THE RELATIONSHIP AMONG REPUTATION, INTER-ORGANIZATIONAL TRUST AND ALLIANCE PERFORMANCE

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Abstract

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The article deals with an investigation of the relationship between reputation of the invoicing central office, trust in it, and performance of the retail alliance. Using data obtained in a questionnaire survey in 259 organizations, which are members of alliances, we found the relationship between reputation and alliance performance, mediated by the trust. Also, the statistically significant positive relationship between reputation of the invoicing central office and trust in it and the statistically significant positive relationship between trust and alliance performance were confirmed. The structural equation modelling technique was used in the calculations. The calculated model fit indices (CFI, NNFI) with values over 0.9 demonstrate a very good quality of the model.

reputation, trust, alliance performance, retail alliance, structural equation modeling

According to Zaheer and Zaheer (2006), trust has emerged as a central theme in international strategy research since the middle of 1990s. Researchers from various time periods and a diversity of disciplines seem to agree that trust is highly beneficial to the functioning of organizations (Dirks and Ferrin, 2001). In the past decades there has been a resurgence of interest in understanding the sources and consequences of trust in economic exchanges (Gulati and Sytch, 2008). As Gulati and Sytch (2008) observe, this interest has resulted in new research from a variety of disciplinary perspectives that include social psychology (e.g. Kramer, 1999), organizational theory and strategy (Uzzi, 1997), business history (Fukuyama, 1999) and economics (e.g. Güth *et al.*, 1998).

According to many foreign studies, company performance is affected by inter-organizational trust, thus it is a very important area for research also in the Czech Republic. The aim of this article is to verify the relationship among reputation of central office, inter-organizational trust and alliance performance.

These results from the Czech Republic will be compared with the research of Sherwood *et al.* (2006), Krishnan *et al.* (2005) and Dyer (1997).

Trust

There are various conceptualizations of trust (Poppo *et al.*, 2008). Gulati and Sytch (2008) explicitly distinguish between dispositional and relational trust. While dispositional trust mainly reflects expectations about the trustworthiness of others in general (e.g. Gurtman, 1992), relational trust pertains to a specific dyadic partner (e.g. McAlister, 1995). Gulati and Sytch (2008, p. 167) define trust as *the expectation that another organization can be relied on to fulfill its obligations, to behave in a predictable manner, and to act and negotiate fairly even when the possibility of opportunism is present.* Dědina and Odcházel (2007, p. 191) define trust as *belief in integrity, virtue and trustworthiness of an individual or organization based on former experience.*

The majority of earlier studies in the area of trust focused on the interpersonal level; some studies also dealt with trust between organizations (Gulati, 1995; Zaheer *et al.*, 1998). This is also one of the reasons

why this article focuses on inter-organizational trust. The term inter-organizational trust is defined as *the extent of trust placed in the partner organization by the members of a focal organization* (Zaheer *et al.*, 1998, p. 142).

Reputation

De Castro *et al.* (2006) define corporate reputation as "the collective representation of actions and outcomes of the past and present of the organization, that describe its capability to obtain valuable outcomes for different stakeholders."

An increasing number of authors understand the reputation of an organization as a strategic value (Roberts and Dowling, 2002; Weigelt a Camerer, 1988). Reputation belongs to assets that are difficult to imitate (Roberts and Dowling, 2002), thanks to which organizations may achieve outstanding financial performance (Barney, 1991). Intangible assets, like reputation, are very important both for their potential to create values and also due to the fact that they are hard for competitors to be imitated. These ideas have been confirmed in several studies (e.g. Landon and Smith, 1997; Podolny, 1993).

Nevertheless, the studies stated above have not researched to what extent reputation enables to maintain financial performance over time. This area was focused on by Roberts and Dowling (2002), who verified the relation between reputation and financial performance maintenance. They discovered that organizations with better reputation are better capable of maintaining their performance.

The research finding of great importance in the area of reputation is the mutual relation between performance and reputation; i.e. reputation has an effect on performance as well as performance influences reputation (Roberts and Dowling, 2002).

Reputation serves as a sign of quality of company products and services too. Organizations with good reputation may also have a cost advantage, ceteris paribus, as employees prefer being employed in those companies and they are willing to work more intensively or for lower salary (Roberts and Dowling, 2002).

Similarly, suppliers do not raise fears over contracting risks so much when trading with organizations that hold good reputation, therefore they are supposed to reduce transaction costs (Roberts and Dowling, 2002).

