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Strategic Alliances Stability Factors *

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Abstract The article extends the line of research on strategic alliance stability, which has been studied widely in the academic literature for the past decades. Contrary to the majority of existing papers, this study adopts a multi-dimensional view on strategic alliance stability, and differentiates between two major stability components: internal and external stability. Direct and indirect effects of trust, resource complementarity and partners' long-term orientation on external and internal stability were studied in the paper. Using structural equation modeling (SEM) as an empirical method, the research shows that (1) internal stability is positively influenced by trust and resource complementarity, while (2) external stability is positively affected by partners' long-term orientation. Moreover, (3) the study supported a hypothesis about a positive relationship between external and internal stability.

Keywords: strategic alliance stability, internal stability, external stability, trust, long-term orientation, resource complementarity.

1. Introduction

Strategic alliances (SA) are widely recognized to be a form of inter-organizational relationships that aids firms in standing against the competition in a complex business environment (Akkaya, 2007) and in creating customer value (Iyer, 2002; Umukoroa, Sulaimonb, Kuyeb, 2009). At the same time, some scholars estimate the failure rate of strategic alliances to mount to 60-65% due to unmet objectives, failed expectations or other reasons (Geringer and Hebert, 1991; Umukoroa, Sulaimonb, Kuyeb, 2009; Gibbs and Humphries, 2016).

As a phenomena, stability of long-term cooperative decisions, and strategic alliance stability in particular, is acknowledged to be a fundamental problem that has been studied in academic literature for the last 30 years. The drawback of most of the researches on the topic is in viewing strategic alliance stability as a static (Jiang, Li and Gao, 2008) and one-dimensional concept (Zenkevich, Koroleva, Mamedova, 2014a), while relationships between partners in an alliance are certainly dynamic, which makes their management at least challenging (Douma et. al. 2000; Buffenoir, Bourdon, 2013). Therefore, this study is aimed at providing an integrated approach to the concept of strategic alliance stability and its factors.

2. Stability in Strategic Alliances: Theoretical Framework

Strategic alliance (SA) can be defined as a *long-term cooperative agreement between partner companies that stay legally independent from each other after alliance*

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formation, share cooperation benefits and governance control over defined objectives and are continuously involved into one or more strategically important areas (Zenkevich, Koroleva, Mamedova, 2014a).

Managing an alliance in a way that promotes cooperation between partners and decreases opportunistic behavior is a highly relevant topic for alliance management. Despite all the advantages that strategic alliances are aimed to bring to partner companies, alliance involvement might incur unexpected and/or unwanted states and events for individual firms in an alliance (Kolenak, 2007). It is not uncommon that such issues lead to deteriorated performance and can cause alliance premature termination (Geringer and Hebert, 1991; Umukoroa, Sulaimonb and Kuyeb, 2009). Partially, this phenomenon is addressed in a light of *strategic alliance stability (SAS).*

2.1. Strategic Alliance Stability Definition and Conceptualization: Merging Game Theoretic and Managerial Perspective

The focus of researchers on strategic alliance stability has been split between two general concepts: *strategic alliance stability* and *strategic alliance instability* (Jiang, Li and Gao, 2008). See Table 1 for reference. It appears that strategic alliance instability rather than strategic alliance stability was the first and dominant focus of numerous studies (e.g., Franko, 1971; Killing, 1982, 1983; Gomes-Casseres, 1987; Inkpen and Beamish, 1997; Yan and Zeng, 1999; Das and Teng, 2000; Gill and Butler, 2003; Nakamura, 2005). Moreover, it is quite often that authors do not conceptually differentiate between SA stability and instability, and sometimes switch between the two in one study (e.g., Yan, 1998; Yan and Zeng, 1999).

The definition of Zenkevich, Koroleva, Mamedova (2014a) is adopted in the paper as a working stability definition as long as it provides a comprehensive and approach to the concept that implies an opportunity to assess SAS with some degree of precision at least in some aspects.

Based on previous studies of cooperative relationships stability in game theory (Moor, 1971; Zenkevich, Petrosyan and Yeung, 2009; Gill and Butler, 2003; Wong, Tjosvold and Zhang, 2005; Kumar, 2011), Zenkevich, Koroleva and Mamedova (2014a, b) introduce several components of strategic alliance stability on two levels. On the first level, there is external and internal, or cooperative, stability. On the second level internal (cooperative) stability of strategic alliances, is comprised of motivational, strategic and dynamic stability. The overall stability scheme is presented in the *Fig. 1.*

The concept of *external stability* implies assessing the stability of and alliance as if it was a separate economic entity. Such evaluation is conventionally done with the help of economic indicators. In case of a strategic alliance, external stability is implied when alliance's economic results have a raising trend. In this context, economic results of the strategic alliance can include net profit, revenue, market share, etc. If the trend is long-term, partner companies perceive a strategic alliance as a successful one, so they have a lasting motivation to maintain cooperation. It is important to consider the long-term trend because in a short-term perspective a strategic alliance might experience losses (e.g., due to initial stages of alliance implementation, unfavorable external conditions, etc.), which will be perceived as "natural" and will not deteriorate participants cooperative intent, at least, to a significant extent in case the long-term trend is positive.

Table 1. Definitions of strategic alliance stability/instability

Academic paper	Definition
(Zenkevich, Koroleva and Mamedova, 2014a)	"Strategic alliance *stability* should be understood as a success of alliance performance during the period of alliance operations under conditions of constant motivation of each partner firm to maximize the results of cooperation."
(Jiang, Li and Gao, 2008)	"...we define alliance *stability* as the degree to which an alliance can run and develop successfully based on an effective collaborative relationship shared by all partners."
(Huang, 2003) (Hong, Yu and Zhichao, 2011)	"*Stability*, means in the process of movement, or interference, whether or not the system can keep its former state. As for the specific strategic alliance, it means that the strategic alliance, as an organization can keep its stable state, it is a dynamic stability, relative stability."
(Inkpen and Beamish, 1997) (Das, Teng, 2000) (Sim and Ali, 2000)	"...joint venture is considered *unstable* if the partners' equity holding in the joint venture changed (including take-over by one partner) since the formation or the venture is terminated. Termination as a result of a project ending was not included."
(Qing and Zhang, 2015)	"...*instability* of such an [a competitive] alliance means short and fragile cooperation, and the failure of alliance"

