

# HOW ASSET SPECIFICITY, REPLACEABILITY AND INFORMATION SHARING AFFECT TRUST IN BUSINESS RELATIONSHIPS

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## Abstract

**Purpose of the paper and relevant literature:** In the very beginning of the twentieth century Simmel approaches trust from sociological aspect and points out that confidence is an intermediate between knowledge and ignorance about a man, which is a logical consequence of the view that complete knowledge or ignorance would eliminate the need for, or the possibility of trust (Simmel 1950 [German original, 1908]).

Trust is one base of all kinds of cooperation and network building. Trust is especially crucial factor in the shift from discrete market transactions to continuous exchange relationships (Dwyer, Schurr and Oh 1987). This aspect can have even higher importance in case of planning of relationship specific investments. More researchers use inverse approach by introducing the different losses that lack of trust may result in business life. The aim of this paper is to investigate the elaborated effects of trust on asset specificity, replaceability and information sharing among organizations in existing business relationships. These building elements of trust belong to transaction cost theory (Coase 1994; Bradach and Eccles 1989; Granovetter 1985). Lack of trust between business partners often increases transaction costs and implies inefficiency (Kwon, Hamilton and Hong 2011). On the other hand when one assumes it obtains a trust status with its partner, it is reasonable and to some extent natural to expect an equitable sharing of benefits and risks. Thus, it tends to minimize or prevent the partner's opportunistic behaviour which in turn precipitates lowering both ex-ante and ex-post transaction costs (Williamson 1985 and 2008; Dyer and Chu, 2003; Chickland et al. 2012).

**Research method:** In this empirical paper I used quantitative research methods and could analysed 315 valid questionnaires what I received from organizations registered in Hungary, independently from sizes and sectors of economy. The valid questionnaires were analysed by SPSS (PASW) software using factor analysis and regressions.

**Research findings:** In this research I find that trust is really affected by asset specificity. I make distinguish between the two sides and investigated the relationships between trust and asset specificity both from the investor's and the recipient's side. The empirical survey confirms this assumption and shows different results from the opposite sides. The influencing role of replaceability and information sharing seems to be weaker in this research.

**Contribution:** The existing studies focus on relationship between trust and performance of business relationships only from the cost side of processes and not from the base that builds trust and commitment which achieves global supply chain optimization (Hong et al. 2013). Trust and commitment may become more sustainable if it is formed by foundation of such commitment (social exchange theory, e.g. Anderson and Narus, 1984), and rather than just by a pure cost concept (transaction cost theory, e.g. Coase, 1937). This study however approaches and investigates empirically trust from the aspect of transaction cost factors such as asset specificity, replaceability and information sharing. Due to lack of widely accepted definition of trust in business and determinants of it, this quantitative research may bring new thoughts to researchers or even can support earlier models as well. Investigation of trust furthermore its variables is useful for managers as well because when they are able to apply trust and its building elements efficiently, they may own a relatively stable competitive advantage.

**Keywords:** trust, asset specificity, replaceability, information sharing, transaction cost theory

Competitive paper

## **Introduction**

Due to consequences of increasing global competition and crisis managers turn to soft competencies so as to improve the firms' effectiveness. Among different management methods trust received much attention for several other reasons as well. Trust can be viewed as a psychological state which implies tolerance of another's freedom of action under uncertain conditions. But "trusting is seen as a dynamic capability, i.e. trusting actions are inherent in processes that organizations set in motion to integrate, reconfigure, gain and release resources." (Huemer, 2001:23)

Asset specificity is a theory of analysing how cost of transaction in transaction cost theory can be reduced and refers to the cost paid for human and material resources provided to certain business partners (Kwon and Suh, 2004). In conversion of specific assets is desirably done, however, partnerships become satisfactory to build trust. The fact that transaction-specific investments cannot be easily redeployed gives rise to a safeguarding problem, which can result in potential costs. This viewpoint (the firm's aroused distrust or scepticism) may logically lower the level of trust (Suh and Kwon 2006). Weiss and Anderson (1991) also argued that a partner's asset specificity reduces dissatisfaction with the partnership.

The behavioural assumption of opportunism assumes that some probability exists that any given actor will behave opportunistically some of the time. Suh and Kwon (2006) state, that the higher the level of replaceability of a firm, the positive impact of their partner's specific asset investments on trust in the partner will be significantly attenuated. They add that stability in partnership may reflect some level of trust and lead to a better chance of building trust.

The sharing of information encourages trust in the continuity of the relationship and reduces dysfunctional conflict. Uninterrupted communication flow and effective information exchange are also a prerequisite for commitment (Anderson and Weitz 1992; Goodman and Dion 2001).

The academic and managerial contribution of this paper is twofold. Increasing number of papers focus on the relationship between transaction cost theory and trust. But it seems only very few investigations deal with all these determinants such as asset specificity, replaceability – or behavioural uncertainty – and information sharing. On the other hand asset specificity belongs to hot topics as well. Despite this less researches try to explain both side – the investor's and the buyer's side – of asset specificity (e.g. from the few: Laaksonen, Pajunen, Kulmala, 2008; Suh - Kwon 2006). That's why this paper intends to fill these gaps and after introduction of some relevant publications on trust asset specificity, replaceability and information sharing among organizations I would like to present the results of a quantitative research on trust and its determinants from transaction cost theory.

## **Literature review**

*Trust.* Basically trust can be equal with belief, expectation, will, familiarity, a certain aspect or even a process, such as belief – attitude – will – behaviour. More researchers use inverse approach by introducing the different losses that lack of trust may result in business life. Trust also has been investigated as a successful coordinating method in certain business network. The dimensions, degrees, forms, development and measurement of trust are researched not only by theoretical researchers but also by the economic actors who should cooperate in networks so smoothly as one entity.

Sociologists argue that trust can be defined as the basis for individual risk-taking behaviour (Coleman 1990), co-operation (Gambetta 1988), reduced social complexity (Luhmann 1979), order (Misztal 1996), and social capital (Coleman 1988, Putnam 1995).