Those direct benefits are in existence alongside with the supplementary ones. According to Goldberg and Hartwick (1990) for instance, potential customers evaluate advertising message more favourably if it refers to an organization with high reputation.

Dowling (2002) introduced an idea that good reputation supports and increases sales force effectiveness. The above stated results of foreign studies were also confirmed by a research carried out among top and senior managers of Czech companies by PR agency Weber Shandwick and consultancy firm RSM TACOMA in 2011. Managers

agreed in the survey that company reputation and its commercial success are closely interrelated.

According to this survey, reputation is most affected by:
- quality of products and services,
- quality of employees,
- financial results,
- quality of management.

On the contrary, common responsibility principles and company philanthropy reflect good reputation of an organization minimally.

The greatest threat to reputation is non-ethical behaviour of managers, corruption suspicion and/ or possible financial problems. Statements of career organizations, trade unions and interest associations have low influence.

A fairly large number of authors agree that reputation of individual network members and their mutual trust have a significant effect on the success of these business networks (e.g. strategic alliances, clusters etc.). Sherwood *et al.* (2006) identified the issue of reputation and trust as the main research areas in alliances.

Harrigan (1986) mentions trust as a factor that the success of joint ventures depends on. Many studies result in necessity of mutual trust between members to achieve success of an alliance (e.g Ireland *et al.*, 2002; Luo, 2002). Several researches have also confirmed the role of trust as a crucial factor in selecting alliance partners and understating risks both in inter-organizational relations inside alliances and in relations among organizations outside them (e.g. Dyer, 1997; Gulati, 1995; Nooteboom *et al.*, 1997). Trust among members not only influences the choice of alliance partners, but also the results of collaboration within the alliance itself (Krishnan *et al.*, 2005) and it also closely relates to reputation (Saxton, 1997).

Aspect of reputation is focused on as well (e.g. Sherwood *et al.*, 2006; Saxton, 1997; Houston, 2003). Reputation does not affect only the choice of partner, but also the performance of strategic alliance, as stated e.g. in the study of Saxton (1997).

Retail alliances

A number of smaller trading firms are joining together to form cooperating trading structures, which is one of the few ways to compete with large retail chains (Skála *et al.*, 2010).

Advantages of purchasing (retail) alliances were researched by e.g. Skála *et al.* (2010), Fiala (2007), Hesková (2005), Lednický and Vaněk (2004), Vaněk (2002). Skála *et al.* (2010) mentions the following advantages of purchasing alliances:
- Common purchase. The alliance operates for its members as an invoicing central office, which means that it re-invoices the goods ordered to its members and suppliers.
- Common distribution of goods. In order to ensure common collection, one or several wholesales serve alliances, often specialising in the range of

products collected, which work for retail members of alliances as a distribution centre.

- Central marketing.
- Common price policy.

Apart from the above mentioned common purchase and marketing service Lednický and Vaněk (2004) emphasize the following:

- Help with processing investment intentions.
- Direct help with financing.

Lednický and Vaněk (2004) add that a modern alliance abroad provides its members complex assortment and marketing conceptions, which are equipped with interconnected information systems enabling fast reaction to the market development, common invoicing, better cooperation policy control focussing on alliance members' needs.

Fiala (2007) mentions two common purchase concepts used, i.e. central invoicing and central negotiating. The central invoicing means that the alliance central office pays all suppliers and member retailers pay on the basis or re-invoicing. This is how the retail chain achieves high turnover and therefore more advantageous conditions, frequently equal to large multinational corporations. The central negotiating is not as convenient for the alliance members as the central invoicing due to the fact that the supplier invoices its goods straight to individual alliance members.

Hypotheses

According to Sherwood *et al.* (2006) the decision whether to trust the partner or not is a combination of two aspects; firstly, the assessment of social factors (e.g. reputation) and secondly, the height of costs of the potential partner's untrustworthiness. Better reputation in the area of responsible behaviour and decision making makes the partner more attractive (Dollinger *et al.*, 1997) and more trustworthy (Parkhe, 1993). In case of absence of previous experience with an organization, it is the reputation that shows what kind of company behaviour might be expected (Weigelt and Camerer, 1988). Namely, collaboration with a highly reputable organization may reduce some risks and/or uncertainly, and subsequently the transaction costs (Williamson, 1985). Nooteboom *et al.* (1997) found out that if a highly reputable company joins an alliance, an organization tends to leave the alliance much less. According to Ireland *et al.* (2002) reputation results in trust. The current results are in conformity with the statement of Sherwood *et al.* (2006), saying that a well-reputed organization is regarded more trustworthy. Similarly, the research carried out by Lui and Ngo (2004) reveals relation between reputation of the alliance and trust among its members.