Source: augmented from (Zenkevich, Koroleva, Mamedova, 2014a)

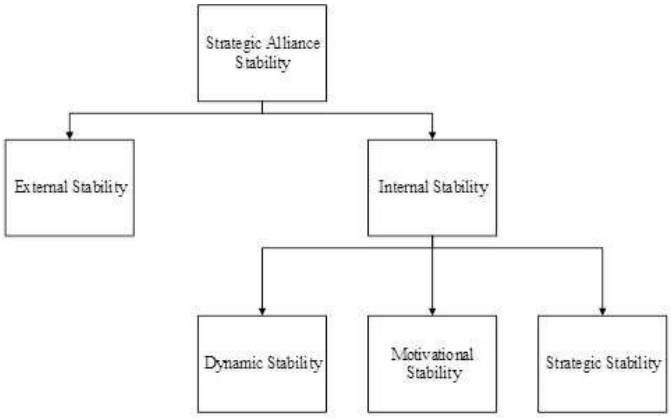

Fig. 1. Strategic alliance stability structure. Source: (Zenkevich, Koroleva, Mamedova, 2014a)

At the same time, as a strategic alliance is an agreement between companies which are eager to attain their own objectives within the alliance, this explains the need of introduction of *internal (or cooperative) stability* concept, which is well studied in game theory. Not only game theory has thoroughly studied different com-

ponents of internal stability of cooperative relationships, but it has also developed a holistic approach for its evaluation (Zenkevich, Petrosyan and Yeung, 2009).

In managerial studies, internal alliance stability has been best described in papers dedicated to the issues of strategic management (e.g., Gill and Butler, 2003; Wong, Tjosvold and Zhang, 2005; Kumar, 2011).

An important assumption for internal stability conceptualization is that partners in a strategic alliance are rational, this is why they enter a strategic alliance expecting that the benefits of their cooperation will exceed possible benefits of their actions in case they kept operating individually (Zenkevich, Koroleva and Mamedova, 2014a, Qing and Zhang, 2015).

Having a closer look at the internal stability structure, motivation to cooperate is acknowledged to be essential for strategic alliance stability. Zenkevich, Koroleva, Mamedova (2014a) in their paper explain that *motivational stability* means that partners find it beneficial to actively contribute to alliance operations, or actively commit to alliance activities (Kumar, Scheer, and Steenkamp, 1995) because such behavior will increase the overall benefits of the alliance, hence, individual benefits of each partner (Gulati, Khanna and Nohria 1994; Sarkar et al, 2001). Such definition of a strategic alliance stability is close to the understanding of commitment introduces by Das and Teng (1998) and described above.

Motivational stability is pre-defined not only by economic factors and their trends, but also by relationships among alliance participants (Deitz et al., 2010; Hunt, Lambe and Wittmann, 2002). Motivation for further cooperation is supported by such factors as trust (Anderson and Weitz, 1989; Huo, Ye and Zhao, 2015), respect for cross-cultural differences (Doz and Hamel, 1998; Yan and Luo, 2001) as well as shared goals and objectives (Anderson and Weitz, 1989; Ozorhon et al, 2008) and participants' commitment (Kumar, Scheer and Steenkamp, 1995). One can say that alliance partners are committed to the alliance in case he contributes resources and capabilities necessary for alliance success (Jiang, Li and Gao, 2008). Partners' commitment has a positive influence on partners' relationship because it indicates that alliance partners are loyal and long-term oriented, which increases reciprocity and cooperation levels. If partners are committed to the relationship, they are less likely to deviate from cooperation. On a contrary, when partners are not committed to the alliance, they are not likely to establish a close cooperation with each other, which destabilizes the relationship. Given partners' commitment, they tend to positively evaluate the chance to receive the expected benefits during the lifetime of an alliance (Zaheer and Venkatraman, 1995).

As mentioned above, strategic stability is well studied in game theory (Petrosjan,1977, Zenkevich, 2009). Assuming that strategic alliance partners are rational, the fact that partners make a decision to form a strategic alliance means that they find such form of cooperation to be the most beneficial for them compared to all other opportunities in the market, including other partnerships, and an opportunity to operate alone. However, when the strategic alliance is in the implementation phase, some of the partners might reconsider staying within an alliance as no longer beneficial and might be willing to enter the alliance. *Strategic stability* of a strategic alliance assumes that none of the partners find it beneficial to decline from the cooperative agreement among partners, while other partners pertain to it.

Dynamic stability is examined in game theory along with strategic stability as a part of internal stability of cooperative relationships (Zenkevich, 2009). *Dynamic*

stability of strategic alliances refers to benefits sharing in an alliance, or the payoff structure. Payoff structure is an important issue for alliance partners as they are motivated not only through economic benefits generated by an alliance as an economic entity, but also by benefits that are allocated to them personally (Umukoroa, Sulaimonb and Kuyeb, 2009).

It has been mentioned by Franko (1971) that an alliance is stable rather than unstable when partners agree to agree on the initial profit sharing mechanism and satisfied with it. At the stage of alliance formation, partners form an understanding of what kind of benefits and in what quantity they find to be fair for them in comparison with all the threats and possible disadvantages, such as opportunity costs, that they are likely to face due to alliance participation and all the inputs they have to make for cooperation. The alliance is *dynamically stable* in case when at each moment of time the sum of gained and expected benefits by a partner corresponds to the amount and type of benefits the partner had been expecting to gain when signing the contract for cooperation. Dynamic stability assumes that this principle is supported for each of the partners in a strategic alliance.

In case a partner realizes that it will not be possible to get all the expected benefits that had been expected from the alliance, partner's motivation to continue alliance participation might decrease or even disappear (Zenkevich, Koroleva, Mamedova, 2014a).

Nevertheless, given that a well-developed pay-off structure is necessary for alliance success and stability (Khanna et al, 1998), it is not a sufficient condition for the alliance stability on its own (Agarwal, Croson and Mahoney, 2010).