Trust involves not only the belief in the benevolence in the partner's actions but also the vulnerability against the partner (Morgan and Hunt 1994:23). It means that trust, whether in someone or something, can be defined as an attitude, characterised by the belief in the counterparty's reliability, for example supplier or client. From a bit different aspect trust has been viewed as the perceived credibility and benevolence of a target of trust (Ganesan 1994; Kumar, Scheer and Steenkamp 1995). So "trust exists when a firm believes its partner is being honest and benevolent" (Kumar et al. 1995). Moody defines trust as "the fuzziest driver to partnering" (Moody, 1993:18) while trust can serve as a lubricant (Arrow 1974) or as glue (Jarillo 1988) in relationships.

Relationships can take place at different levels: between individuals, between firms, or between firms and individuals. After Simmel Anderson and Narus (1990) also suggest that trust of an individual differs in nature from that of an organisation. An organization that trusts their partners expects "that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm" (Anderson and Narus 1990:45). This means that there is a necessary element of risk to both parties for this vulnerability (Giddens 1991 in sociology, Anderson and Narus 1990; Morgan and Hunt 1994 in marketing). Jeffries and Reed (2000) furthermore "...show how organisational trust and interpersonal trust interact to affect negotiators' motivation to find optimal solutions to problems of adaptation" (p. 874). Ganesan et al. also confirm that "the most frequently examined consequence of trust is commitment to a relationship" (Ganesan and Hess 1997:440).

McAllister (1995) however makes a distinction between affect and cognition-based trust. This reflects a rational approach to risk-taking based on 'good reasons' and 'evidence of trustworthiness' which suggests measures of reliability and dependability. So trust can be simply defined as a willingness to take risk (Mayer et al. 1995).

In this paper I approach trust as calculable, risk-decreasing, relationship-based soft resource, which is embedded in a permanent changing environment. This includes the reliable behaviour of business partner and commitment as well (Dyer - Chu 2003 2000; Klein 1980; Williamson 1983).

*Asset specificity.* According to Coase (1994), the costs of coordination within a firm and the level of transaction costs that it faces are affected by its ability to purchase inputs from other firms, and their ability to supply these inputs depends in part on their costs of coordination and the level of transaction costs that they face. Asset specificity is a core construct in Oliver Williamson's transaction-costs economics (TCE) theory (Carney 2007).

Williamson (1985) defines asset specificity as "durable investments that are undertaken in support of particular transactions, the opportunity cost of which investments is much lower in best alternative uses or by alternative users should the original transaction be prematurely terminated" (p. 55). Specific asset investment (or asset specificity) refers to investments in physical or human assets that are dedicated to a particular business partner and whose redeployment entails considerable switching costs (Erramilli and Rao 1993; Heide 1994). From another approach "specific assets are assets that have a significantly higher value within a particular transacting relationship than outside the relationship" (Klein 2007). Investments in partners' specific assets are not easy to convert. This incurs potential costs and results problems that had to be prevented. Therefore companies' investment in partners' specific assets may cause distrust in partnerships because companies tend to minimize cost of transaction.

Companies form governance that minimizes transaction cost. It means, opportunism can be avoided to minimize transaction cost and various systems and agreements are made to achieve the most economically efficient cost structure (Williamson 1999). Efficient governance refers to the governance that minimizes transaction cost. Therefore, companies form collaboration and partnerships to keep transaction costs as low as possible compared to market prices (Hong, Kwon 2007).

Weiss and Anderson (1992) have a view that asset specificity decrease dissatisfaction with relationship. This affects positively commitment of both partners (Anderson - Weitz 1992; Heide - John 1990). Scholars find that asset specificity has positive effect on time expectations of involved relationship-continuity (Heide - John 1990; Suh - Kwon 2006). In Laaksonen et al.'s research the switching costs of the studied suppliers were high as a consequence of the long-term and repeated interaction along with mutual adaptation facilitated by the transfer of transaction specific skills (Laaksonen, Pajunen, Kulmala, 2008). Sengupta et al. (1997) find empirically that specific asset investments give the biggest increase to customer switching costs (besides seller adaptation, incentives of seller, KAM subjective and objective performance).

Once a transactor makes a relationship-specific investment, its transacting partner (the buyer) could threaten to stop purchasing the products originating from relationship-specific investment and therefore they impose essential capital cost for the investing partner (Klein 2007). He adds that these costs, however, are reduced because transactors, aware of the risks associated with specific investments, design contractual arrangements that avoid the likelihood of holdups. Contractual solutions to holdup problems may include other ways to control long-term prices, with or without the presence of exclusive dealing,

Asset specific investments influence the development of involved relationships and – through ARA model – the embeddedness of these relationships (Gelei – Dobos – Kovács, 2010). The commitment based on asset specificity together with asset specific investments affect three dimensions of relationship: trust among companies (competence and goodwill), valuable resources and switching costs (Laaksonen, Pajunen, Kulmala, 2008).

Williamson (1985) states that economic actors can behave in opportunistic way under certain conditions that's why it is possible that there is no perfect interactive trust. If one partner has asset specific investments, the other partner's opportunistic behaviour can cause large losses for the investor. This means that even chance of opportunistic behaviour can do disservice and can lead to further security problems in asset specificity due to replaceability. Security problems can appear when after asset specific investment a firm worries that his buyer may exploit this in opportunistic way (Rindfleisch - Heide, 1997). Laaksonen et al. (2008) however empirically find if the amount of relationship specific commitments and investments increases in line with both the decrease of alternative partners and increase of purchasing volumes, the proper development between interfirm trust and interdependence can be sustained. Kwon – Suh (2004), and Hong - Kwon (2009) also investigated empirically both sides – the investor's and the buyer's side – of asset specificity.

