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Concept of Joint Venture's Stability: Case of Renault–Nissan Alliance

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Abstract In this paper the problem of alliance in the form of joint venture stability evaluation is considered. The longevity of joint ventures existence is determined by long term motivation of alliance partners to achieve stated goals, which in turn, is determined by alliance stability. Analysis of the existing papers on alliance stability topic showed that the research is very fragmented. Most well-known papers in the area are mainly focused on the investigation of different internal and external factors that can influence joint venture stability. At the same time, no joint venture stability definition and concept has been suggested. For this reason, authors developed original approach to the definition of strategic alliance stability and its conceptualization which allows evaluation of stability, taking into account influence of both, internal and external factors.The introduced concept is implemented to the analysis of the Renault-Nissan strategic alliance.

Keywords: strategic alliance, joint venture, joint venture stability, internal stability, external stability, Renault-Nissan alliance.

1. Introduction

In recent decades, globalization of the economy has been growing rapidly, boosting rapid changes in the market structure, business competition and information environment. At the same time, consumers are becoming more aware and raise demands for quality and consumer properties of products. In such circumstances, it is extremely difficult for a manufacturing company to meet its needs for resources, technologies, skills, competencies, knowledge and information to achieve competitive advantage. Therefore, strategic alliances in general and joint ventures (JV) in particular are an effective strategic tool of competition as they allow companies to merge their resources (Shuvalova, 2008). Joint ventures enable companies to partner and to expand their geographic presence rapidly, to enter new markets, to gain access to new knowledge, information, skills, technologies and the necessary competence. Nowadays more and more manufacturing companies see a joint venture as a source of their competitive advantage in terms of globalization of markets. However, the percentage of international strategic alliances fulfilling the tasks stated prior to the relationships development remains extremely low, while failure rate grows (Zafar et al., 2014).

The term "strategic alliance" in this article refers to a long-term cooperative agreement on cooperation between partner companies in order to achieve economic benefits, while maintaining their legal and economic independence; and the term "joint venture" refers to a form of a strategic alliance incorporating raising parts of the capital of two or more partner companies forming one that may have either equal or unequal stakes in the company. To be more precise, partner companies in equity strategic alliances establish an independent company (a joint venture) by combining some of its assets to start long-term relationships and the transmission of tacit knowledge.

During the study of dynamic development of joint ventures, stability of the alliance is considered as a necessary condition to achieve the best result of the joint venture. It is clear that in order to maintain the stability of a JV the motivation to cooperate should be maintained during the whole period of its existence, even though the motivation of the partners may be affected by various internal and external factors. Therefore, the term of JV stability is referred to the success of its activities during the period of implementation under the continuous motivation of each partner company to achieve maximum results.

Analysis of existing approaches to the assessment of the stability of alliances has shown that there is currently no relevant methodology for assessing the stability which takes into account both external and internal factors (most of them suggest univariate analysis). It should be noted that a model designed to predict econometric analysis cannot offer practical recommendations for overcoming the instability of alliances (stabilization of a joint venture), and, therefore, managerial application of the results presented in research papers remains low. Thus, the problem of one unified methodology for assessing the stability of joint ventures is still unsolved.

This paper suggests a JV stability concept for assessing the JV stability based on the external stability forecasting and game-theoretic modeling of the internal stability of the alliance. It appears that this approach to define stability can become widely used for joint ventures in various sectors of the economy.

The structure of the paper is organized as follows. The first section introduces an overview of the concept of strategic alliances and joint ventures. The second section is dedicated to a concept of strategic alliances stability. In the third section the proposed concept was used on a retrospective analysis of stability of Renault and Nissan JV. The main findings are presented in conclusion.

2. Strategic Alliances and Joint Ventures

2.1. The Concept of Strategic Alliance

In order to start with the assessment of stability of joint ventures, it is essential to clarify the terms and understand what forms of cooperation fall into this category. Joint venture is defined as a special case of a strategic alliance, which is a broader class of inter-firm cooperation. Historically, the term of strategic alliance appeared in the scientific literature a little less than a hundred years ago. In the economic literature it was first introduced by Hoxie (1923) for the different types of professional associations. After 30 years Estey (1955) also used the terminology of Hoxie to study the effectiveness of trade unions activities. Therefore, the initial interpretation of the term of strategic alliance meant a union between a "dependent" organization (in need of help to achieve its goals), and economically self-sufficient firms able to provide the dependent side with the necessary assistance by their high position in the industry.

Early explorers emphasized that the strategic alliance is not necessarily formed on the basis of a formal agreement and is often informal, verbal or even secret. Despite the fact that the term of strategic alliance started to be actively used only in the 1980s, researchers and business consultants of the 1930s became interested in forms of inter-firm cooperation. For example, in the famous Gault work (Gault, 1937) the author studied the problem of cooperation of business groups in the field of marketing and gave a prediction about growth of large-scale inter-firm cooperation in the coming decades based on the analysis of benefits from the joint actions in the form of strategic alliances.

In the middle of the 20th century, another area of research was the study of inter-firm cooperation in the form of joint ventures. With the development of communication and transport, domestic markets of other countries have become more readily available for different companies. New markets in Europe and Asia were developing especially actively getting open for US companies, which introduced a new way of entering foreign markets through an establishment of a joint venture, all assets of which belonged to two or more independent companies. Therefore, almost all the works of this period are devoted to the analysis of international joint ventures established for the purpose of expansion - entering foreign markets. Until the late 1970s joint ventures were considered by economists as an additional tool for the company's expanding into new geographical markets. At the same time, strategic aspects of cooperation between companies remained outside of the analysis.

The approaches to the definition of a strategic alliance differ and there is no uniform understanding. Currently, the term of strategic alliance has a broad meaning that embraces many forms of inter-organizational cooperation. The alliance is an organizational form that includes more than just a market transaction; it is a form of contractual relations, a merger or an acquisition along with forms of inter-organizational cooperation, such as joint ventures, licensing agreements, joint projects in product development, joint purchase or production (Inkpen, 2001).

As already mentioned above, there is currently no common understanding of the term of strategic alliance and the approach to the classification of strategic alliances. Table 1 shows only some definitions of strategic alliance widely used in studies in chronological order.