2.2. Strategic Alliance Stability Factors: Hypotheses Development

For the purpose of this research, strategic alliance stability was analyzed as a multidimensional construct, however, the distinction among strategic alliance stability components was made on the most aggregate level: between *external* and *internal* stability. Given the fact that not much has been done in merging game theory approach to strategic alliance stability conceptualization, which is comprehensive and all-inclusive, and broader managerial studies that examine strategic alliance stability factors, the benefits of such SAS conceptualization within the study are clear. Fist, such an approach pertain concept integrity. Second, conceptualizing stability this way, there is an ability to identify differences in relationships between strategic alliance stability factors and different strategic alliance stability components on the most aggregate level to gain a general understanding about these interconnections. The third benefit is the feasibility of further empirical analysis given the number of constructs to be analyzed in one study.

Partner firms can increase cooperation by altering factors affecting cooperation (Umukoroa, Sulaimonb and Kuyeb, 2009), therefore, influencing strategic alliance stability (Deitz et al, 2010).

Long-term orientation. Studies show that the longer the "shadow of the future", the less likely it is that partners are going to engage into opportunistic activities because the consequences such behavior might have are to be considered by them (Axelrod, 1984; Heide and Miner, 1992; Das and Rahman, 2010). In turn, long-term orientation increases the shadow of the future, making partners dependent on each others' behavior, and their cooperation more vigorous (Das and Rahman, 2010).

Moreover, in case partners are long-term oriented, they stay committed to the alliance even in case of temporary inequalities between them as they believe that all the inequalities will even out in the long-run (Das and Rahman, 2010), therefore, partners will expect to at least be able to gain the amount of benefits indicated by the alliance contract. Long-term orientation of partners also decreases the urge, or the pressure, of gaining quick results. The importance of the absence of pressure for quick results is especially important for strategic alliances as it is rare when it is possible for them to start generation positive economic outcome right after establishment (Das and Rahman, 2010; Zenkevich, Koroleva and Mamedova, 2014a). If the alliance horizon is set to be long, partners are going to be willing to commit to the relationship and make efforts to preserve it (Ring and Van de Ven, 1994).

As follows from the definition of external SAS, an alliance has to demonstrate an increasing long-term trend in its economic results to be externally stable (Zenkevich, Koroleva and Mamedova, 2014a,b). In case partners are long-term oriented, they are likely to believe in the alliance perspective (López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013) and, contrary to the short-term orientation, will not be likely to behave opportunistically, which would have a detrimental effect on alliance economic results of an alliance (Das and Rahman, 2010). Overall, long-term motivation appears to be important for both internal and external stability of SAs (Zenkevich, Koroleva and Mamedova, 2014a).

The following hypotheses are put forward:

H1: Long-term orientation is positively associated with external stability of a strategic alliance

H2: Long-term orientation is positively associated with internal stability of a strategic alliance

Trust. Trust in partner relationships decreases uncertainties, therefore, positively affects conflict resolution abilities and enhances cooperation (Granovetter, 1985; Madhok, 1995; Deitz et al, 2010). Trust reduces transaction costs by developing a desirable transaction climate (Granovetter, 1985; Madhok, 1995; Huo, Ye, Zhao, 2015). Without mutual trust, partners would be likely to behave opportunistically by taking advantage of doubtful situations, not explicitly defined by the contract (Williamson, 1975), which would affect the cooperation between partners, in particular (Das, Rahman, 2010), perceived payoff equality and fairness along with partners' willingness to stay within an alliance and commit to it. It has also been claimed by scholars that trust has an impact on the degree to which partners are long-term oriented as even during the hard times for an alliance, partners would believe that short-term losses would be compensated by long-term gains (Ganesan, 1994; Lee and Dawes, 2005; Ryu, Park and Min, 2007; Yu and Pysarchik, 2002; Zhao and Cavusgil, 2006; Jiang, Li, Gao, 2008).

However, the association between trust and alliance success in terms of alliance economic performance is not clearly articulated in the literature. It is argued by Nielsen (2007) that trust has rather an indirect impact on economic results of an alliance, therefore, on a sequence of economic results in time as well.

The following hypotheses are put forward:

H3: Trust is positively associated with internal stability of a strategic alliance

H4: Trust is positively associated with long-term orientation in a strategic alliance

Resource complementarity. Resource complementarity is believed to be a crucial, corner stone element to reach and maintain SAS (Deitz et al, 2010). Deitz et al. (2010) emphasize that partners with complementary resources are able to combine them in a unique way to attain a competitive advantage in the market through extracting value from valuable, rare, durable and inimitable resource combinations (Barney, 1991, 1992). When the competitive level of complementarity is achieved, the probability that partners are willing to change the alliance form or to exit the alliance should decrease significantly (Deitz et al, 2010).

Partners with complementary resources are seen as mutually dependent (Geringer, 1988) as partners' resource contribution is beneficial for each party by definition. It has been shown in the study of Beamish (1988) that multinational companies are eager to find local partners with complementary resources while expanding their business abroad. On the other hand, Park and Ungson (1997) have shown that low resource complementarity is reflected in increased termination rates of alliances.

By recognizing that a partner supplies resources that complement firm's own ones, a firm also recognizes the original value of its partner for the alliance and the interdependence between partners. Therefore, in this sense resource complementarity leads to increased partners' trust and decrease opportunistic tendencies in a relationship (Morgan and Hunt, 1994; Sarkar et.al. 2001). Furthermore, López-Navarro, Callarisa-Fiol and Moliner-Tena (2013) find that resource complementarity influences partner commitment through trust, not finding the support for a direct relationship.

Scholars have proposed and empirically tested the hypothesis that resource complementarity positively influences partner intentions to remain in the JV and cooperative intent, respectively (Deitz et al, 2010; Jiang, Li and Gao, 2008), and Deitz et al (2010) found support for each case.

Not only resource complementarity is connected to partners' internal cooperation, but it also has been studied as an antecedent of a desirable economic performance due to synergies created among complementarity resources (Lambe, Spekman and Hunt, 2002; Nielsen, 2007).