*Replaceability* therefore has a dynamic relationship not only with asset specificity but with trust as well. Trust is related to each of the behavioural assumptions of Theory of transaction costs. The relationship between trust and opportunism has been widely established (Bradach and Eccles, 1989; Granovetter 1985; Larson 1992). Operationalized as replaceability in this paper, opportunism – by which a context for TCE is characterized – is defined as self-interest seeking with deviousness. Behavioural or internal uncertainty is defined as “the inability to predict partner behaviour or changes in the external environment” (Joshi and Stump, 1999:293).

Suh and Kwon (2006) have the view that replaceability is an antecedent of opportunism. They add firms in the supply chain can hardly conduct an opportunistic behaviour without the replaceability of existing business with others. Kwon and Suh (2004) come to the conclusion that the impact of behavioural uncertainty on trust and other subsequent business decisions is becoming more important due to the increasing uncertainty in the ever-changing business environment. Thus, the lack of fear of the opportunistic behaviour by the other party creates a favourable environment for establishing trust.

*Information sharing* is the most fundamental and critical factors for successful supply network management (Bowersox 2000; Handfield et al. 2000). Uncertainty surrounding the supply chain process has been blamed for many supply chain glitches, ranging from unusually high levels of inventory throughout the supply chain to a shortage of some products in other areas (Kwon and Suh 2004). Many solutions have been suggested to reduce the degree of uncertainty, including formation of strategic alliances among partners and collaborative planning, forecasting and replenishment (CPFR) to control and manage the flow of information, thereby reducing the variability of information (reducing information distortion). The study of Kwon and Suh (2004) seems to confirm such a relationship. In Garaj’s research (2005) most of the interviewed companies were initiators in information handling and knowledge sharing when they wanted to understand others’ attitude and experience.

**Table 1: Literature summary on determinants of trust in this research**

<b>Determinants</b>	<b>Applied approach</b>	<b>Authors</b>
<b>Asset specificity</b>	Specific asset investment (or asset specificity) refers to investments in physical or human assets that are dedicated to a particular business partner and whose redeployment entails considerable switching costs (Erramilli and Rao 1993; Heide 1994).	Erramilli - Rao 1993; Heide 1994; Rindfleisch - Heide 1997; Shelanski - Klein 1995; Gelei, Dobos, Kovács 2010; Suh - Kwon 2006; Kwon – Suh 2004, and Hong - Kwon 2009; Weiss - Anderson 1992; Anderson - Weitz 1992; Heide - John 1990; Laaksonen, Pajunen, Kulmala 2008; Williamson 1985, 1999
<b>Replaceability</b>	“The moderating role of replaceability may be also considerable at the opposite side in the partnership.” (Suh - Kwon 2006:194)	Bansal, Irving, Taylor 2004; Katrichis 1998; Williamson 1993; Suh - Kwon 2006; Granovetter 1985; Larson 1992; Kwon and Suh 2004; Zand 1972; Rindfleisch - Heide 1997;
<b>Information sharing</b>	Information sharing is the most critical agent in the trust-building process of supply chain implementation (Bowersox et al. 2000)	Droege, Anderson, Bowler 2003; Huemer 2001; Bowersox et al. 2000; Handfield et al. 2000; La Londe 2002; Kumar and Dissel 1996; Hutt et al. 2000; Langfield-Smith and Smith 2003; Denize, Young 2006; Hong - Kwon 2009;

Kumar and Dissel (1996) present integrated management of information system as a critical factor that promotes sustainable collaboration and manages conflicts within supply network. If partners share vital information, transaction becomes easier, efficient and effective. This confirmed by Ren et al. (2010) when forecast information is transmitted truthfully, this results both the customer and the supplier better-off in the supply chain. They emphasize a truthful-sharing equilibrium between

buyers and sellers. Trust is often considered in literature as an essential consequence of communication within the inter-organizational relationship (Goodman and Dion 2001; Homburg et al. 2000). Langfield-Smith and Smith (2003) consider a lack of communication as a major obstacle to the development of trust between buyers and suppliers. (A summary of literature review about investigated factors can be seen in Table 1.)

Therefore my **research questions** are:

- How does (both the partner's and the respondent's) asset specificity relate to trust in a business relationship?
- How does replaceability relate to trust in a business relationship?
- How does information sharing relate to trust in a business relationship?

### **Findings of the empirical research**

*Applied methodology.* It is difficult to introduce the complex, hidden, both past-resulted and future-oriented natured trust. The problems of identifying the determinants of trust are connected to the effects that it produces in a retroactive way, on the determinants themselves.

In this work the empirical research of trust is part of an international investigation. The pilot research was fulfilled in Korea in 2006 where the variables were defined that build trust for satisfying, long-term partnerships (asset specificity, information sharing, partner's reputation, and perceived conflicts) (Kwon and Suh, 2004). This research is different from previous studies while it focuses on the effects of trust on the sustainable distribution network management which goes beyond the long-term partnership and cooperation. The results of this international research, based on a series of comprehensive studies conducted among supply chain practitioners shows how transaction cost variables (replaceability, asset specificity, behavioural uncertainty). The trust factors in this study are based on the results of Kumar et al. (1995). The variables used in the studies of Kwon and Suh (2004) and of Chu and Fang (2006) were considered to select the variables for this study.

In the process of Hungarian research first I translated the original English questionnaire into Hungarian and controlled it in two steps (one step was depth interviews). The final Hungarian version was retranslated in English and controlled by the project centre.

*Sample and data collection.* I chose a bit tiring but reliable personal questioning, more concretely convenience sampling. It means that members of the population are chosen based on their relative ease of access so it tries to collect samples from close and reachable elements. Although in this case the interviewer's one of the main tasks is to choose the samples this method is frequently used – especially with large samplings – while it is very cheap and quick (Malhotra 2008). Companies registered in Hungary were asked about trust in their supply chain independently on sizes and sectors of economy. During answering the questions the respondents were asked to choose freely one of their buyers or sellers and after it they should focus on the chosen concrete business relationship. The questioning process was closely monitored and I frequently discussed the experiences during it. This time the largest problem was that many interviewed firms did not want to give information about their annual sales revenue, which was necessary to identify the category of size of the given company.