Analysis of the definitions shows that researchers emphasize different peculiarities of alliances. In all cases, it is stated that an alliance is a cooperative agreement between two partner companies. This emphasizes voluntary participation in the alliance (Gulati, 1998; Das and Teng, 2000); the fact that companies receive economic benefits or the benefits of cooperation (Rangan and Yoshino, 1996; Clarke-Hill et al., 1998b; Das and Teng, 2000; Ireland et al., 2002; Todeva and Knoke, 2005); and the necessity of participation of two or more organizations (Rangan and Yoshino, 1996; Osborn et al., 1998; Dussauge et al., 2000; Pyka and Windrum, 2003; Contractor and Lorange, 2002; Ireland et al., 2002; Clarke-Hill et al., 1998a; Todeva and Knoke, 2005). The attachment of other cooperative forms created outside of the alliance to the new alliances remains arguable.

The diversity of views on the strategic alliance in the scientific literature correlates with goals of a particular research. Summing up views on the concept of a strategic alliance of different researchers, it is possible to identify the characteristic properties to be satisfied by the term of strategic alliance; e.g. strategic alliance is a form of implementing the cooperative strategy of partner companies, which have common goals and can also have their own private purposes; it requires the participation of at least two partner companies; partner companies remain legally independent; partner companies are jointly implementing management control and distribute the benefits of cooperation.

One important characteristics of an alliance is a formal independence of partner companies (Inkpen, 2001), whereas cooperation makes partners interdependent within the alliance (Inkpen, 2001; Ireland et al., 2002). This fact indicates the difference between the alliance and mergers or acquisitions. The interdependence of partner companies gets complicated by uncertainty about the behavior of partners (Inkpen, 2001).

Table 1: Different interpretations of the term of strategic alliance.

Authors	Interpretation
Hill, Hwang, Kim, 1990, p. 218	Strategic alliances can be placed on a continuum where contractual agreements lie on one end of the continuum, representing low control and low resource commitment, whereas joint ventures lie on the other end of the continuum, representing high control and high resource commitment
Varadarajan, Cunningham, 1995, p. 282	Strategic alliances, a manifestation of inter-organizational cooperative strategies, entails the pooling of specific resources and skills by the cooperating organizations in order to achieve common goals, as well as goals specific to the individual partners
Rangan, Yoshino, 1996, p. 7	A strategic alliance is an arrangement that links specific facets of the business of two or more firms. The basis of the link is a trading partnership that enhances the effectiveness of the participating firms' competitive strategies by providing for the mutually beneficial exchange of technologies, products, skills or other types of resources
Clarke-Hill, Robinson, Bailey, 1998, p. 300	Strategic alliance is a coalition of two or more organizations to achieve strategically significant goals and objectives that are mutually beneficial
Gulati, 1998, p. 293	Define strategic alliances as voluntary arrangements between firms involving exchange, sharing, or co-development of products, technologies, or services
Das, Teng, 2000, p. 33	Strategic alliances are voluntary cooperative inter-firm agreements aimed at achieving competitive advantage for the partners
Dussauge, Garrette, Mitchell, 2000, p. 99	Strategic alliance is an arrangement between two or more independent companies that choose to carry out a project or operate in a specific business area by coordinating the necessary skills and resources jointly rather that either operating on their own or merging their operations
Elmuti, Kathawala, 2001, p. 205	A strategic alliance is an agreement between firms to do business together in ways that go beyond normal company dealings, but fall short of a merger or a full partnership
Contractor, Lorange, 2002, p. 486	An alliance is any inter-firm cooperation that falls between the extremes of discrete, short-term contracts and the complete merger of two or more organizations

Ireland, Hitt, Vaidyanath, 2002, p. 413	Strategic alliances are cooperative arrangements between two or more firms to improve their position and performance by sharing resources
Pyka, Windrum, 2003, p. 245	Cooperative agreement between two or more autonomous firms pursuing common objectives or working towards solving common problems through a period of sustained interaction
Todeva, Knoke, 2005, p. 125	A strategic alliance involves at least two partner firms that remain legally independent after the alliance is formed, share benefits and managerial control over the performance of assigned tasks and make continuing contributions in one or more strategic areas, such as technology or products
Hitt, Ireland, Hoskisson, 2007, p. 269	Strategic alliances are partnerships between firms whereby their resources, capabilities, and core competencies are combined to pursue mutual interests in designing, manufacturing, or distributing goods or services

For the purpose of further analysis of the strategic alliances stability, the paper is focused more on long-term agreements, long-term cooperation with partner companies (for at least 5 years) opposed to co-market transactions or short-term agreements. It should be noted that very often in the literature, the term of strategic alliance is used to refer to long-term cooperation, yet, in fact, it is a temporary form of organization (Das, 2006).

In this paper, the strategic alliance is understood as *a long-term cooperative agreement between the partner companies that are legally independent after the formation of the alliance, share the benefits of their co-operation and management control to implement the tasks and activities carried out continuously in one or more strategically important areas such as technologies or products.*

2.2. The Concept of Joint Ventures

Moving to the concept of a joint venture, it is essential to return to what was stated earlier. A JV in this paper is considered as a special case of a strategic alliance in the framework of their classification to attract capital of partner companies within the alliance. One should distinguish between alliances involving capital and without it.

The strategic alliances with capital raising (equity strategic alliance) partner companies create a legally independent company (JV) by combining some of their assets. Joint ventures are typically created to establish long-term relationships between partners as well as to transfer their tacit knowledge. They can have both equal and different stakes in the company.

Strategic alliances without raising capital (non-equity strategic alliances) include agreements for the supply, production or distribution of products and services without the formation of a joint venture and cooperative agreements in the fields of marketing activities or knowledge sharing.

Alliances of this type are less formal and carry fewer risks. However, such alliances are not always suitable for complex joint projects requiring effective ways of long-term use of shared resources and the exchange of competencies between the partners.

Because of the special historical role of the JV development in Russian economy, authors observed confusing of strategic alliances and joint ventures notions in a number of domestic research papers, which complicated the reader's understanding of differences in terminology. For example, Strovsky (1999) confused the definitions of the joint venture in the wide and narrow sense in his work, essentially repeating the definition of strategic alliances and joint ventures.

In this paper, the joint venture is understood *as a form of equity strategic alliance of two or more partner companies, which may have equal or different shares of participation in the venture*. In equity strategic alliances partner companies create an independent company, combining some of their assets for establishing long-term relations between partners and transferring tacit knowledge (Zenkevich et al., 2014, p. 34-35).

What is more, only strategic alliances with capital raising (JV) are considered in this paper, so the terms "strategic alliance" and "joint venture" can be seen as synonyms, unless otherwise stated.