The following hypotheses have been put forward:

H5:Resource complementarity is positively associated with external stability of a strategic alliance

H6: Resource complementarity is positively associated with internal stability of a strategic alliance

H7: Resource complementarity is positively associated with partners' trust

External and internal stability. There is a rationale to assume that external stability, the proxy of which is an upward trend in alliance economic results (Zenkevich, Koroleva and Mamedova, 2014a, b), is positively associated with internal stability of a SA. As a primary reason of alliance formation is connected to economic benefits generation and gaining an expected financial return (Umukoroa, Sulaimonb and Kuyeb, 2009; Qing and Zhang, 2015), it is expected that economic results are considered by partners during the alliance implementation phase. Moreover, alliance success in the real world is evaluated by partners in comparison with some referent: either another company, industry, or itself at a different point of time (Hunt, Lambe and Wittmann, 2002). Therefore, partners continuously evaluate alliance performance and make their decisions on the future cooperation based on results of the assessment, deciding how to behave within an alliance, whether or

not to stay in the alliance, maintain the same alliance form, etc. (Qing and Zhang, 2015).

Therefore, there is a reason to put the following hypothesis forward:

H8:External stability is positively associated with internal stability

2.3. Strategic Alliance Stability Factors: Conceptual Model

The conceptual model of strategic alliance is depicted in the *Fig. 2*. Each arrow in the conceptual model represents a causal relationship and corresponds to a certain hypothesis. Overall, there are 8 hypotheses on the relationships between SAS factors and SAS components, the connection between SAS components, and the connections between SAS factors. Note that a sign (+) in the parenthesis stands for a positive association between constructs.

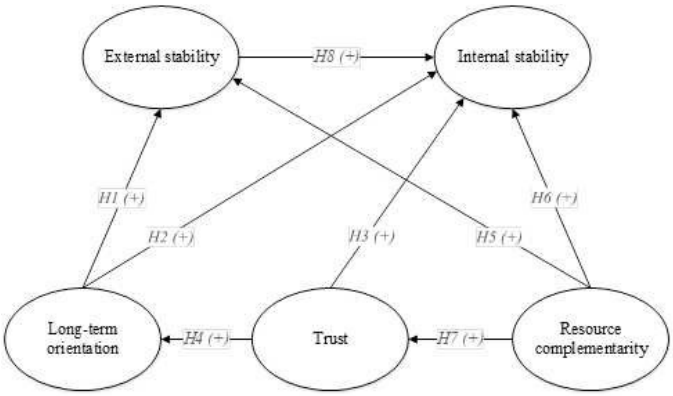

Fig. 2. Conceptual model: strategic alliance stability factors. Source: Adapted from (Deitz et al, 2010; López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013)

Given the number of hypotheses and a complex set of interconnections that exist among constructs, it makes sense to increase model complexity gradually to test it. Hence, a deeper understanding of relationships, direct and indirect effects of SAS factors on SAS components might be obtained.

Therefore, the first model to be tested in the following empirical part incorporates only direct relationships between SAS factors and SAS components (see *Fig. 3*), which are presented by hypotheses H1, H2, H3, H5, H6.

After the model in the Fig. 3 is tested, a direct impact of SAS factors on SAS components can be determined. This differentiation needs to be made in order to define different types of direct and indirect effects.

In the hypotheses scheme (*Fig. 4*), a new hypotheses (H8) is added to the set of relationships, which allows to examine whether or not *External stability* is positively associated with *Internal stability*, therefore, also examining indirect effect between *Long-term orientation* and *Internal stability* as well.

Fig. 5 represents the next set of hypotheses to be tested empirically, it is the last modification of the conceptual model before the final version in the *Fig. 2*. Comparing the model in a *Fig. 5* with a model in a *Fig. 4*, an additional hypothesis H7 is introduced. By testing the model in Figure 5, it will be possible to make

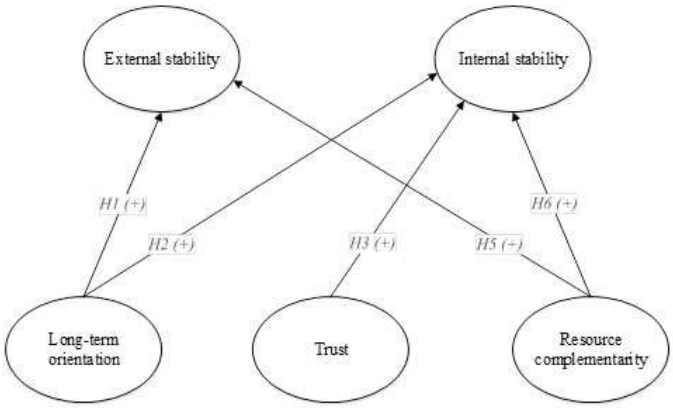

Fig. 3. Hypotheses scheme (1) for empirical test

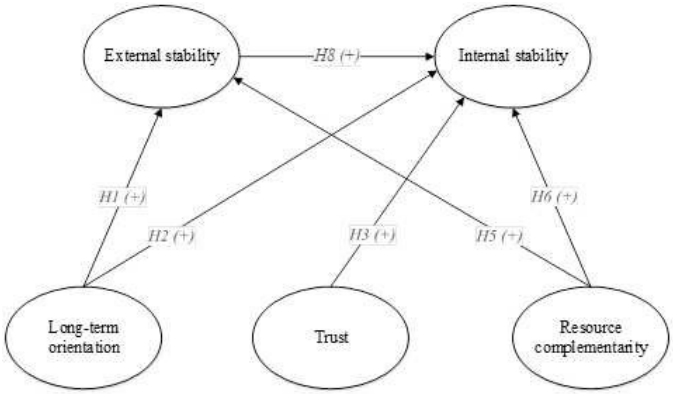

Fig. 4. Hypotheses scheme (2) for empirical test

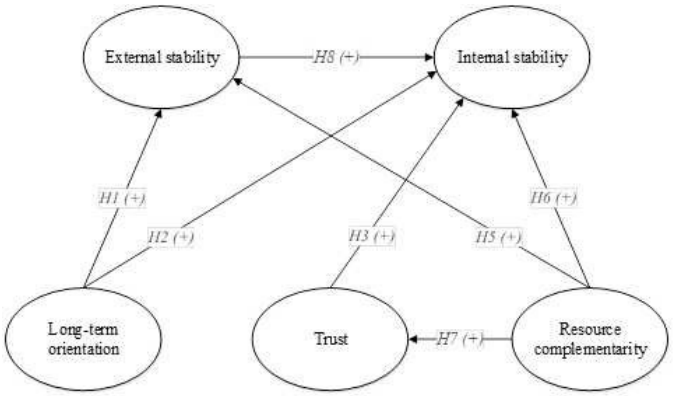

Fig. 5. Hypotheses scheme (3) for empirical test

conclusions on whether or not *Trust* plays a mediator role for the relationship between *Resource complementarity* and *Internal stability*.