From the received 400 questionnaires I found 315 valid. The questioned sample by size (Micro entrepreneurship: the annual revenue of the previous year maximum EUR 2 Million, small entrepreneurship: maximum EUR 10 Million, Medium entrepreneurship: maximum EUR 50 Million,

Large entrepreneurship: more than EUR 50 Million) shows that large companies are overrepresented compared with the Hungarian national data. The reason can be that the majority of the questioned organizations are situated in the middle part of Hungary (Budapest, Pest and Fejér counties). This region has a leading economic role, for example 39.4 per cents of the operating entrepreneurships are here while the national regional average is only between 8.6 – 11.5 per cents. (Statisztikai tükör 2009/65:2)

Analysing the questionnaires by activity, 41 questioned firms deal with whole sale, 69 organizations with retail trade and this commercial group is the largest in this investigation (Commerce altogether: 34.9 per cent) (total N = 315). The second largest group belong to heavy industry (54 questioned firms, 17.1 per cent) while the third largest activity group is light industry (44 questioned firms, 14.0 per cent). These resulted activity groups fit to the Hungarian national activity categories. The concrete interviewees are (middle and top level) leaders.

The valid questionnaires were analysed by SPSS (PASW) software using factor analysis, and regressions. The measurement of trust is mostly based on seven-point Likert scales, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). In this study I used exploratory factor analysis and Bartlett – test to control variables. In order to get to know the number of factors effecting trust I chose Principal component analysis (PCA) and Varimax rotation.

While I planned to use factors from factor analysis to regressions I applied two methods to examine the possibility of multicollinearity. On one hand I saw the correlations of the seven final factors but the results were low, which shows no multicollinearity among factors. On the other hand I always calculated the variance inflation factor (VIF), which quantifies the severity of multicollinearity in an ordinary least squares regression analysis. It provides an index that measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increased because of collinearity. The values of VIF were between 1 and 2 indicating low multicollinearity.

In regression I focused on the relationship between a dependent variable of trust (Trust) and the following independent variables: Partner’s asset specificity (PARTE), Respondent’s asset specificity (VALE), Replaceability (LECS) and Information sharing (INF).

*Results and findings.* I made regression between Trust and the **Partner’s asset specificity (PARTE)** where TRUST was the dependent variable. In the Model Summary the correlation coefficient is 0.511. This value of R suggests a moderate linear correlation between Trust and the Partner’s asset specificity (PARTE). The coefficient of determination is 0.261; therefore about 26.1 % of the variation in trust is explained by perceived conflict (see Table 2). (My model could fit the data, see ANOVA Table in Appendix.) This means that the Partner’s asset specificity (PARTE) does not play a dominant trust affecting role. The multiple regressions also show significant relationship between these two notions. (The value of Std. Error of the Estimate – SEE is acceptable.)

**Table 2: Model Summary - PARTE<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension 1	.511 <sup>a</sup>	.261	.258	5.70930

a. Predictors: (Constant), PARTE

b. Dependent Variable: Trust

In Table 3 Coefficients provides information effect of individual variables (Partner’s asset specificity) on the dependent variable (Trust). The Sig. value is not more than 0.1 then the coefficient estimate is reliable. With these unstandardized coefficients I can determine the regression line:  $Trust = 20.430 + 0.611 * PARTE$

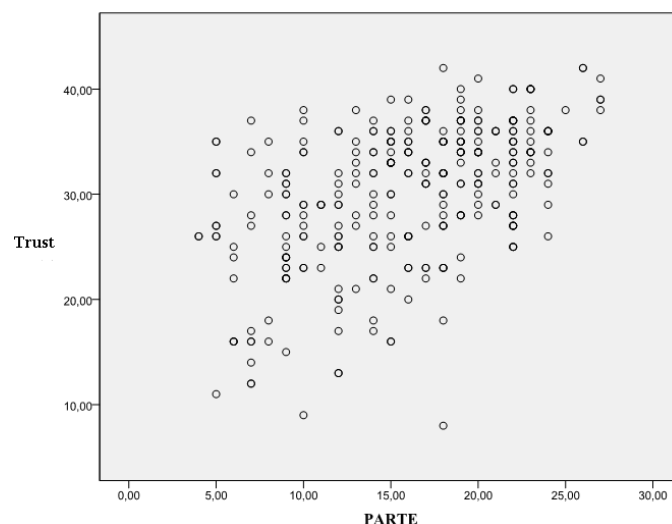
**Table 3: Coefficients - PARTE<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	20.430	.980		20.837	.000		
PARTE	.611	.058	.511	10.490	.000	1.000	1.000

a. Dependent Variable: Trust

The graphic summary of factors of Trust and the Partner’s asset specificity (PARTE) also shows positive relationship (see Figure 1). Here the tendencies are more visible and we can understand that one essential pre-condition of relationship specific investment is trust because the larger the factor of Partner’s asset specificity, the higher the level of trust as well. In this current investigation we do not research development of trust or change of it through time but only ask respondents to evaluate one of their business relationships. That’s why I can assume that trust and the partner’s asset specificity developed and improved as years passing by. This seems to be confirmed by Suh and Kwon (2006), who see trust develops over time as one accumulates trust-relevant knowledge through experience with the other person. Meanwhile it is useful to mention there are certain theories concerning the starting level of trust (e.g. Tarnai 2003).

**Figure 1: Graphic relationship between Trust and the Partner’s asset specificity (PARTE)**



Source: PASW software using own empirical data

Suh and Kwon (2006) also come to conclusion a firm enjoys its partners’ specific devotion to the partnership, which gives the firm a direct reason to raise its trust level in the partner. However Lui et al. (2009) in Chinese context identify two paths by which asset specificity could be linked to

partnership performance, one through engendering cooperative behaviour and the other through reducing opportunistic behaviour. This means that influence of asset specificity is very complex and partly indirect which warns careful investigation.