Hypothesis 1

Inter-organizational trust will be positively related to central office reputation.

The relation between trust and alliances' performance has been researched in the past a number of times. According to Buckley and Casson (2002), the alliance's ability to transfer inputs into outputs is increasing along with the higher trust, which results in better performance of the strategic alliance. The relation between trust and performance is focused on by Parkhe (1993), who claims that in case of increasing trust, the risk of opportunist behaviour is diminishing and so is the role of complicated contractual warranty, which reduces the transaction costs. Empirically positive relation between alliance's trust and its performance has been confirmed by for instance: Krishnan *et al.* (2005), Sherwood *et al.* (2006), Dyer (1997) and Kanter (1994). To achieve alliance's success the trust among organizations is a crucial factor (Dyer 1996; Kanter, 1994).

The above stated positive relation between trust and performance is also supported in the article by Wicks *et al.* (1999). They claim that in case of business alliances high trust leads towards higher performance.

This relation is also supported in studies concerned with relations in the area of delivery chains (e.g. Aulakh *et al.*, 1996). Trust helps to reduce conflict. The risk of misinterpretation of unclear acts and activities is decreasing among the partners on trustworthy terms (Krishnan *et al.*, 2005). Provided that the trust is smaller, bad interpretation may result in conflict among partners, which leads towards increasing transaction costs and/or premature termination of the relation (Zaheer *et al.*, 1998). The research also showed that the increase in transaction costs negatively influences performance (Dyer and Chu, 2003, Zaheer *et al.*, 1998). Trust also helps to increase flexibility, which contributes to higher alliance' performance (Young-Ybarra and Wirsema, 1999).

Hypothesis 2

Inter-organizational trust will be positively related to alliance performance.

Several researches focus on the relation between partner reputation and alliances' performance (e.g. Houston, 2003; Saxton, 1997; Hill, 1990; Sherwood *et al.*, 2006), stating that partner reputation affects alliances' performance.

Similarly to trust, high partner reputation might also reduce transaction costs, make the change of information easier and/or create positive environment for mutual cooperation (Houston, 2003). The transaction costs include mainly the costs for ensuring compliance with contractual terms and the costs for searching for partners (Saxton, 1997). Good reputation is a valuable intangible asset, which an organization profits from when developing competition advantages (Barney, 1991).

Positive reputation gives advantage as the other partner is more likely to expect successful completion of transaction and satisfaction resulting from mutual cooperation is increasing (Saxton, 1997).

Hypothesis 3

Reputation will be positively related to alliance performance.

MATERIALS AND METHODS

Data

Managers of purchasing central offices in selected purchasing alliances have been addressed with a request to send out questionnaires to their members. Other alliances completed questionnaires with the help of students. They were asked to address members in their neighbourhood and those who expressed their preliminary consent with completing the questionnaire were later on reported (to avoid the possibility that one alliance member could fill in the questionnaire twice). This is how 268 completed questionnaires were collected (see appendix No. 1). The questionnaires were completed by owners or managers of alliance members. The questionnaires where more than 10% of data were missing were eliminated in accordance with the recommendation by Hair *et al.* (2010) and Škapa (2011). For research were selected only alliances older than three years and organizations, that are in an alliance longer than three years. At the time of data collection, age of alliances in the sample ranged from 12 to 20 years (Fig. 1).
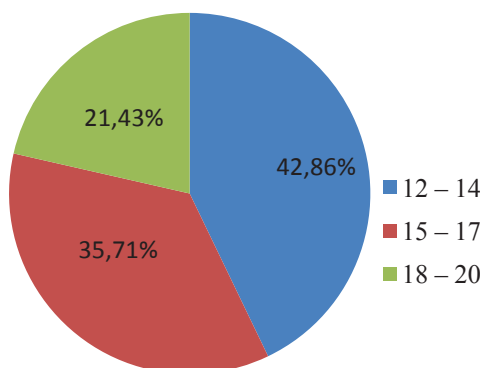
1: *Age of alliances (years)*
Source: authors

Measurement

There are the individual questionnaire items and scales by which the individual variables were measured in appendix 1. According to Subramaniam and Youndt (2005), a seven-point Likert scale was chosen (from strong disagreement to strong agreement with the statement).