3. Empirical Test of Strategic Alliance Stability Factors Model

The data for an empirical part of the research was collected through a web-based questionnaire. As the questionnaire was web-based, a link to it was distributed to companies that might have potentially been involved into strategic alliances by email.

Survey respondents were European companies' employees that were involved in strategic alliances. There was no particular focus on a type of a strategic alliance or on the industry an alliance operates in. The database of contact details that was used to approach respondents had been compiled of different sources, particularly from SDC Platinum and Amadeus (Bureau van Dijk) database. The total number of respondent equaled 184, however, later, the sample was decreased to 175 observations.

Given the nature of variables under examination, the set of hypotheses and the type of relationships among variables (see Fig. 5 above), in particular that some variables act as both, dependent and independent variables, and given the explanatory nature of the research the most appropriate method for data analysis would be structural equation modeling (SEM). SEM is a widely used tool in managerial researches because it enable the researcher to evaluate causal relationships between constructs that cannot be measured directly (latent constructs), often describing theoretical concepts, connected with a complex set of interrelationships.

The variables represented by ovals in the conceptual model (Fig. 5) represent latent constructs and will be referred to as "latent constructs" or "constructs" later on. Considering the sample size that is sufficient for running the covariance-based SEM (CB-SEM), this study follows the CB-SEM methodology for the conceptual model assessment. For this purpose, IBM SPSS Amos 19 software package was used. Therefore, the following parts reproduce the logic of a two-step SEM-methodology.

3.1. Data Collection

In this research, primary data was collected from the web-based questionnaire sent out to European firms. Respondents were asked to give their answers on the alliance that had been functioning at the moment of filling out the survey. In the survey, 7-point Likert (1932) type of scale was used, as it provides internal scale assessment and is believed to be a powerful tool for data analysis (Hair et al, 2010).

Contact details of respondents were extracted from two databases: SDC Platinum and Amadeus (Bureau van Dijk). Originally, a thousand email addresses of strategic alliances were extracted from SDC Platinum, however, as, generally, many strategic alliances are short-term, it is well-explained that 60% of email addresses from the extracted database did not exist at the moment of survey distribution. Only one response was generated from the original distribution attempt.

At the second attempt, a new database for contact addresses was compiled using Amadeus Bureau van Dijk. The most of responses, therefore, were obtained from sending the survey out to email addresses from Amadeus database.

Out of 1167 potential respondents who have opened the link to the survey, 184 complete responses were obtained, which constitutes 15.77% of the original number. However, some of the observations represented the alliances that were too

young to draw any conclusions on their stability (less than 1 year of functioning). As strategic alliance stability is applied for long-term alliances, only the alliances that were at least one year of existence at the moment of respondent filling in the questionnaire. Consequently, the sample size was decreased to 175 observations. Respondents were managers of strategic alliances, managers of partner companies and employers of both alliances and partner companies that operate in Europe. Raw data was collected in a form of a survey created at surveygizmo.com.

Most of respondents (48.0%) described themselves as managers of companies that participated in strategic alliances, while 39.4% of respondents were strategic alliance managers. The rest of respondents were either employed by a company involved in strategic alliances (7.4%), or worked in a strategic alliance (5.1%). Overall, it can be argued that respondents were in a position to answer alliance-related questions by providing relevant information because approximately 90% of respondents represented either alliance management team or the management team of partner companies they were involved in strategic alliances.

Speaking of the industry alliances in a sample belong to, most of them are concentrated in the business services industry (19%), machinery industry comes second (9.2%), followed by chemical and allied products industry (5.2%). Overall, the sample constitutes of alliances that are distributed across over 18 industries.

As for the size of alliances in the sample, the most part of them (54.3%) belong to the "micro" category, according to Eurostat classification, and have between 1 and 9 permanent employees. The second biggest category of alliances (22.9%) in the sample in terms of size is "small" alliances with 10-49 employees. The third biggest category of alliances (12.5%) in a sample are "large" alliances with 250 or more permanent employees. The rest of the sample (10.2%) is represented by "medium" alliances.

Lastly, respondents were asked to classify their alliance into three categories: joint venture, minority equity alliance or non-equity alliance. Such classification is general enough (Das and Rahman, 2010), which is suitable for the purpose of this study. Most alliances in the sample (46.9%) are non-equity alliances, followed by joint ventures (28.6%) and minority equity alliances (24.6%).

3.2. Structural Equation Modeling (SEM) of Strategic Alliance Stability

Measurement model (MM) corresponds to the conceptual model (*Fig. 2*) in terms of latent constructs that need to be measured by a set of measured variables. To recap, latent constructs are the following: *external stability, internal stability, trust, long-term orientation, resource complementarity.* Each of them has a set of indicators, or measured variables, used for latent construct assessment.

External stability views SA as a separate economic entity, so it is possible for an external observer to draw conclusions on its stability. Following external stability definition, it is assumed that a strategic alliance is externally stable in case its economic results show a raising trend (Zenkevich, Koroleva, Mamedova, 2014a, b). Economic results of the strategic alliance might include its net profit, revenue, market share, etc. Therefore, survey participants were asked to evaluate statements about strategic alliance economic results (on a scale from "1" – "Completely disagree" to "7" – "Completely agree") from the most general to more exact terms.