When we turn to the other side more concretely the **Respondent's asset specificity (VÁLE)** and make Pearson Correlation with the factor of Trust the Sig. level (2-tailed) is too high (0.068). (See ANOVA Table in Appendix.) Although I receive this factor (Respondent's asset specificity (VÁLE)) in factors analysis, the correlation with trust is invalid. However correlations of Respondent's asset specificity show valid relationship with Information sharing (0.287) and Perceived satisfaction (0.273). Practically this means that there is only indirect relationship between Trust and Respondent's asset specificity because these factors impact Trust.

To my opinion however there is sense to investigate both sides of asset specificity – from the other business partner's and the respondent firm's aspect – because risks and therefore trust is different. This current research of trust proves this view as well. Therefore it seems that in Hungary, enterprises independently from sectors see that there is moderate positive relationship between trust and partner's asset specificity. Comparing this relationship with other determinants of trust I have to add that this factor does not have dominant role in changing trust. But asset specificity has different effect from the aspect of investor. If the respondent enterprises made the specific investment, according to the opinion of respondent this does not impact the level of trust in this empirical survey.

Behavioural uncertainty is dominantly affected by **replaceability** although it is obvious that behavioural uncertainty is not equal to replaceability. There is another reason for investigation of replaceability; my factor analysis results a factor where variables clearly focus on chances of the business partner's replaceability.

**Table 4: Model Summary - Replaceability<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension	.127 <sup>a</sup>	.016	.013	6.58610

a. Predictors: (Constant), LECS (Replaceability)

b. Dependent Variable: Trust

During regressions between the factors of Trust and Replaceability (LECS), - besides acceptable significance level - the result shows little or no association (- 0.27) between them. The correlation coefficient is 0.016; therefore about 1.6 % of the variation in trust is explained by business partner's replaceability (Table 4). (See ANOVA Table in Appendix.) This means in this research replaceability is able to decrease trust only in a small compass in business ties in Hungary.

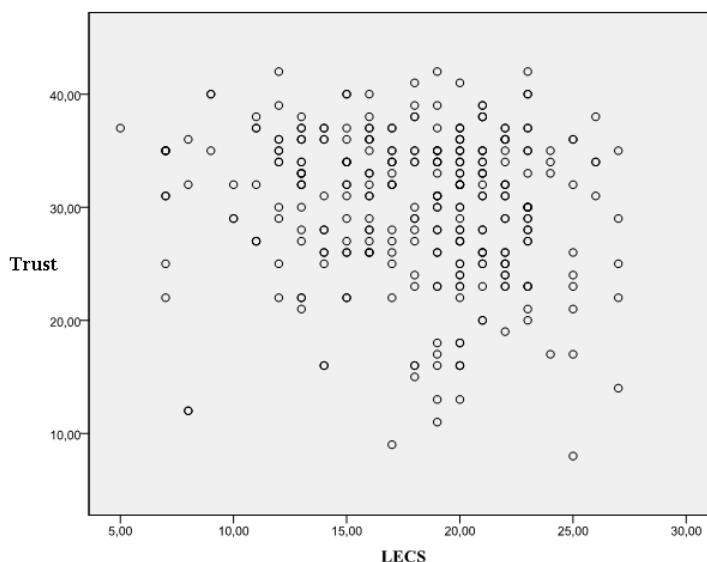
**Table 5: Coefficients - Replaceability<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	33.507	1.529		21.911	.000		
LECS	-.187	.082	-.127	-2.268	.024	1.000	1.000

a. Dependent Variable: Trust

In Table 5 Coefficients provides information effect of individual variables (Replaceability - LECS) on the dependent variable (Trust). The Sig. value is not more than 0.1 then the coefficient estimate is reliable. With these unstandardized coefficients I can determine the regression line:  $\text{Trust} = 33.507 - 0.187 * \text{LECS}$  (Replaceability)

**Figure 2: Graphic relationship between Trust and Replaceability (LECS)**



Source: PASW software using own empirical data

When we have a look at the graphical illustration of association between the factors of Trust and Replaceability (LECS) (see Figure 2) we see first that replaceability is a real threat at almost any time. This is understandable if we think of the high, mostly global competition in each sector of economy. On the other hand in cases of larger possibility for replaceability there are both lower middle and higher levels of trust! These results are parallel with the result of regression. Based on empirical data we state that in operating relationships of enterprises registered in Hungary, independently from sectors the chance of business partner's replaceability does not mean modifying element of trust while the empirical investigation shows little or no relationship between trust and replaceability. This means that replaceability is a real threat in case of both low and high level of trust. Suh and Kwon (2006) however empirically find that replaceability of the respondent firm generally diminishes the positive relationship between a partner's specific asset investment and trust. According to their findings, a firm's alternative options in making profit, makes the value of the partner's devotion less crucial, and the selfish consideration is subsequently reflected in the firm's moderated trust in the partner.

Although all used factors – such as **Information sharing (INF)** and Replaceability (LECS) – were resulted by factor analysis the regression between Trust and Information sharing (INF) showed (valid) little or no correspondence (+0.197) in the interviewed organizations' opinion (in Table 6). The correlation coefficient is 0.039; therefore about 3.9 % of the variation in trust is explained by Information sharing (INF). (See ANOVA Table in Appendix.) Despite relevant literature it seems that in Hungary the share of information does not contribute especially to improve the level of trust.

Therefore in operating relationships of enterprises registered in Hungary, independently from sectors trust is affected in very low rate by information sharing.

**Table 6: Model Summary - Information sharing<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension 1	.197 <sup>a</sup>	.039	.036	6.50618

a. Predictors: (Constant), INF (Information sharing)

b. Dependent Variable: Trust

In Table 7 Coefficients provides information effect of individual variables (Information sharing) on the dependent variable (Trust). The Sig. value is not more than 0.1 then the coefficient estimate is reliable. With these Unstandardized coefficients I can determine the regression line:  $\text{Trust} = 26.293 + 0.465 * \text{INF}$  (Information sharing)

**Table 7: Coefficients - Information sharing<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	26.293	1.142		23.023	.000		
INF	.465	.131	.197	3.538	.000	1.000	1.000

a. Dependent Variable: Trust

I have the view that this result may stem from cultural differences. The national level of trust in Hungary generally low and this low level of trust also appears in Hofstede's model and country analyses as well (Hofstede 2001).