A classification of joint ventures is also introduced there. The first category can be distinguished by the number of partner companies within a joint venture: there could be two (bilateral) and numerous partners (multilateral). The first type of a joint venture is the simplest and more common in business practice (Das and Teng, 2002). Multilateral alliances are less studied, because they are more complex in terms of management. Recently, in addition to the literature of multilateral alliances the term of strategic network can be found, referring to the organizational forms of multilateral organizations having entered into several cooperative agreements (Hitt et al., 2007). Joint ventures can be created by companies operating in the same industry (intra-alliance) and in different sectors (intersectional alliance).

During the analysis of the terms of strategic alliance and joint venture there is an opportunity to track certain evolution of the concept of strategic alliances and joint ventures. The first attempts to analyze the strategic aspects of cooperation of companies were made in the late 1970s. In 1976, Pfeffer published an article that explains the creation of joint ventures by the theory of resource dependence (Pfeffer and Nowak, 1976; Pfeffer and Salancik, 1978), exploring the relationships of resource and power companies that had access to the resources themselves or from other companies. According to the theory of resource dependence, the company has two reasons for establishing a joint venture (Das and Teng, 2000; Grant and Baden-Fuller, 2004):

1) to have an access to important resources of a partner;

2) to increase the control over partner-companies.

The next decade could be characterized by the prosperity of joint ventures in business practice in variety of forms and objectives of cooperation. Therefore, in the late 1980s - early 1990s the phenomenon of strategic alliances formation (joint ventures in particular) was explained in terms of several theories of resource concepts, theories of dynamic capabilities, the concept of market power and the theory of transaction costs.

According to the concept of resources, the main reason for the formation of a joint venture is the desire to maintain or achieve the desired possession of resources. In other words, companies have access to their partners' resources that allows them to purchase a set of resources within the joint venture that will have the greatest value for the alliance (Eisenhardt and Schoonhoven, 1996; Das and Teng, 2000; Harrison et al., 2001).

The distinction between the concept of resource and resource dependence theory is that the first one studies the internal resources, as companies need a set of rare and valuable resources for their competitiveness. Joint ventures can be used to accomplish this task. At the same time, the theory of the resource dependence focuses solely on the resources that can be obtained from the environment (Barringer and Harrison, 2000). This, in its turn, leads to the creation of mechanisms depending on the resources and power management.

Other researchers used the theory of market power to explain the reasons for the JV formation (Kogut, 1988; Hagedoorn, 1993; Barringer and Harrison, 2000). According to the theory of market forces, the company creates a joint venture in order to improve its competitive position in relation to its competitors (Kogut, 1988). This includes not only the improvement of the competitive position of the company, but also contributes to preventing attempts of competitors to improve their position. In addition, joint ventures are used by companies as means for increasing market power. Empirical studies have shown (Hagedoorn, 1993) that the companies use alliances to enter the market and as an instrument of influence in the market structure.

According to the theory of transaction costs, joint ventures and alliances are one of the ways to avoid inefficient transaction costs. The transaction may not be effective for two reasons: first, the market transaction makes the company dependent on other companies (Kogut, 1988); secondly, markets themselves may be ineffective, resulting in high transaction costs. Manufacturing companies also may not be effective, for example, due to lack of knowledge, competencies, technology and human resources. Therefore, in case production costs are high and markets are inefficient, mergers and acquisitions entail additional costs, such organizational forms as a joint venture may be the most promising strategic alternative.

The end of the last decade of the 20th century was characterized by the new direction of the development of the resource concept - the concept of dynamic capabilities (Teece et al., 1997; Sanchez, 2001). Within this concept, joint ventures are created with the purpose of gaining access to rare poorly reproducible resources and intangible assets of its partners (including knowledge). Being a part of a joint venture companies have access to the intangible assets of their alliance partners, and they are able to internalize (Dussauge et al., 2000). Some interesting research focuses on aspects of learning within the alliance. (See, e.g.: Hamel, 1991; Inkpen and Beamish, 1997; Dussauge et al., 2000).

At the turn of the 21st century, when the creation of strategic alliances has become an integral part of the company's strategy and the number and complexity of the alliances was constantly increasing (some companies have about a thousand current strategic partnerships with different companies), new social approach to the study was developed in two research areas: relational approach and the approach of network structures.

Relational approach is considering a joint venture in terms of the interaction of social systems, as in the real world a joint venture is established not only for economic, but also attitudinal characteristics, such as trust, reputation and communication. According to this approach (Seabright et al., 1992), the relationship between the partners is forming, evolving, deteriorating and eventually terminating as a result of repetitive attitudinal interactions that affect the success or failure of the alliance as a whole.

One of the most important attitudinal factors is the trust (Arino and de la Torre, 1998; Inkpen and Currall, 2004). Trust defines the company's expectations with regard to the behavior of their partners. In particular, the relationship between the partners can be honest and not be opportunistic (Gulati, 1995). The article (Koza and Lewin, 1998) based on the study shows that in successful joint ventures partners trust each other, while in unsuccessful ventures trust was lost or missing.

The network approach studies the interaction of the market elements, where a lot of companies (components), interact with each other one way or another (Gulati, 1998; Wilkinson and Young, 2002). These elements and their relationships form a social network, covering the investigated company and its alliances (including joint ventures) in which it is present (Gulati, 1998). The social network of the company, in which it is present, affects its behavior and activities. Gulati gives some examples of the impact of social networking on companies. Thus, social network allows an observer to see new possibilities for creating a joint venture for the company and determines how often and with whom the company forms joint ventures. In addition, if the two companies form an alliance, their position in the network is changed, and it determines new proximity of alliance management. Unlike previously described approaches, the networking approach is primarily a mechanism to identify links and relations of the company.

In the new millennium, the prevailing approaches to the analysis of strategic alliances and joint ventures were the concept of dynamic capabilities, network and relational approaches. The main focus in all the above mentioned theories was placed on identifying reasons of firms to establish joint ventures, as well as factors affecting the results of joint venture. Questions of prosperity of a joint venture in terms of a long temporal gap, the causes of success and failure, termination of the JV existence are still poorly understood. Currently, in the scientific literature there is no suitable theory that could predict the future development of alliances and joint ventures in dynamic.

One reason for the existing situation is that existing approaches use static cases, therefore, it is not always possible to explain the reality and effectiveness of the operation of alliances in the long run. What is more, this is also the reason why explanations of partner companies behavior in joint venture on the basis of these approaches is not convincing; joint ventures had to be analyzed over time, as each stage takes its substantial period of time, formation of a joint venture takes from few months to several years, it operates for years or even decades before ceases to exist. The life cycle of a joint venture includes three stages: the formation of the alliance, the implementation phase and the completion stage.