As discussed earlier in the text, internal stability of a strategic alliance is a multi-dimensional construct, and is comprised of motivational, strategic and dy-

namic stability. Therefore, each of these elements should be reflected in internal SAS measurement scale. Inter-partner relationships play a great role in strategic alliance stability (Deitz et al, 2010), and their constant mutual involvement in alliance activities is an important element of its stability that eventually has an effect on alliance performance. The extent to which partners are involved into alliance activities stem from their motivation to enhance alliance economic results, therefore, to maximize their own benefits (Wong, Tjosvold and Zhang, 2005; Deitz et al, 2010; Gulati, Khanna, and Nohria 1994; Sarkar et al. 2001; López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013).

The next element of internal stability is the dynamic stability, which is observed in cases when partners' expected and gained benefits correspond to the benefits expected at the moment of signing the contract (Zenkevich and Petrosjan, 2006; Kumar, 2011). According to the optimal decision principle (Zenkevich, Petrosyan and Yeung, 2009), the fact that the contract was signed among partners and they have agreed on cooperation indicates that partners have accepted the rules of benefits sharing and that they have a clearly established procedure of how benefits should be split among them. Hence, in case of dynamic stability, the procedure of benefits sharing is also known to participants.

Lastly, if an alliance is strategically stable, all the participants prefer to stay within a particular alliance given all other options available, and are likely to continue cooperation further without leaving the alliance prematurely (Zenkevich, 2009; Zenkevich, Koroleva and Mamedova, 2014a,b). Therefore, participants were asked to evaluate statements about partners' contribution to the alliance, benefits sharing and their attitude to the current alliance.

As discussed previously, trust is an important characteristic of partner relationships in strategic alliances. In their study on the third-party supplier relationships, Huo, Ye and Zhao (2015) claim that trust is indicated by one party's assessment of another's honesty, eagerness to consider the party's perspective. Another indication of presence of trust in a relationship would be an outside observation of partners' relationships that were characterized as honest and truthful, fair and just (López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013). Overall, if partners stay faithful to each other (Deitz et al, 2010), this is an indicator of trust in a relationship. At a contrary, the fact that partners found it necessary to deal cautiously with each other would indicate the absence of trust (López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013).

Partners with long-term orientation hope for their relationship with each other to bring them economic benefits in the future (López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013; Ganesan, 1994; Kelley and Thibaut, 1978). As follows, due to the value that the cooperation generates, partners would be concerned about their existing relationship. Logically, contrary to short-term oriented firms who would push the partner to generate quicker results (Das and Rahman, 2010) and try to get immediate benefit from each transaction (Das and Teng, 2000; Ganesan, 1994), long-term oriented partners would put their long-term goals before the quick gain (Das and Teng, 2000). Moreover, there is evidence that partners with long-term orientation will adjust their behavior in order to focus on the achievement of the long-term goals, e.g., partners will assist each other in resolving issues because they believe that another partner will do the same for them (Griffith, Harvey and Lusch, 2006; Lee and Dawes, 2005; Lusch and Brown, 1996). In other words, long-term

orientation promotes the alignment in partners' goals and actions (López-Navarro, Callarisa-Fiol and Moliner-Tena, 2013).

In case partners acknowledge that their resources are complementary, they are likely to assume that each of them adds substantial value to the alliance jointly as well as that their resources and competencies complement each other. Moreover, partners are likely to agree that the strategic fit among them is the best possible and, therefore, they could not have found a partner with a better strategic fit (Deitz et al, 2010), as the combination of resources among them creates a competitive advantage through synergies (Hunt, Lambe and Wittmann, 2002) and helps attain their joint objectives (Lambe, Spekman and Hunt, 2002; Hunt, Lambe and Wittmann, 2002). Moreover, given that resources are complementary, it means that they should be distinct (Hunt, Lambe and Wittmann, 2002) to create synergies between partners and provide more benefits to partners than they could have gained operating individually (Lambe, Spekman and Hunt, 2002).

After the measurement model assessment (overall model fit, construct validity and reliability) via confirmatory factor analysis and AVE, CR, DV calculation., measurement model respecifications were required. After the respecification, the measurement model has shown an adequate fit to empirical data. Factor reliability and validity have also proven to be adequate.

Fig. 6 provides a graphical representation of a SM, and matches the conceptual model. In the figure, only causal relationships between latent constructs are shown, measured variables are omitted for convenience of the reader.

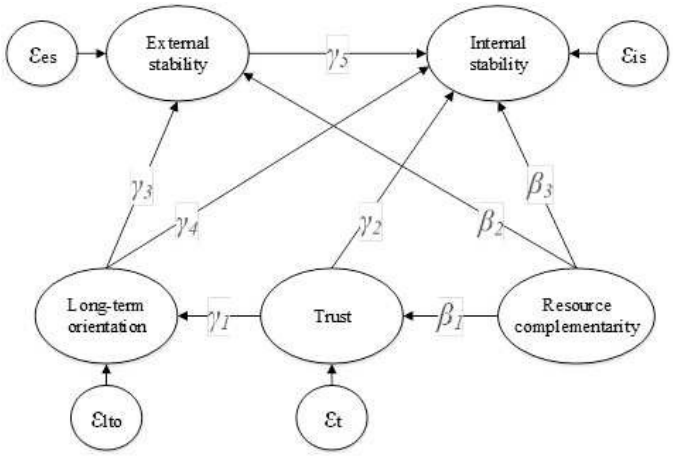

Fig. 6. Structural Model of Strategic Alliance Stability Factors

Structural model (SM) was assessed and showed adequate fit. As mentioned previously in the text, the model was split into several models. All of them proved adequate fit, see the *Table 2* below.