The other reason of weak relationship between trust and information sharing in this research can be due to elaborated connection and development process between them. In Cai et al.'s (2010) research trust influences indirectly information sharing through government support and guanxi (interpersonal relationships). They add the importance of guanxi which has a direct, positive impact on information sharing. Piderit et al. (2011) go further stating there is a cyclical trust-information sharing relationship furthermore Premkumar, Ramamurthy and Saunders (2005) suggest to improve trust in a supply chain relationship by enhancing information flow. So the complex relationship between trust and information sharing seems to show a reciprocal nature as well. For example Lewis (1999) sees that mutual information sharing in supply chain is likely to occur if all parties will benefit from the relationship in some way. Poirier (2003) has similar view and points out that trusting that those who access information will act responsibly and for the good of the entire supply chain, is crucial to the success of the collaboration.

*Limitations:* My aim was to understand the complex notion of trust in business relationships, more concretely to identify the determinants of trust. Therefore I collected broad circle of possible effecting elements from Transaction cost theory and I tried to investigate organizations in Hungary independently from sizes and also from sectors of economy. The total number of sampling is 315,

but the groups of sizes or activity groups are quite small. So this is one limitation of my research. The method of convenience sampling means the other limitation.

This survey cannot investigate the dynamic relationship between changing environment and trust because the questionnaire focused on respondent's one existing relationship at the moment of query. The cost saving method has disadvantage and it seems very problematic to repeat this quantitative research some when in the future.

## **Conclusions**

Among the variables of Transaction cost theory the Partner's asset specificity shows moderate relationship with the factor of Trust but the Information sharing has only very weak relationship with Trust in the Hungarian survey.

I research behaviour uncertainty through replaceability. The reason of it is that factor analysis gave a factor concerning replaceability but there was no factor on behaviour uncertainty concretely. In spite of this the hypothesis relationship between replaceability and trust is not confirmed as a result regression and correlations. It seems that organizations registered in Hungary agree with the essential role of trust in business relationships but not for the reason to decrease the possibility of replaceability by developing trust.

The other variable of Transaction cost theory is Information sharing (INF) which shows weak relationship with the factor of Trust. The main reason is likely the low national level of trust. As a confirmation I add Bakonyi's (2007) empirical research in Hungary. He finds that one sixth of the respondents rely on institute in general and only 10 per cents of interviewed Hungarian citizens have faith in central balancing institutes such as media, the National Bank or trade unions! I agree with more scholars that trust has a personal interpersonal nature that's why I consider an important starting point these kinds of surveys. Although an economy is very developed and global decisions are still made by human beings applying rational and irrational elements as well.

Information sharing traditionally does not belong to abstract terms but in case of supply chains and in modern long-term business relationships and alliances it has new and broad roles. When there is a strong pressure for sharing former confidential information with business partners, problems and doubt of trust arises naturally. According to this Hungarian survey organizations are aware the importance of trust but they are not ready yet to share much information so as to improve their business relationships.

The third variable of Transaction cost theory is asset specificity, on closer examination the Partner's asset specificity, which shows moderate relationship with the factor of Trust. In my research the factor of Partner's asset specificity showed the strongest impact on trust among the investigated elements. But this affect still cannot be called a dominant one. This finding is in parallel with results of Sengupta et al. (1997). This empirically found role of partner's asset specificity is not surprising because more relevant publications have already confirmed it and point out that long term relationships create a good base for relationship-specific investments (e.g. Sengupta et al. 1997).

At this point it is useful to investigate the other side of asset specificity and this is the respondent's asset specificity. This identifies the situation when we approach asset specificity from the aspect of investing company. During my survey on trust in Hungary the factor analysis gave a factor for both the Partner's (PARTE) and the Respondent's asset specificity (VÁLE). However the regression between the Respondent's asset specificity (VÁLE) and Trust gave invalid results while the Partner's

asset specificity shows moderate relationship with the factor of Trust as I mentioned earlier. Laaksonen, Pajunen, and Kulmala (2008) also draw attention to the two different sides of asset specificity and also stress this dimension of relationship when companies want to get valuable resources.

Based on the empirical data the partner's asset specificity is very important building element of trust which is a bit more essential than satisfaction with the business partner. We can say that the partner's asset specificity is a more concrete tangible consequence of trust than perceived satisfaction.

A number of previous researches address the role of trust as factor to increase the outcome of cooperation and partnership between companies. This investigation also proves the importance of this soft resource however trust is extremely complex notion. Not only the above mentioned elements effect clearly trust but several other elements furthermore several other factors have indirect influences.

This empirical investigation shows relationship between trust and the majority of applied determinants but the picture is much more complex.