The first phase includes intra preparation, choice of a partner and negotiations on the composition of a joint venture and cooperative agreements within its framework. In the second phase (implementation) the joint venture starts to operate, and its management should be able to sustain and contain the pressure of adverse internal and external factors which can have impact both on the current results and prospects of the continuation of the joint venture activity. Finally, in the third phase (completion) the joint venture ends its existence that does not necessarily mean its inconsistency.

The dynamic perspective of the alliance is related directly to the interaction of the alliance partners over the lifetime of the alliance. The determining factors of the relationship between the partners in the joint venture are: trust, involvement, balance and coordination between partners. Although these factors are often the subject of research (Doz, 1996; Arino and de la Torre, 1998; Koza and Lewin, 1998; Das and Teng, 2002), the development of partners' relations in the long term still has not been paid enough attention to (Inkpen, 2001).

Determining the extent of the JV success, the researchers focus specifically on its results. However, this area of research is problematic, because so far there is no consensus about which set of factors determines the activity of the joint venture, nor an agreement on how to assess its results.

There are several ways to determine the activity of a joint venture in terms of success or failure. Indicators of the success of a joint venture may be indicators of its survival and duration of existence (Pangarkar, 2003). On the one hand, the long period of the joint venture existence may be indicative of its success and satisfaction of its partnership companies. Long period of existence enables partners to share knowledge and achieve good results within the alliance. On the other hand, the premature termination of the alliance does not mean its failure as well as the prolonged existence of a joint venture does not always imply its success. Therefore, the duration of the alliance can be an indicator of the success of the joint venture, but not of a particular one. The results of the joint venture can also be determined by the following approaches:

- Achievement of strategic goals (Parkhe, 1993). The results of a joint venture are considered in terms of achieving the objective pursued by the company during the formation of the alliance.
- Financial indicators of the results of a joint venture (Combs and Ketchen, 1999). Thus, the costs, sales growth, profits are often considered as financial indicators for assessing the performance of the joint venture.
- Knowledge sharing among the partners of the alliance (Kale et al., 2002). Quite often the company decides to create a joint venture in pursuit of subjective non-financial goals, such as getting a new technology or knowledge of a new market. Should one, several or all of the partners have not reached the goal, such an alliance can be considered unsuccessful for partners, despite the fact that they can be satisfied with the financial results of the joint venture. However, subjective measures to assess the performance of the joint venture have been criticized for being biased in the definition and evaluation due to their inaccuracy.

It should be noted that usage of these approaches can have positive results for the joint venture, but it still does not guarantee that the partnership will be successful in cooperation and constructive relations, and vice versa. These considerations lead to the need for the formulation of a different approach evaluating the success of the joint venture, including its analysis from the standpoint of a dynamic perspective.

3. Alliance Stability

3.1. The Concept of Stability of Alliances

As alternative indicators of the results of a joint venture indicators of stability of the alliance can be considered (Mohr, 2006). Stable joint ventures may serve longer than unstable ones, while within the first companies the likelihood of achieving desired goals and strong financial performance being members of the alliance increases. However, despite the increasing number of papers analyzing performance of different forms of alliances, joint ventures turn to be fails more often than activities of independent firms, established branches and subsidiaries, as well as the mergers and acquisitions (Alexandrovsky and Fomenkov, 2011). In this regard, there is a need for a more detailed study of the concept of stability of a joint venture.

Many researchers regard an assessment of the alliance's performance an indicator of the stability of the joint venture (Geringer and Hebert, 1991). However, according to the authors, it is more correct to consider the stability of a joint venture not as a way to assess its performance, but as a way to determine the achievement of the desired results. Stability is vital for development, evolution and survival of a joint venture, as it is both a prerequisite and a good estimate for the benefits of the JV success (Beamish and Inkpen, 1995; Dussauge and Garrette, 1995). Once the joint venture is created, its resistance becomes a "prerequisite for extracting competitive benefits of participation in strategic alliances" (Bidault and Salgado, 2001, p. 619).

Currently, in literature there is no single point of view on the concept of stability of a strategic alliance as a whole and joint ventures in particular. This largely explains the fact that the stability of alliances is one of the least studied aspects in modern business literature.

The term "stability of a joint venture" was first introduced in 1971 in the work by Franko (1971). Basing on the empirical study of 170 joint ventures operating in the United States, L. Franko analyzed the cases in which, in his opinion, there was no resistance. The main conclusion of the work is very obvious and has no practical implementation, it lies in the fact that the alliance is unstable when partner changes or sells its stake in the alliance or alliance is liquidated.

Existing approaches to assessing the stability of joint ventures are listed in Table 2. The conventional time division into two periods of work due to the fact that earlier studies rely primarily on the degree of the foreign partner business peculiarities in the home country of the alliance (Kogut, 1989; Beamish and Inkpen, 1995). Research projects related to the later period consider market power of each of the partners as a key factor in the stability of the joint venture (Inkpen and Beamish, 1997; Sim and Ali, 2000; Gill and Butler, 2003).

Cross-cultural differences between the two companies are an integral part of intercultural alliances, defined as partnerships between companies from different countries to meet mutual interests and sharing of resources and capabilities (Doz and Hamel, 1998; Yan and Luo, 2001).

The following example can be given: in autumn of 1991 the company Vitro, SA, a Mexican glass manufacturer, signed an agreement establishing a joint venture with the American company Corning Inc. Over the next few years the company existed in a conflict of interests. First of all, there were problems associated with the JV management- in Mexico top management made all the decisions, that slowed the pace of work significantly for those accustomed to the American style of doing business. Vitro's marketing strategy has been less aggressive than the one of the company Corning Inc. This was due to the fact that Mexican company has been conducting its activities in a closed economy for a long time. Although the choice of partners was strategically right (Corning Inc. specialized in melting glass and cookware and Vitro - in the manufacture of glassware) and the alliance was economically attractive for both sides, in 1994 partners decided to return money which was invested in the joint venture and joint activities were terminated due to irreconcilable contradictions (Doh, 2003).

Table 2: Overview of research on joint venture's stability.

