scale from 1 to 7 for each of the questions, thus indicating how much they agree with the given statement (1 – do not agree at all; 7 – totally agree). The questions in the survey are presented in Table 1.

<i>among members</i>	<i>between members and management</i>
<i>Trust</i>	
Q1. I think I can definitely trust the other members of the cooperation. (TR_T)	Q2. I think I can definitely trust the management of the cooperation. (TR_M)
<i>Loyalty</i>	
Q3. I think, my fellow members in the cooperation definitely keep their given word (LOY_T)	Q4. I think the management of the cooperation definitely keeps their given word (LOY_M)
<i>Capability</i>	
Q5. I think my fellow members in the cooperation are properly qualified and have appropriate competence and knowledge for farming (CAP_T)	Q6. I think the management of the cooperation are properly qualified and have appropriate competence and knowledge. (CAP_M)

Table 1.
The questions of the survey

Source: own edition

We have used the following statistical methods in the research: descriptive statistics, t-tests, one-way ANOVA with Post Hoc Tests, hierarchical ANOVA and linear regression.

4 Results

The descriptive statistics of the variable set applied in the examinations are summarised in Table 2. The results statistically prove that the level of general trust in the member-management relation is higher than the trust among members.

The Sholtes model interprets trust in relation to the faith in loyalty and capability. The experiences prove that the items measuring the faith in capability received higher average scores in both relations than those used for measuring the level of loyalty. The higher value of faith in capabilities can be statistically proven in both cases. Another interesting experience is that the relation between each variable pairs (LOY_T – CAP_T and LOY_M – CAP_M) is only moderately strong, which means that the above discussed two approaches represent two different dimensions for the farmers.

Another conclusion to highlight was that the responding members of the producer organisation have more faith in the loyalty and competence of management than in that of their fellow members (4.98 vs. 4.69, and 5.31 vs. 5.29); this difference, however, was not significant in terms of statistics.

Variables	Average	Average CI95%		St. Dev.	Min/Max
		Lower	Higher		
TR_T	5.06	4.58	5.52	1.86	1/7
TR_M	6.06	5.65	6.39	1.47	1/7
LOY_T	4.69	4.29	5.13	1.75	1/7
LOY_M	4.98	3.95	6.01	1.14	1/7
CAP_T	5.29	4.95	5.63	1.36	1/7
CAP_M	5.31	4.30	6.32	2.01	1/7

Table 2.
Descriptive statistics of the variable set

Source: own calculation

In the next phase of research, the testing of Sholtes trust model was carried out. The LOY and CAP scales were divided into two parts (High and Low) by using the averages belonging to them. On the basis of this, 4 groups were formed and the general trust level (TR_T and TR_M) in member-member and member-management relations was studied in these groups (Table 3).

The results in both relations confirm that the assumption based on the Sholtes trust model is basically correct: when the faith both in capabilities and loyalty has high (above average) values (Group 2), it is statistically proven that the average level of general trust will be higher than in any other group (5.77 and 6.65).

Although the average trust values are considerably lower than the average values in groups 1 and 4, but these differences cannot be regarded as statistically significant. There are no significant differences among TR averages in case of groups 1 and 4 either.

		Faith in capability (CAP_T and CAP_M)	
		low	high
Faith in loyalty (LOY_T and LOY_M)	high	Group 1 (SYMPATHY) TR_T-average: 3.41 (n=20) CI (95%): [2.16-4.66] TR_M-average: 5.15 (n=12) CI (95%): [4.51-5.79]	Group 2 (TRUST) TR_T-average: 5.77 (n=97) CI (95%): [5.39-6.15] TR_M-average: 6.65 (n=99) CI (95%): [5.95-7.55]
	low	Group 3 (MISTRUST) TR_T-average: 2.05 (n=8) CI (95%): [1.46-2.64] TR_M-average: 3.86 (n=14) CI (95%): [2.76-4.96]	Group 4 (RESPECT) TR_T-average: 4.45 (n=19) CI (95%): [3.83-5.07] TR_M-average: 5.29 (n=19) CI (95%): [4.48-5.74]

Table 3.
Level of trust (TR_T és TR_M) in the Sholtes categories

Source: own calculation

It is important to note that the above examinations made with descriptive statistics have also been verified by one-way ANOVA statistical models and Post-Hoc tests (Games-Howell Post Hoc Test) and these tests have not given different results (Table 4). Of course, all these experiences do not mean that the trust model describes reality differently or the model cannot be validated. Hypothesis H1 is regarded as partly confirmed.