Reputation

Reputation was measured with the help of items adopted from Saxton (1997). Partners in alliance were evaluated by respondents in four areas:
- Product quality,
- management,

- financial performance,
- overall reputation.

In the area of management respondents evaluated (Saxton, 1997):
- Experience level of management team,
- ability to attract key employees,
- ability to retain key employees,
- ability to develop and train
- integrity of the management team.

Trust

Although no standard scale of inter-organizational trust exists, prior studies have typically covered of its dimensions reliability and fairness (Zaheer *et al.*, 1998; Krishnan *et al.*, 2005; Dyer and Chu, 2003).

Inter-organizational trust was measured with the help of six items adopted from Krishnan *et al.* (2005) and Sherwood *et al.* (2006):
- Central office has promised to do things without actually doing them later.
- Our firm is generally doubtful of the information provided to us by central office.
- Central office is generally doubtful of the information we provide them.
- Central office treats our firm fairly.
- We are willing to share information with our central office.
- Our firm verify facts stated by our central office.

Alliance performance

Despite the publication of many studies on alliance performance (e.g. Krishnan *et al.*, 2005; Sherwood *et al.*, 2006; Saxton; 1997), no consensus exists on measurement this construct. All the measurement items were adopted from prior studies (Krishnan *et al.*, 2005; Sherwood *et al.*, 2006 and Saxton, 1997).
- The objectives for which the collaboration was established are being met.
- Our firm is satisfied with the financial performance of the collaboration.
- Our partners seem to be satisfied with the financial performance of the collaboration.
- Overall, our firm is very satisfied with the performance of the collaboration.

Convergent validity

Convergent validity deals with the extent, to which items truly measure its underlying construct (Trail and James, 2001). Convergent validity was assessed by the Cronbach's alpha reliability value and reliability coefficient RHO.

Coefficient alpha was developed by Cronbach (1951) and this coefficient is one of the most important statistics in research involving test construction and use (Cortina, 1993).

The formula for alpha is this:

$$\alpha = \frac{K \times \overline{r}}{\left(1 + (K-1) \times \overline{r}\right)}.$$

In the formula, K is the number of variables, and is the average correlation among all pairs of variables.

Raykov's reliability RHO (ρ), also called reliability rho or composite reliability, tests if it may be assumed that a single common factor underlies a set of variables. Raykov (1998) has demonstrated that Cronbach's alpha may over- or under-estimate scale reliability. Underestimation is common. For this reason, rho is now preferred and may lead to higher estimates of true reliability. The components of the scale are denoted, if they are congeneric (Jöreskog, 1971).

$$Y_i = a_i + b_i \eta + Ei,$$

holds true, where a_i and b_i are appropriate constants, η is common true score (Var $\eta = 1$) and are the corresponding error scores (Zimmermann, 1975). The reliability coefficient rho of the total score $Y = Y_1 + Y_2 + \dots + Y_k$ is also referred as scale reliability or composite reliability. With uncorrelated errors this coefficient, defined as the ratio of true variance in Y to its observed variance (Lord and Novick, 1968) equals:

$$rho = \frac{\left(\sum_{i=1}^{k} b_i\right)^2}{\left(\sum_{i=1}^{k} b_i\right)^2 + \sum_{i=1}^{k} \Theta_{ii}},$$

where $\Theta_{ii} = VarE_i$ are the error variances (Bollen, 1989).

For multifactor model the RHO coefficient provides a good estimate of internal consistency and RHO is the most appropriate coefficient to use (Byrne, 2006).

Cicchetti (1994) states a minimum acceptable value for this coefficient to be 0.7. This corresponds with Lawson-Body *et al.* (2010), who recommend values identical with Cronbach's alpha.

Discriminant validity

Liao and Wang (2011) define discriminant validity as *the degree to which measures of different concepts are distinct*. Discriminant validity is achieved, if the correlation between variables are lower than 0.9 (Kline, 2011).

Nomological vadility

Since the presence and form of correlations among latent variables are in accordance with the theoretical presuppositions, it is possible to confirm nomological validity. 'Face' validity in this study has been ensured by adapting individual questionnaire items from the previous studies.