Authors	Approach	Stability factors and hypothesis
Inkpen, Beamish, 1997	Conceptual model	Bargaining power of each of the partners is a key factor in the stability of the alliance
Yan, 1998	Conceptual model	Factors of instability: the unexpected circumstances, lack of economic benefits, low market power of one of the alliance partners, lack of training opportunities within the alliance
Yang, Zeng, 1999	Conceptual model	In order to understand the stability of the strategic alliance it is necessary to compare the results with results that could be achieved in the absence of co-operation
Das, Teng, 2000	Conceptual model	Cooperation/competition, rigid structure/flexibility, focus on short-term/long-term results as the main factors of stability
Sim, Ali, 2000	Empirical study	The psychological distance between the partners and their willingness to cooperate are the main factors of stability of the joint venture
Bidault, Salgado, 2001	Case method	The organizational complexity of the joint venture leads to a deviation from the basic goal of its creation and, consequently, to its instability
Gill, Butler, 2003	Case method	Key factors: the confidence of partners, conflicts and power of their dependence on each other
Ernst, Bamford, 2005	Practical study	Constant restructuring and revision of the organizational structure of the joint venture guarantees stability
Nakamura, 2005	Empirical study	Transfer of experience inside of a joint venture may eventually change the market force of partners, leading to restructuring and, therefore, to its instability

The market power of the partners in the alliance largely determines the stability of the joint cooperation. This approach was first introduced in 1997 by Inkpen and Beamish (1997) in their scientific paper, in which, basing on the analysis of various joint ventures, they have come to the conclusion that the fundamental element of stability is the bargaining power of each of the partners. In the article by Nakamura (2005) 231 companies in a strategic alliance since the end of World War II and until 1971 were also studied; M. Nakamura discovered that changes in the market power of partners can lead to instability of a strategic alliance.

To be more precise, there is a possibility to consider an example of a strategic alliance between the Norwegian company Statoil and British BP - one of the leading representatives of the oil and gas industry in the world. In 1991 companies merged to create a joint venture aimed at achieving long-term strategic goals for both partners. The BP, despite many years of international experience, was in a difficult financial situation which did not allow to continue a natural development. In its turn, Statoil had considerable material resources in absence of conducted international activities, which also gave it the opportunity to continue its development. The share of the company's participation in the joint venture was as follows: BP possessed 66.65%, and the Statoil held the remaining 33.35%. By the time Statoil has made significant progress in the international market by developing its own fields, it has increased its market power; the alliance has ceased operations in the distribution of activities they mentioned in the agreement. Changing forces of partners in this case had a significant impact on the stability of the joint venture.

Another direction of research of stability of joint ventures is associated with the study of external factors, such as changes in the external environment, unforeseen events, unfavorable economic situation, leading to deterioration in the financial results of the alliance (Yan, 1998). There was no comprehensive study of internal and external factors, despite the fact that in a situation of real business they must be taken into account.

In order to investigate the stability of existing joint ventures, static methods are used most commonly. The main approach is aimed at studying the results of the joint venture in its final stages. In the course of such a research factors that influenced the decision on cooperation of firms are analyzed. Special attention is given to the analysis of the literature on cases of JV instability and the factors affecting it. In this paper, the problem of the successful development of the joint venture is analyzed mainly in the long term starting with its implementation, which requires the study of the contractual relationship between companies (Jiang et al., 2008). Analysis of stability in the long term lets provide and reduce losses of each of the partner companies at the stage of the alliance formation.

Another obstacle in the field of stability in the JV research projects is the current lack of its rigorous conceptualization. For this reason, several problems arise:

- The stability of the joint ventures is understood differently in different works and may vary depending on the purpose of the research and the theoretical position of the scientist. This, in its turn, leads to contradictory assumptions, a wide variety of concepts, unconvincing arguments (De Rond and Bouchikhi, 2004);
- Scientists often do not distinguish between the concepts of stability and instability of a joint venture. For example, in the works devoted to the stability of the alliance scientists often go on to analyze the reverse phenomenon - the instability of the alliance - or a mix of these concepts;
- In many studies, stability of an alliance is regarded in its relation to a particular type of a joint venture, for example, international joint venture, which prevents generalization of the results to other forms of strategic alliances;
- Studying the stability (instability) is often not held by its evaluation, but only through the identification of significant factors of influence.

After the analysis of studies on the stability of joint ventures, it was possible to determine only one definition of stability and two definitions of the instability of the alliance (Table. 3).

As seen from the definitions above, all of them are quite abstract and difficult to operationalize in practice. Thus, in the definition of stability, proposed by Jiang, Li and Gao (2008) it is not clear what degree of effective relationships between partners this is and how it can be measured. According to Inkpen, Beamish (1997) and work by Das and Teng (2000) all joint ventures that do not meet the definitions of instability are stable. However, this argument is contentious.

In this paper the study of the dynamic stability of joint ventures of the alliance is seen as a prerequisite for achieving the best possible result of the joint venture. It seems that for the stability of a joint venture companies' motivation to cooperate during the whole period of existence must be maintained, while it should be noted

Table 3: Different interpretations of the term of strategic alliance.

Authors	Definition
Inkpen, Beamish, 1997, p. 182	Instability is defined as a major change in partner relationship status that is unplanned and premature from one or both partners' perspective
Das, Teng, 2000, p. 77	Alliance instabilities refer to major changes or dissolutions of alliances that are unplanned from the perspective of one or more partners
Jiang, Li, Gao, 2008, p. 178	Alliance stability is the degree to which an alliance can run and develop successfully based on an effective collaborative relationship shared by all partners

that motivation of the partners may be affected by various internal and external factors.

There are no specific differences in the phenomenon of stability of a joint venture and strategic alliance. In the view which was formed after the analysis, a stable strategic alliance is understood as the success of joint venture's activities during the implementation in a situation of continuous motivation of every partner company to achieve maximum results.

One of the fundamental theoretical approaches to the study of joint ventures is a resource concept (Oliver, 1990; Barringer and Harrison, 2000), aimed at assessing how the resources obtained during the signing of an agreement between the two companies help to reduce uncertainty and interdependence (Pfeffer and Salancik, 1978; Harrigan and Newman, 1990).

Methods of assessing the stability of joint ventures based on the concept of resource are widely represented in the scientific literature. The paper of 1980 by Provan, Beyer and Kruytbosch (1980) bears the idea that by forming a joint venture a company is increasing its market power, thereby reducing dependence on suppliers of resources through joint ventures. Later the correlation between the size of the company and gain from cooperation was proven – major partners get less from cooperative agreements, thus, the joint venture of the largest companies are less stable (Das et al., 1998).

At the beginning of the 21st century special attention was paid to international joint ventures in connection with the integration of resources in the world economy. International joint ventures were claimed to be stable when both partners were dependent on each other, but remained in strategic control of the company that has the greatest resources (Yan and Gray, 2001). The possibility of misappropriation of resources through the creation of inter-institutional relations and the formation of different security policies for small companies was analyzed in more recent studies (Katila et al., 2008).