3.3. Strategic Alliance Stability Factors: Direct and Indirect Relationships

Modeling results show that most, but not all of the specified relationships are statistically significant. However, only 2 relationships out of 8 have demonstrated sta-

Table 2. Measurement and structural models comparison

Model Fit Indices					
	Final CFA	**SM (direct)**	**SM (ES→IS)**	**SM (ES→IS, RC→T)**	**SM (ES→IS, RC→T, T→LTO)**
χ^2	394 df = 216	420.234 (p=0.000) df = 219	415.471 (p=0.000) df=218	457.317 (p=0.000) df=219	417.108 (p = 0.000) df = 219
χ^2 normed	1.82	1.92	1.91	2.10	**1.90**
CFI	0.919	0.911	0.912	0.894	**0.912**
RMSEA	0.069 90 percent confidence interval RMSEA = (0.058; 0.079)	0.073 90 percent confidence interval RMSEA = (0.062; 0.083)	0.072 90 percent confidence interval RMSEA = (0.062; 0.083)	0.079 90 percent confidence interval RMSEA = (0.069; 0.089)	0.072 90 percent confidence interval RMSEA = (0.062; 0.083)
PNFI	N/A	0.720	0.719	0.707	**0.721**

tistical insignificance, therefore, it can be claimed that, overall, theoretical model adequately fits the data. See Table 3 for reference. All the significant effects of SAS

Table 3. Modeling results. Path coefficients and their significance

Hypothesis	**Structural relationship**	**Estimate**
H1	Long-term orientation External stability	0.433***
H2	Long-term orientation Internal stability	0.025 (ns)
H3	Trust Internal stability	0.355***
H4	Trust Long-term orientation	0.609***
H5	Resource complementarity External stability	0.056 (ns)
H6	Resource complementarity Internal stability	0.377***
H7	Resource complementarity Trust	0.450***
H8	External stability Internal stability	0.171*
ns – not significant **significantly different from zero at the 0,05 level (two-tailed)* ***significantly different from zero at the 0,01 level (two-tailed)* ****significantly different from zero at the 0,001 level (two-tailed)*		

determinants on both SAS components correspond to theoretical assumptions. SEM has shown that SAS determinants have different effects on the components of SAS. More specifically, *Trust* and *Resource complementarity* have a direct positive effect on *Internal* SAS, the effect of *Resource Complementarity* on *External stability* is indirect and minor (see Table 4), while *Long-term orientation* is the only significant and direct determinant of *External stability*.

These results partially correspond to findings revealed by previous studies. Speaking of *Trust* and *Resource complementarity* effects on *Internal stability*, results of

an empirical test go in line with findings by Deitz et al (2010) that find a direct and significant effect of *Resource complementarity* on the intent to stay within a joint venture as well as partner commitment. It has also been proven by the same authors that *Trust* is positively associated with commitment. However, authors find marginal support for the causal relationship between *Trust* and commitment. Clearly, there is a difference in stability conceptualization chosen in this paper and in the paper by Deitz et al (2010).

Contrary to the expected results predicted by theory, *Resource complementarity* did not manifest a significant effect on *External stability.* This finding might indicate that in case multiple SAS components are taken into consideration, the effect of *Resource complementarity* on *Internal stability* prevails. At the same time, regarding *External* and *Internal* stability components in separate models is not logical as it is required that both components are present for an alliance to be overall stable (Zenkevich, Koroleva and Mamedova, 2014a,b).

The effect of *Long-term orientation* has proven to be positive and significant in relation to *External stability*, which supports theoretical assumptions put forward in the respective part of the text. At the same time, the effect of *Long-term orientation* on *Internal stability* has been found insignificant in the examined model. Contrary to this result, López-Navarro, Callarisa-Fiol and Moliner-Tena (2013) find a significant and positive relationship between *Long-term orientation* and partner commitment in export joint ventures. The discrepancy in finding might result, firstly, from difference in sampling. In particular, the current study addressed all alliance types, while the abovementioned research focuses exclusively on export JVs. Secondly, the discrepancy in findings might stem from differences in conceptualization of the outcome variable. As it has been mentioned for (Deitz et al, 2010), the term "commitment" is most closely related to "motivational stability", which constitutes one part of *Internal stability.* Therefore, there is an implication for further research that *Long-term orientation* can be regarded as a factor of one of the *Internal stability* components, e.g., motivational stability. Thirdly, it can be claimed, that the effect of *Long-term orientation* on *External stability* prevails in the model, and makes the effect of *Long-term orientation* on *Internal stability* statistically insignificant. Although, as it was already mentioned, considering *External* and *Internal stability* as outcome variables in separate models does not make sense.

López-Navarro, Callarisa-Fiol and Moliner-Tena (2013) have found that *Resource complementarity* is positively and significantly associated with *Trust.* This result corresponds to the findings on the association between *Resource complementarity* and *Trust* demonstrated in the current paper (see Table 4). Moreover, Deitz et al (2010) have found that there is a partial mediation by *Trust* between *Resource complementarity* and intent to remain in an alliance. The same result has been obtained for *Trust, Resource complementarity* and *Internal stability* examined in the current paper (see Table 4). Moreover, López-Navarro, Callarisa-Fiol and Moliner-Tena, (2013) find a significant and positive relationship between *Trust* and *Long-term* orientation, which corresponds to the findings in this paper (see Table 4).

The positive and significant effect of *External stability* on *Internal stability* has been identified, as predicted by theory. This finding also corresponds to results provided in the paper by Fu, Lin and Sun (2013) who have found a positive and significant effect of the increase in economic results of alliance activities, namely,

the income increase, on SAS. However, in the current study, the effect of *External stability* on *Internal stability* is not as strong as the influence of other determinants on particular components of stability.

For research hypotheses testing summary, refer to the Table 4.