Measuring model fit

Model fit quality is expressed by model fit indices: Bentler-Bonet non-normed fit index (NNFI) NNFI is computed as follows: (Kenny, 2012)

$$NNFI = \frac{\chi^2 / df(NM) - \chi^2 / df(PM)}{\chi^2 / df(NM) - 1},$$

where
χ^2 ...... chi-square,
df ...... are the degrees of freedom of the model,
NM .. null model and
PM ... proposed model.

Comparative fit index (CFI)

This incremental measure of is directly based on the non-centrality measure. The Comparative Fit Index or CFI equals (Kenny, 2012):

$$CFI = \frac{d(NM) - d(PM)}{d(NM)},$$

where d is $\chi^2 - df$.

If the CFI is less than one, then the CFI is always greater than the TLI. CFI pays a penalty of one for every parameter estimated (Kenny, 2012).

Root mean square error of approximation (RMSEA)

This absolute measure of fit is based on the non-centrality parameter. Its computational formula is (Kenny, 2012):

$$RMSEA = \frac{\sqrt{\chi^2 - df}}{\sqrt{df(N-1)}},$$

where N is the sample size

To represent good fit values of, NNFI and CFI should be at least greater than 0.9 (Bentler, 1992), value of RMSEA smaller than 0.1 (Browne and Cudeck, 1993).

RESULTS

The Cronbach's alpha reliability value of the all measurement scales are greater than 0.769. Peterson (1994) compared individual recommended values of Cronbach's alpha. According to Peterson (1994) the most quoted are Nunally's recommendations (Nunally 1967; Nunally 1978). Nunally (1967) recommended that the minimally acceptable reliability should be in the range of 0.5 to 0.6, whereas in 1978 (Nunally, 1978) he increased the recommended level to 0.7. Tab. I shows Cronbach's alpha reliability value and reliability coefficient RHO for all variables.

None of the correlations between independent variables (reputation, inter-organizational trust) presented in Tab. II achieved this threshold. Discriminant validity was confirmed.

Tab. II reports correlations for all variables.

I: *Cronbach's alpha reliability value and reliability coefficient RHO*

Variable	The Cronbach's alpha reliability value	Reliability coefficient RHO
Reputation	0.769	0.768
Trust	0.870	0.870
Performance	0.926	0.927

Source: own calculation

II: *Correlation matrix of the variables (N = 259)*

Variable	1	2	3
Reputation	1.000		
Trust	0.388	1.000	
Performance	0.335	0.543	1.000

Source: own calculation
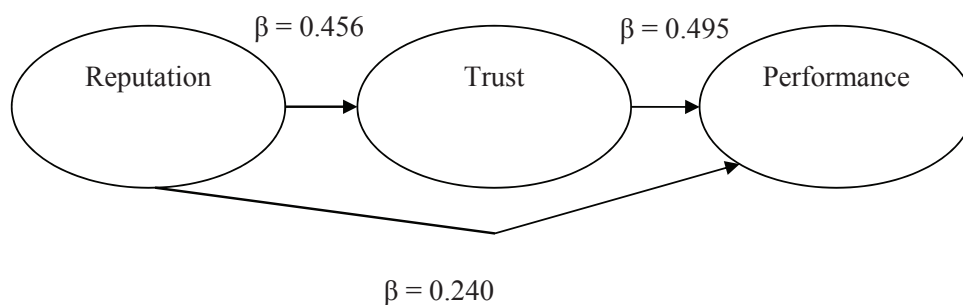
2: *Structural model (Chi-square = 164.8, df = 74, p = 0.000, N = 259, CFI = 0.954, NNFI = 0.944, RMSEA = 0.069)*
Source: authors

III: *Results of the model (Chi-square = 164.8, df = 74, p = 0.000, N = 259, CFI = 0.954, NNFI = 0.944, RMSEA = 0.069)*

Outcome	Predictor	Hypothesis	St. estimate	p-value
Inter-organizational trust	Reputation	H1	0.456	< 0.05
Performance	Inter-organizational trust	H2	0.495	< 0.05
Performance	Reputation	H3	0.240	< 0.05

Source: own calculation

Our hypotheses were implemented into the structural equation model. This model (see Fig. 2) was evaluated in EQS software. We used maximum likelihood estimation procedure to estimate model path coefficients. From this method we obtained standardized values of these coefficients (standardized solution), values of significance test statistics and results of the significance tests at 5% error level. Positive values of the coefficients mean positive influence of the predictor on the predicted latent variable, negative values mean negative influence.