The resource concept is often used in conjunction with the theory of networks (Gulati, 1995), as it applies the same approach to the assessment of partners' dependence, but pays more attention to the social context of relationships. In addition, it is used in conjunction with game theory and theories of organizational behavior to assess the strength of a partner (Saxton, 1997), with the theory of agency agreements to build the model of separation of control in the alliance (Kumar and Seth, 1998); theory of transaction to predict future action of each of the partners (Elg, 2000; Steensma et al., 2000). However, despite the wide applicability of the concept of a resource, there is a need for a more practical approach to evaluating the stability of joint ventures, which would allow a more accurate assessment, which could thereby adjust the strategic management of the company and reduce costs.

Other methods that are more theoretical in nature are based on an evaluation of external factors affecting the stability of joint ventures. Such factors include, for example, the structure of the alliance management, namely the division of administrative power (Dhanaraj and Beamish, 2004), and the credibility of each partner (Fryxell et al., 2002). Later works expand range of external factors affecting the stability by adding a degree of difficulty to achieve the objectives of the joint venture, the national peculiarities of partners, the experience of participation in the partner alliances, as well as a mismatch of expectations of partners (see, e.g., McCutchen et al., 2008). To test the hypothesis, an electronic survey of 490 employees of biopharmaceutical companies was conducted in 1998. The authors used two models of a binary logistic regression and polynomial regression; alliances were divided into two groups: those that have ceased to exist, and those that were underway or were completed successfully (the respondent had to estimate the values of the first three variables – 1 or 0, and the second set of variables – from 1 to 8). Due to the external factors mentioned, it is difficult to assess the perception of different employees because it differs for many reasons, often it is not related to the relationship between the two companies, therefore the results which are given by empirical study had no practical use and did not propose universal estimation procedure of stability of joint ventures.

Numerous studies show the influence of various internal or external factors on the stability of a joint venture, however, they do not offer a practical solution to overcome the instability. Among these factors there is the degree of information exchange between the partners (Stuart, 2000), trust of partners to each other (Deitz et al., 2010), the degree of involvement of partners in the activities of the joint venture (Meschi and Wassmer, 2013).

In the present paper while investigating dynamic development of joint ventures, stability of a JV alliance is regarded as a requirement for maximization of JV performance. It appears that in order to maintain stability of a JV, motivation to cooperate within the whole period of its existence should be preserved, while the motivation is affected by various internal and external factors.

3.2. External and Internal Stability of Joint Ventures

Analysis of existing approaches shows that in conditions of globalization and integration of resources there is an urgent requirement for creating methods to detect weaknesses of joint ventures and ways to address the evolving problems. In the long run, this allows companies to follow the revised strategic development plan and reduce operational costs. The model developed and introduced in the present paper includes assessment of external and internal stability of the JV, embracing analysis of all factors affecting it. Most significantly, the model is widely applicable and can be used in the evaluation of joint ventures from all industries. In our opinion, it is advisable not only to examine potential impact of specific factors on motivation of JV partners and, thereby, its stability, but also to introduce a comprehensive concept of stability which would let us take into consideration all basic factors that can affect the stability of the strategic cooperation between companies. Thus, stability is understood *as the success of the JV during its implementation period in terms of motivation of all partners to achieve the maximum results of the alliance activity.*

From the definition it follows that stability is a multiconceptional notion due to the fact that the nature of motivation of participants in various joint ventures is diverse and multicomponent. Therefore, the stability-related factors may have different character. The figure shows the structural configuration of the JV stability concept.

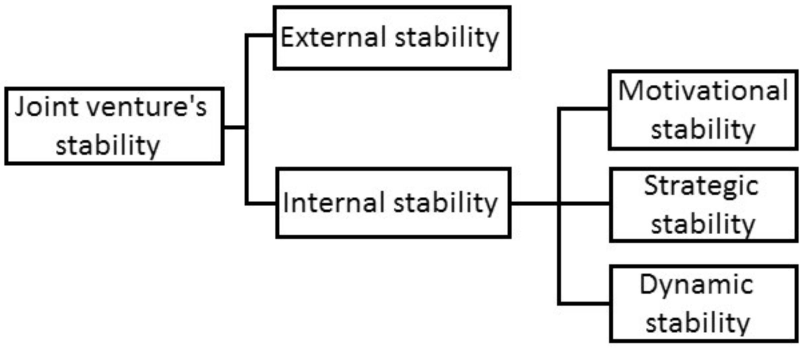

Fig. 1: Joint venture's stability concept

It should be noted that in the strategic management literature there is a variety of approaches to determining the success of alliances in general and joint ventures in particular. Some approaches allow for a qualitative assessment, others for a quantitative, based on economic performances of the JV.

Due to the fact that it is customary for companies to evaluate the achievements by means of economic indicators, let us compare the notion of the success of the joint venture and the concept of *external stability* of the joint venture thus wise: a joint venture has the external stability property, if its economic performances show an upward economic trend in the long term. Given a long term upward trend of a JV, the partners assume that their cooperation is successful and the alliance brings economic benefits. Thus, the partners keep their long-term motivation for cooperation being a tool for achieving the benefits. To illustrate the importance of the long-term economic trend influence let us provide a theoretical example. Supposing that some joint venture started operating in 2004, when its long-term trend of economic results was rising, however, along with the global financial crisis in 2008, the JV obtained negative economic outcomes that resulted in a short-term descending trend. Nonetheless, if all partners appraised the loss as temporary and in the long term saw an upward trend of economic benefits, they have then no motive to doubt rationality of their strategic partnership. If the situation caused by the crisis, did not allow to define the trend in economic outcomes as long-term positive, the advisability of cooperation may be questioned by the partners, leading to external instability of this joint venture. The concept of external stability provides an opportunity to assess stability of a JV as a separate economic entity. It helps to remember that the alliance was formed by the partners each being an economic entity and having its own economic interests.

Accordingly, the next step of assessing the stability of the JV should be consideration of the internal, or cooperative, stability. (Zenkevich et al., 2009b). It seems clear that internal stability is determined by numerous factors such as partner satisfaction, confidence in the choice of a partner, content with the distribution of benefits from the joint venture between the partners, etc. In the strategic management literature there is a number of studies (both theoretical and empirical) on the internal stability of a JV (e.g.: Dyer et al., 2008; Gill and Butler, 2003; Wong et al., 2005; Kumar, 2011). At the same time, in cooperative game theory strict definitions of the various types of internal stability are introduced; and the theoretical basis for their evaluation is developed in (Zenkevich et al., 2009b). Therefore it seems useful to combine the approaches of strategic management and the approach of game theory to the assessment of internal stability as an alternative path to the already existing directions in the theory of strategic management.