## **References:**

- Anderson, J. C. - J. A. Narus, (1984): A Model of the Distributor's Perspective of Distributor-Manufacturer Working Relationships, *Journal of Marketing*, 48(4): 62-74
- Anderson, J. C - Narus, J. A. (1990): A Model of Distributor Firm and Manufacturer Firm Working Partnerships. In: *Journal of Marketing*, 54 (1): 42-58.
- Bansal, H S. - Irving, G. - Taylor, S F (2004): A three-component model of customer commitment to service providers, *Journal of the Academy of Marketing Science*, 32 (3), 234-50.
- Bradach, Jeffrey L. - Robert G. Eccles. (1989): Price, Authority, and Trust: From Ideal Types to Plural Forms. *Annual Review of Sociology* 15: 97-118
- Bowersox, D. J. - Closs, D. J., Stank - T. P. - Keller, S. B. (2000): How supply chain competency leads to business success, *Supply Chain Management Review*
- Caia, S. – M. Junb – Z. Yang (2010): Implementing supply chain information integration in China: The role of institutional forces and trust, *Journal of Operations Management*, Volume 28, Issue 3, May, Pages 257–268
- Carney, M. (2007): Asset Specificity. In: Stewart R. Clegg & James R. Bailey (eds.): *International Encyclopedia of Organization Studies*, SAGE Publications, Inc.
- Chickland, Daniel - Glyn Watson - Helen Walker - Zoe Radnor - Robert Johnston (2012): Theoretical perspectives in purchasing and supply chain management: an analysis of the literature. *Supply Chain Management: An International Journal*, 17 (4): 454-472
- Chu S. Y. - Fang W. C. (2006): Exploring the Relationships of Trust and Commitment in Supply Chain Management, *Journal of American Academy of Business*, 9(1): 224 – 228.
- Coase, R.H. (1937): The Nature of the Firm (in "The nature of the firm-Origins, Evolution, and Development", Edited by Williamson, O. E. and S. G. Winter, 1993, pp18-33), Oxford University Press
- Coase, R.H. (1994): *Lives of the Laureates: Eighteen Nobel Economists*. 4<sup>th</sup> ed. (2004), Edited by Breit, W., Hirsch, B.T.

- Coleman, J. S. (1988): Social Capital in the Creation of Human Capital', *American Journal of Sociology* 94: S95–S120.
- Coleman, J. S. (1988): Social Capital in the Creation of Human Capital', *American Journal of Sociology* 94: S95–S120.
- Denize, S. - Young, L. (2006): Concerning trust and information, 22<sup>nd</sup> IMP Conference, Milan
- Droege, S.P. – Bowler, M. – Andersin, J.R. (2003): Trust and organization flow, *Journal of Business and Management*, Vol.9, No.1, Winter, pp 45-59.
- Dyer, J. H. - W. Chu (2003): Trust in an Organizational Context: The Role of Trustworthiness in Reducing Transaction Costs and Improving Performance: Empirical Evidence from the United States, Japan, and Korea, *Organization Science*, 14:57-68
- Dwyer F.R. - Schurr P.H., Oh S. (1987): Developing Buyer-Seller Relationships, *Journal of Marketing*, n.5 April, pp.11-27
- Erramilli, M. K. - C. P. Rao (1993), Service Firms' International Entry-Mode Choice: A Modified Transaction-Cost Analysis Approach, *Journal of Marketing*, 57 (3), 19-38
- Gambetta, D. (ed.) (1988): *Trust: Making and Breaking Co-operative Relations*. Oxford: Basil Blackwell.
- Ganesan, S. - Hess, R. (1997): Dimensions and levels of trust: implications for commitment to a relationship, *Marketing Letters*, 8 (4) p.439-448.
- Garaj E. (2005): A bizalom szerepe a tudástranszfer folyamatában, *Vezetéstudomány - Budapest Management Review*, XXXVI. évfolyam 2005. 12. sz.
- Gelei A. – Dobos I. – Kovács E. (2010): Üzleti kapcsolatok modellezése, *Közgazdasági Szemle - Economic Review*, LVII. évf., július–augusztus, p 677–699
- Giddens, A. (1991): *Modernity and Self-Identity, Self and Society in the Late Modern Age*, Oxford: Polity Press
- Gambetta, D. (ed.) (1988): *Trust: Making and Breaking Co-operative Relations*. Oxford: Basil Blackwell
- Goodman, L.E. - P.A. Dion (2001): The Determinants of Commitment in the Distributor Manufacturer Relationship, *Industrial Marketing Management*, 30(3): 287-300
- Granovetter, M. (1985): Economic action and social structure: the problem of embeddedness. In Nicole Woolsey Biggart (eds): *Economic Sociology*, 5th Chapter, Wiley
- Handfield, R.B. - D.R. Krause - T.V. Scannell - R.M. Monczka (2000): Avoid the Pitfalls in Supplier Development, *Sloan Management Review*, Winter 2000, 37-49
- Heide, J. B. - John, G. (1990): Alliances in industrial purchasing: The determinants of joint action in buyer– supplier relationships. *Journal of Marketing Research*, 17, 24– 36
- Heide, J.B. (1994): Inter-organizational Governance in Marketing Channels, *The Journal of Marketing*, Vol. 58, No. 1 (Jan., 1994), pp. 71-85
- Homburg, C. - J.P. Workman - O. Jensen (2000): Fundamental changes in marketing organization: the movement toward a customer-focused organizational structure, *Journal of the Academy of Marketing Science*, 28(4): 459-478.
- Hofstede, G. (2001): *Cultural Dimensions*, ITIM International