Model fit indices (CFI, NNFI) exceed the requested value 0.9. Especially the value of CFI index greater than 0.95 means very good model fit. Also RMSEA index is lower than the 0.08, which means the value for acceptable model fit.

This model describes the relationships between reputation, inter-organizational trust and performance. The results are presented in Tab. III.

The predicted positive relationship between trust and reputation (hypothesis 1) is supported ($\beta = 0.456$, p < 0.05). We also find a significant interaction between inter-organizational trust and alliance performance ($\beta = 0.495$, p < 0.05), thereby supporting hypothesis 2.

There is a positive relationship between alliance performance and reputation (hypothesis 3), ($\beta = 0.240$, p < 0.05).

41.1% of variability of predicted variable alliance performance was explained by variability of factor predictors (R-squared = 0.411).

DISCUSSION

In this article we investigated the relationship between reputation in retail alliances and alliance performance between which exist mediating variables – inter-organizational trust. Our results strongly support the thesis that the mediating variable between reputation and alliance performance is inter-organizational trust.

It was confirmed the idea of Ireland *et al.* (2002) – „trust can be a product of reputation" (Ireland *et al.*,

2002, p. 438) and „trust strongly influences alliance performance" (Ireland *et al.*, 2002, p. 438).

Results of this article correspond to Krishnan *et al.*, 2006; Sherwood *et al.*, 2006 or Dyer, 1997).

Some practical implications arise from this article. It is very important for members of retail alliances to build relationships based on trust. High reputation among members of alliances has positive impact on increasing inter-organizational trust and high inter-organizational trust is connected with higher alliance performance.

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The authors of this article created a structural model which records the relationship between reputation of central office of alliance and alliance performance.

The calculated model fit indices (Bentler-Bonet non-normed fit index and comparative fit index)

which amount to values higher than 0.9 show the very good quality of the model. All three hypotheses were confirmed. Inter-organizational trust was confirmed as the mediating variable between reputation and alliance performance. In the article we did not deal with the variable of interpersonal trust, and it would be interesting to investigate the relationship between interpersonal trust and alliance performance and compare the results with the results published in this article. It will also be interesting to verify the quality of the model in which both types of trust (inter-organizational and interpersonal trust) are represented. Another subject of a future investigation could be focused on the use of other performance indicators (suggested, for example, by Zaheer and Harris, 2006 or Šiška, 2011), the trust among stakeholders at public universities (Slabá, 2012) or cornerstones for building trust (Dědina and Dědinová, 2012).

Appendix

Measurement instruments

Variable, source, scale	Measures and items
Trust (Krishnan *et al.*, 1998; Sherwood *et al.*, 2006), 1 = strongly disagree; 7 = strongly agree	1. Central office has promised to do things without actually doing them later. (reverse-coded). 2. Our firm is generally doubtful of the information provided to us by central office. (reverse-coded). 3. Central office is generally doubtful of the information we provide them. (reverse-coded). 4. Central office treats our firm fairly. 5. We are willing to share information with our central office. 6. Our firm verify facts stated by our central office.
Reputation (Saxton, 1997), 1 = the worst in industry orse; 7 = the best in industry	1. Product quality. 2. Management (experience level of management team, ability to attract key employees, ability to retain key employees, ability to develop and train, integrity of the management team. 3. Financial performance. 4. Overall reputation.
Alliance performance (Krishnan *et al.*, 2005; Sherwood *et al.*, 2006; Saxton, 1997), 1 = strongly disagree; 7 = strongly agree	1. The objectives for which the collaboration was established are being met. 2. Our firm is satisfied with the financial performance of the collaboration. 3. Our partners seem to be satisfied with the financial performance of the collaboration. 4. Overall, our firm is very satisfied with the performance of the collaboration.

SUMMARY

The authors aimed to create a structural model showing the relationship between reputation of central office and alliance performance and verify hypotheses following from this model. The model variables include inter-organizational trust, reputation and alliance performance. All variables were measured on the basis of a questionnaire survey in which 259 organizations participated. The

Cronbach's alpha reliability value was higher than 0.769 for all variables. This model was verified in the EQS software. The calculated model fit indices amounting to values higher than 0.9 (CFI = 0.954, NNFI = 0.944) show the very good quality of the model. The RMSEA value is also below the defined limit. The calculations confirmed the statistically significant positive relationship between inter-organizational trust and reputation, inter-organizational trust and alliance performance, reputation and alliance performance. Verification of the existence of the mediating variable between reputation and alliance performance is an important finding.

Acknowledgement

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