First, the stability of the motivation of participants to cooperate needs to be considered. So, one component of the internal stability of the joint venture will be its *motivational stability.* The success of cooperation between two or more institutions is influenced not only by internal and external economic and other factors, but also by interpersonal relationships of the alliance partners (Deitz et al., 2010). The motivation for the continuation of the joint activity is supported by corporate objectives as well as extent of partners' involvement in permanent cooperation. It was noted earlier that a number of factors, such as trust to each other and attention to intercultural differences between the partners, has an impact on the financial performance of the joint venture, namely its stability. In order to assess the internals stability of the JV, we must admit an assumption that the companies within the joint venture are rational: each of them tries to maximize its benefits. According to the definitions of a joint venture and a strategic alliance, JV is created in conditions where the results achieved by the partners are better than if they worked separately owing to the synergistic effect. Therefore, both partners should make each of the participants in the JV try to increase the total income of the cooperation by working in conditions of mutual understanding and trust. This approach is required to anticipate possible actions of partners, to maximize benefits from cooperation. However, it should be noted that there are not only positive benefits from collaboration, but also potential threats, such as loss of management control, control over technology and know-how. Consequently, the analysis of motivational stability is carried out to determine the motivation of participants of a joint venture to cooperate with regard to all possible circumstances. The authors also offer to consider other types of internal stability – strategic and dynamic, which are well conceptualized and examined in cooperative game theory (Zenkevich et al., 2009a). They allow considering important aspects of strategic cooperation within the alliance that affect its stability.

The importance of strategic stability can be illustrated by the following example. Given that several companies have created a joint venture, however, during the implementation phase one of the JV partners felt that the relationship with the selected partners does not bring the desired results, and that he could possibly achieve better results within a joint venture with other partners or as part of another type of interaction with companies. Nevertheless, the early exit from the joint venture inflicts a lot of costs. Even if one partner finds a better alternative to participation in this JV, they cannot always leave the alliance and realize it due to the fact that the benefits of other alternatives (taking into account the costs of early exit from the joint venture) may be less than the benefits that the partner derives from the cooperative agreement. *Strategic stability* suggests that none of the alliance partners finds it profitable to deviate from their cooperative agreement under conditions when all the partners stick to it. Starting the joint venture; each of the partners makes a strategic choice in favor of an alliance. During the implementation period of the JV partners may doubt the choice and, consequently, begin to consider the decision to withdraw from the JV.

To assess the stability associated with the distribution of gains from cooperation within a joint venture, it is necessary to consider the concept of dynamic stability, introduced in game theory. The term dynamic stability was first introduced in the academic literature by Leon Petrosjan (1977). According to this concept, when creating the JV partners imagine types and quantity of benefits they will receive at the time of concluding the cooperation agreement of sharing the benefits of the JV. *Dynamic stability* implies that when considering one partner in a moment of realization of a joint venture, the benefits he has already received in the framework of cooperation in conjunction with the benefits he still expects to receive prior to the expiration of the agreement shall not be less than the benefits he expected to obtain at the stage of signing the cooperation agreement. Thus, dynamic stability implies that the above-mentioned character of benefits will be fair for each of the partners in any review period of the JV implementation. This conceptualization of dynamic stability seems logical. Because if the partner finds that the benefits he will receive by the end of the existence of the joint venture will be less than expected, his motivation to participate in the JV may be severely reduced or even disappear. Conversely, if at any moment of the implementation of the JV a participant understands that they will reach the benefits initially planned by the end of the alliance existence, they will not have desire to withdraw from the agreement.

The proposed concept of stability of a strategic alliance enables assessment of cooperative agreements concerning presence of each component of the stability.

In the next chapter the stability of Renault–Nissan strategic alliance will be analyzed according to the introduced concept of stability.

4. Stability Analysis of the Renault–Nissan Joint Venture

We illustrate the above-described concept of the stability by an example of Renault and Nissan strategic alliance in a joint venture form.

4.1. Renault–Nissan Strategic Alliance

Strategic French–Japanese partnership in the field of motor industry between the French Renault and the Japanese Nissan came into force on the 27th of March, 1999. Implementation phase of the alliance began in 2003, when the partners moved on to joint activities and a JV was created. Thus, data between 2003 and 2012 is analyzed in the case; that allows us to assess the stability of this strategic alliance.

The beginning of the XXI century is characterized by fast pace of the motor industry development, which led to numerous agreements, amalgamations and takeovers. Thus, in 1999 Renault acquired a 36.8% stake in Nissan, and two years later increased the stake up to 44.4%. In its turn, the Japanese company bought a 15% stake in Renault in 2001. The established ownership structure was stable and survived to the present day. Renault–Nissan BV (RNBV) alliance located its head office in Amsterdam (the Netherlands), was established on a parity basis for the exchange of ideas and technologies, as well as for synergy effects maximization.

The alliance structure is presented in Figure 2.

Considering that there was an exchange of shares, it is clear that both companies are interested not only in the success of the jointly created enterprise, but also in the further development of a partner company.

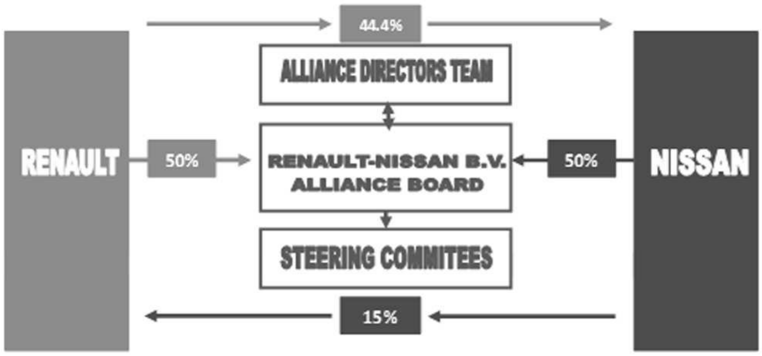

Fig. 2: The Renault–Nissan alliance structure

The aim of the alliance is to achieve a scale effect without sacrificing the uniqueness of each partner that is ensured by joint development of engines, batteries and other components. For example, the increase of Nissan market share in commercial vehicles segment resulted from adoption of elements of Renault vans such as Renault Kangoo/Nissan Kubistar, Renault Master/Nissan Interstar, Renault Trafic/Nissan Primastar. In addition, Renault is the engines constructor of almost all Nissan diesel engines in Europe. Cooperation between Renault and Nissan also focuses on capital-intensive research projects (transport with zero gas emission and the increase of sales in emerging markets such as Brazil, Russia and India). Moreover, partners reduce suppliers and logistics related expenses owing to the fact that procurements and supply chains are formed simultaneously for two companies. Product output of each partner in the region with no factory is carried out by the other partner's manufacturing division that also allows to maximize effect from economy of scale. In general, the alliance estimated cost reduction by means of synergy at 1.5 billion € in 2010.