Table 4. Hypotheses test results

Hyp.	Hypothesis formulation	St.est.	Result
H1	*Long-term orientation is positively associated with external stability of a strategic alliance*	0.433***	Supported
H2	*Long-term orientation is positively associated with internal stability of a strategic alliance*	0.025 (ns)	N/A
H3	*Trust is positively associated with internal stability of a strategic alliance*	0.355***	Supported
H4	*Trust is positively associated with long-term orientation in a strategic alliance*	0.609***	Supported
H5	*Resource complementarity is positively associated with external stability of a strategic alliance*	0.056 (ns)	N/A
H6	*Resource complementarity is positively associated with internal stability of a strategic alliance*	0.377***	Supported
H7	*Resource complementarity is positively associated with partners' trust*	0.450***	Supported
H8	*External stability is positively associated with internal stability*	0.171*	Supported

ns – not significant
**significantly different from zero at the 0,05 level (two-tailed)*
***significantly different from zero at the 0,01 level (two-tailed)*
****significantly different from zero at the 0,001 level (two-tailed)*

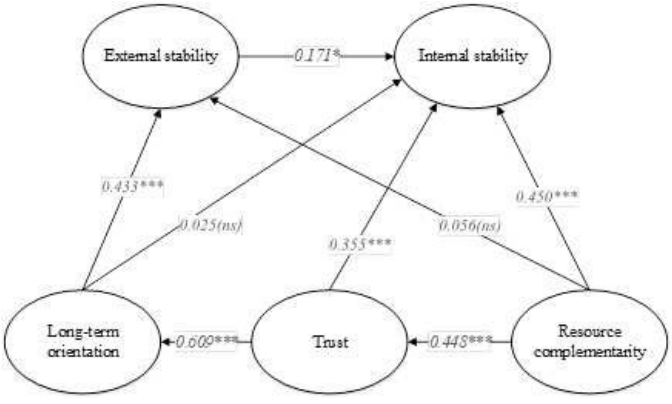

Fig. 7. SEM final results. Dependence paths

Considering the fact that direct and indirect effect of each SAS determinant can be identified, direct and indirect effect for each construct have been calculated in relation to ES and IS based on the data used for analysis. To differentiate among different effects, 4 models have been tested (each following model includes all the paths of the previous model plus one new path): SM with direct effects between SAS factors and SAS components; SM with an additional path *External stability→Internal stability*; SM with an additional path (*Resource complementarity→Trust*); SM with an additional path (*Trust→Long-term orientation*). Next, the analysis of direct and indirect effects has been made based on significant paths. See Table 4 for the reference.

By comparing direct effects in all 4 models in Table 4, it can be argued that all the path coefficients estimates remain approximately the same compared in models with different numbers of causal relationships. This implies consistency in results for all the models.

4. Implications and further research

4.1. Managerial implications

Given the fact that a more stable SA is likely to survive external turbulences and experience greater economic success, reaching its strategic goals, it is important to understand the mechanics behind SAS dynamics and use it for SAS management (Jiang, Li and Gao, 2008). Results of the empirical research described above, may be used by managers in alliances and managers in partner companies.

While SAS can be assessed using game theory approach by interpreting financial data along with inside expert estimations (Zenkevich, Koroleva and Mamedova, 2014b), SAS assessment would be incomplete without SAS management. Theoretical results provided in the paper suggest which inter-organizational factors could be altered in order to enhance external and internal stability of strategic alliances, given the importance of either component for the overall alliance stability.

Results provided in *Fig. 7*, suggest that direct determinants of internal SAS are trust and resource complementarity, considering that the latter has a greater effect on internal stability. Moreover, trust plays a mediating role in a relationship between resource complementarity and internal stability by interference. The only factor in the model affects external stability directly, which is long-term orientation. Contrary to expectations that scholars and management practitioners might have, long-term orientation of partners does not directly and significantly affect internal stability of strategic alliances as well as resource complementarity does not directly affect external strategic alliance stability. It means that in practice managers who are willing to enhance the overall stability should manage different SAS factors simultaneously in order to reach a higher stability level.

Given that long-term orientation is critically important for external stability of strategic alliances, or the raising trend of economic results, it should be considered in alliance management. Long-term orientation might occur especially important for alliances approaching their termination date as partners might not feel bonded enough anymore, and might demonstrate opportunistic tendencies, which would have a negative impact on the trend of economic results. Therefore, it is advisable for companies to choose partnerships with aligned goals and objectives that lay beyond goals and objectives of a particular strategic alliance, and might serve as an additional link between partners.

While resources are often immobile and it might not be feasible to enhance resource complementarity during the implementation stage of an alliance, it seems reasonable to enhance trust among partners and pay closer attention to relationship management. This could include building communication channels and facilitating communication overall, managing cultural distance in terms of national, professional and organizational cultures, etc. (Elmuti and Kathawala, 2001). Then, given that resource complementarity is one of the criterion for partner selection in many alliances, partners should pay close attention to resource complementarity as it does not only play role at a formation stage of an alliance, but also affects SAS on the implementation stage.

Moreover, it has been found that the effect of the trend of economic results (external stability) on internal stability is not as strong as the effect of such determinants as trust and resource complementarity. Therefore, relational factors, often disregarded in strategic alliances (Agarwal, Croson and Mahoney, 2010) should be subject to constant monitoring during the implementation phase of an alliance.

4.2. Research limitations and further research

The study is subject to some limitations that can be addressed further. The primary reason for most of limitations in this study is scarcity of data and difficulties connected with data collection. First, the research does not differentiate between different alliance types (e.g., equity, non-equity) because strategic alliances are not easily accessible for the outsider from the point of information collection, e.g., most alliances do not publish financial data and are restricted to provide sensitive information (Jiang, Li and Gao, 2008).

Second, given sample characteristics, study results can be best generalized for micro and small size European alliances, mainly in business service industry. However, some peculiarities can be found for larger alliances and alliances that operate in different fields. Therefore, results provided in the current study, should be applied in practice with a careful consideration of organizational and industrial conditions that an alliance operates with. The same issue can also be seen as a focus for further examination.

Third, given the fact that internal SAS consists of 3 components (dynamic, strategic, motivational stability; see *Fig. 1)*, an additional study on interrelationships among them and on their determinants can be considered further. Based on the mismatch between obtained results, expected findings and results provided in other empirical papers, there is a rationale to assume that, e.g., long-term orientation that did not exhibit a significant effect on internal stability overall, might have an effect on one of its components, most likely, on motivational stability. Similar conclusions can be made on the effects of resource complementarity on strategic and motivational stability, which might be different in each case.

Fourth, given current tools for SAS assessment (Zenkevich, Koroleva and Mamedova, 2014b), it is now possible to make conclusions on the presence of strategic alliance stability, however, stability level is still hardly quantifiable. Therefore, there is a vast potential for researchers to address the issue of a quantitative stability level assessment (e.g., developing stability indices).

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