Groups	Group 3 (Mistrust)	Group 4 (Respect)	Group 1 (Sympathy)	Group 2 (Trust)
Group 2 (Trust)	$dTR_T = 3.72^*$	$dTR_T = 1.32^*$	$dTR_T = 2.36^*$	
Group 1 (Sympathy)	$dTR_T = 1.36$	$dTR_T = 1.04$		$dTR_M = 1.50^*$
Group 4 (Respect)	$dTR_T = 2.40$		$dTR_M = 0.14$	$dTR_M = 1.36^*$
Group 3 (Mistrust)		$dTR_M = 1.43$	$dTR_M = 1.29$	$dTR_M = 2.79^*$

Table 4.
Summarizing table of Post Hoc Test

Source: own calculation

Note 1: dTR_T and dTR_M = Mean difference between groups in absolut value.

Note 2: * The mean difference is significant at the 0.05 level.

Note 3: Examination based on Games-Howell Post Hoc Test.

Going on with the examinations on the basis of H2 hypothesis, the effect of faith in loyalty and capabilities on trust was examined in the frames of statistical explanatory models. The outcomes of research among members (M.I.) as well as between members and management (M.II) are summarised in Table 5.

Factors		Hierarchic ANOVA model			Linear regression model		
		Eta	Beta	R ²	B	Beta	R ²
M. I.	LOY_T	0.419*	0.375*	0.453	0.391*	0.427*	0.547
	CAP_T	0.524*	0.411*		0.429*	0.502*	
M. II.	LOY_M	0.619*	0.422*	0.343	0.531*	0.548*	0.507
	CAP_M	0.559*	0.391*		0.331*	0.302*	

Table 5.
The effect of faith in loyalty (LOY) and capability (CAP) on trust (TR)

Source: own calculation

Note1: significant at the 0.05 level.

The results of M.I. model basically validate the Sholtes model, therefore it has been confirmed that both factors are important and have a statistically proven effect on the development of trust among members. Both the ANOVA and the regression model demonstrate that the weight of background factors is slightly asymmetric regarding trust: the faith in capability seems to be somewhat more important than loyalty (ANOVA beta: 0411 as opposed to 0,375, and regression

beta: 0,502 vs. 0,427). It should also be noted that the differences traced in parameter values are not significant statistically.

The examinations in member-management relations (M.II.) also confirmed the trust model, but with slightly different outcomes: the explanatory models in this relation regarded the faith in loyalty more important in terms of trust. These differences, however, could not be regarded statistically significant either. Summing up the results of examinations, the H2 hypothesis can be regarded as confirmed.

Conclusions

The present study examined the factors affecting trust in a producer organisation. In the frames of this, a theoretical trust model has been tested. According to the experiences, the theoretical model, which leads back the trust to the faith in the loyalty and capability of the other party, is basically correct. It has been definitely confirmed that high-level trust among partners can be achieved if the faith both in loyalty and capability have high values. The research, however, has also revealed that the aforementioned two factors determine trust to different extents: in case of trust among members, the faith in capabilities is more important, while the trust in management is rather determined by the faith in loyalty.

According to the experiences it can be concluded that one of the possible ways of developing trust within the organisation and facilitating cooperation activity is the improvement of capability/qualification, for example by providing professional training for farmers and managers. The other way is to strengthen the loyalty of participants to each other by organising team building programs or events.

Of course, the research has its limits. The generalisation of the outcomes is hampered by the concentration of the sample (1 producer organisation) and the low number of elements (N=144). The results, however, considerably overlap with the results of Baranyai et al. (2013) and Baranyai (2016) achieved with the same methodology and this enables some generalization (Table 6).

Authors	Sample	Results
Baranyai et al. (2011)	N = 132 fieldcrops farms	H1 – approved H2 – denied (the loyalty dimension is more important in the development of trust than the faith in professional competence)
Baranyai (2016)	N = 5,902 all type of farm	H1 – approved H2 – denied (the loyalty dimension is more important in the development of trust than the faith in professional competence)

Table 6.
Summary of outcomes of research carried out in the topic

Source: own construction

The topic, however, should be further investigated in two possible directions: on one hand by the quantitative expansion of research – by increasing the number of elements and the area of data collection – on the other hand, by qualitative expansion, that is by applying other empirical models. The qualitative expansion would hopefully help to find more accurate answers to the question: which factors create the greatest obstacles to the cooperation among farmers.

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