- Hong, S-J. - Kwon, I-W. G. (2009): Study on Impact of Trust in Supply Chain Partnerships: A Korean Case, Paper presented at the 3rd International Conference on Operations and Supply Chain Management, at the Asian Institute of Medicine, Science and Technology in Malaysia, December 9-12
- Hong, Seock-Jin - Mandják T. – Piricz N. (2013 forthcoming): A TRANZAKCIÓS KÖLTSÉGEK ELMÉLETE ÉS A TÁRSADALMI CSEREELMÉLET HATÁSAI A BIZALOMRA AZ ELLÁTÁSI LÁNCBAN, *Vezetéstudomány - Budapest Management Review*
- Huemer, L. (2001): Resource – Activity Dynamics: On the Mobilization of Trust and the Essence of Trusting, 17<sup>th</sup> IMP conference, Oslo, Norway
- Hutt, M. D. - Stafford, E. R. - Walker, B. A. - Reingen, P. H. (2000): Defining the social network of a strategic alliance. *Sloan Management Review*, (Winter) 51–62.
- Jeffries, F.L. - Reed. R. (2000): Trust and Adaptation in Relational Contracting, *Academy of Management Review*, 25 (4) p.873-882.
- Katrachis, J. M. (1998): Exploring departmental level interaction patterns in organizational purchasing decisions. *Industrial Marketing Management*, 27(2), 135–146.
- Klein, B. (2007): The Economic Lessons of Fisher Body-General Motors', *International Journal of the economics of Business*, 14, 1-36.
- Kumar, N. - Sheer, L.K. - Steenkamp, J-B.E.M (1995): The Effects of Perceived Interdependence on Dealer Attitudes, *Journal of Marketing Research*, 32 (August) 348-356
- Kwon, I-W. G. - W. J. Hamilton - S. J. Hong (2011): Trust and Transaction Cost in Supply Chain Cost Optimization: An Exploratory Study (Chapter 5 in “Inter-organizational Information Systems and Business Management: Theories and Researchers”, Edited by Kishor Vaidya), IGI Global Publishing
- Laaksonen, T. - Pajunen, K. - Kulmala, H. (2008): Co-evolution of trust and dependence in customer–supplier relationships. *Industrial Marketing Management*, Vol. 37 Issue 8, p. 910-920.
- La Londe, B. (2002): Who Can You Trust These Days? *Supply Chain Management Review*, May-June 2002, 9-10.
- Langfield-Smith, K. - D. Smith (2003): Management Control Systems and Trust in Outsourcing Relationships, *Management Accounting Research*, 14(3):287-307.
- Lewis, J.D. (1999): *Trusted Partners: How Companies Build Mutual Trust and Win Together*, The Free Press, New York, NY.
- Luhmann, N. (1979): *Trust and Power: Two Works by Niklas Luhmann. Translation of German originals, Vertrauen [1968] und Macht [1975].* Chichester: John Wiley
- Lui, S.S. - Yin-yee Wong - Weiping Liu (2009): Asset specificity roles in interfirm cooperation: Reducing opportunistic behavior or increasing cooperative behavior? *Journal of Business Research* 62 (2009) 1214–1219
- Mayer, R. C., - Davis, J. H., - Schoorman, F. D. (1995): An integrative model of organizational trust. *Academy of Management Review*, 29(3) 709–734
- McAllister, D.J. (1995): Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations, *Academy of Management Journal*, 38, 24-59.
- Misztal, B.A. (1996): *Trust in Modern Societies.* Cambridge: Polity Press

- Morgan, R. M. - Hunt S. D. (1994): The Commitment - Trust Theory of Relationship Marketing, *Journal of Marketing*, 58: 20 – 38
- Piderit, R. - Flowerday, S. - Von Solms, R. (2011): Enabling information sharing by establishing trust in supply chains: A case study in the South African automotive industry, *SA Journal of Information Management* 13(1), Art. #473, 8 pages
- Poirier, C.C. (2003): *The Supply Chain Manager's Problem-Solver*, CRC Press, Florida, FL.
- Premkumar, G. - Ramamurthy, K. - Saunders, C.S. (2005): Information processing view of organizations: An exploratory examination of fit in the context, *Journal of Management Information Systems*, 22(1), 257–294
- Putnam, R. D. (1995): Bowling Alone: America's Declining Social Capital, *Journal of Democracy* 6: 65–78.
- Ren, Z.J. - Morris A. Cohen - Teck H. Ho - Christian Terwiesch (2010): Information Sharing in a Long-Term Supply Chain Relationship: The Role of Customer Review Strategy, *Operations Research* January/February 58:81-93
- Rindfleisch, A. - Heide, J. B. (1997): Transaction cost analysis: Past, present, and future applications. *Journal of Marketing*, 1997, October, 61, 30–54.
- Sengupta, S. – R. E. Krapfel – M. A. Pusateri (1997) : Switching Costs in Key Account Relationships. *The Journal of Personal Selling and Sales Management*, Vol. 17, No. 4, Special Issue on National Account Management (Fall 1997), pp. 9-16
- Simmel, G. (1950): *The Sociology of Georg Simmel*. Translated, edited and introduced by K.H.Wolff. New York: Free Press. [German original, 1908.]
- Shelanski, H. A. - Klein, P. G. (1995): Empirical Research in Transaction Cost Economics: A Review and Assessment, *Journal of Law, Economics and Organization*, Volume 11:2, Fall, pp. 335-361
- Suh, T.- Kwon, I-W. G. (2006): Matter over mind: When specific asset investment affects calculative trust in supply chain partnership, *Industrial Marketing Management*, 35 pp. 191 – 201
- Weiss, A. M. - Anderson, E. (1992): Converting from independent to employee sales forces: The role of perceived switching cost. *Journal of Marketing Research*, February, 29, 101–115.
- Williamson, O. E. (1985): *The economic institutions of capitalism*. New York' Free Press
- Williamson, O. E. (1993): Calculativeness, trust, and economic organization. *Journal of Law and Economics*, 36, 453–486
- Williamson O. E., (2008): Outsourcing: Transaction Cost Economics and Supply Chain Management, *Journal of Supply Chain Management*, 44 (2): 5-15
- Zand, D. E. (1972): Trust and managerial problem solving. *Administrative Science Quarterly*, 17(2), 229– 239.

**Appendix:**

**ANOVA<sup>b</sup>**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	3586,564	1	3586,564	110,030	,000 <sup>a</sup>
Residual	10169,987	312	32,596		
Total	13756,551	313			

a. Predictors: (Constant), PARTE (Partner's asset specificity)

b. Dependent Variable: Trust

**ANOVA<sup>b</sup>**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	146,820	1	146,820	3,366	,068 <sup>a</sup>
Residual	13609,731	312	43,621		
Total	13756,551	313			

a. Predictors: (Constant), VÁLE (Respondent's asset specificity)

b. Dependent Variable: Trust

**ANOVA<sup>b</sup>**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	223,031	1	223,031	5,142	,024 <sup>a</sup>
Residual	13533,520	312	43,377		
Total	13756,551	313			

a. Predictors: (Constant), LECS (Replaceability)

b. Dependent Variable: Trust

**ANOVA<sup>b</sup>**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	529,890	1	529,890	12,518	,000 <sup>a</sup>
Residual	13164,736	311	42,330		
Total	13694,626	312			

a. Predictors: (Constant), INF (Information sharing)

b. Dependent Variable: Trust