Ten years after signing of the initial agreement, in 2009, under the strategy of Renault and Nissan partnership strengthening a separate group of experts from both companies was created. The role of the group was to promote closer cooperation in 16 different fields, including research and advanced engineering research, parts and accessories production as well as marketing. In 2012, sales of the alliance reached a record of 8.1 million units worldwide (a 1%-increase compared to the previous year), thereby continuing to grow for the fourth year running.

4.2. Prerequisites of a Strategic Alliance Establishment

By the mid-1990s Nissan has been experiencing significant financial difficulties, so its controlling stake was sold to Renault. Following the signing of the agreement, Carlos Ghosn assumed the position of President and CEO of Nissan. The set of reforms proposed by the new President and designed to save the stuck in debt company obtained the title "Nissan Revival Plan – NRP". It included job cuts, shutdowns of factories, reduction in the number platforms, investments in new technologies and creation of an efficient production system.

Traditionally, Nissan had stronger positions in the US and Japan, while Renault operation was more efficient in Russia, France and Brazil. Renault sales were mostly in Europe, in 1998 the company did not sell a single car in the USA and sold 2476 units in Japan. At the same time, both companies announced their intention to carry out joint development and production to increase their share in emerging markets such as China, India and Brazil. Thus, one of the goals of the JV was territorial expansion.

Due to the fact that the new technologies development was conducted jointly, both partners maximized synergy effects in the field of capital-intensive projects. For example, it was announced in 2013 that the company sold the 100.000th electric vehicle, and the Nissan Leaf has become the most popular electric car in the world. Additionally, Renault and Nissan agreed on joint control of the Russian "AVTOVAZ", which could be very difficult for each company on a stand-alone basis. Reduction of expenses and achieving maximum synergies in this area was also one of the goals of the alliance.

4.3. Stability Assessment of the Renault–Nissan Joint Venture

External Stability. According to the accepted definition, for an external stability assessment of the Renault–Nissan JV it is necessary to analyze whether the economic performance trend of the alliance is positive in the long run.

Figure 3 presents information about the economic performance of the alliance in the period from 2004 to 2011 in the form of a graph and an economic performance smooth curve with an interval of three years.

Let us consider trend lines presented in Figure 4, for the smooth curve of the strategic Alliance economic performance.

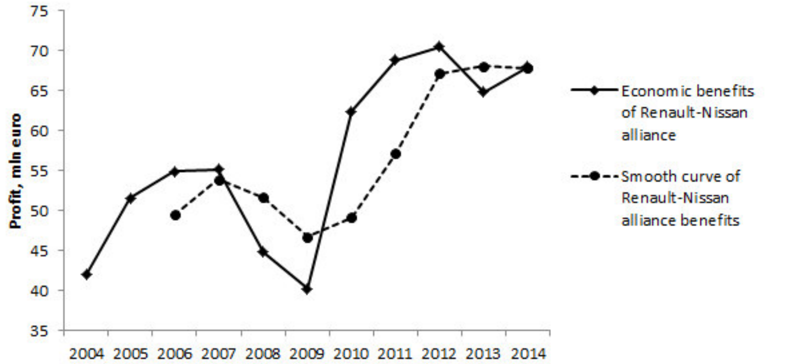

Fig. 3: Economic performance of the Renault–Nissan JV and its smooth curve

Figure 4 shows that trend lines 1 and 2 of the alliance economic performance are descending because of the economic crisis of 2008 and 2009. In 2006-2007 short-term instability was observed. However, this period did not last more than two years. As shown in Figure 3, in 2008 trend line 3 becomes upward. Renault–Nissan successfully overcame the crisis. Trend lines 4 and 5 are rising. It is evident that a long-term trend represented by line 6 is upward as well.

Despite a small fluctuation in the economic performance trend of the JV, the company hoped that the difficulties they had to face were temporary; nevertheless,

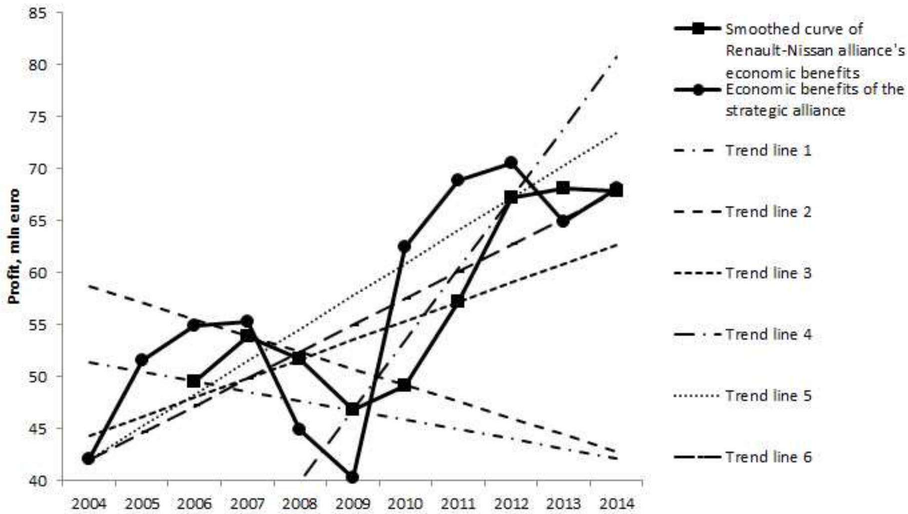

Fig. 4: Trend lines and economic performance smooth curve of the Renault–Nissan JV

the growth of economic results of the alliance is expected in long-term perspective. Thus, it can be argued that Renault–Nissan joint venture has the property of external stability.

Internal Stability. First, we should analyze motivational strength of the partners. Benefits and risks for the partners from participation in the alliance are presented in Table 4.

Table 4: Benefits and risks for Renault and Nissan in the alliance*.

	Benefits	Risks
Renault	Access to the markets of North America and Asia.	Loss of management control.
		Cross-cultural conflicts.
	Engineering solutions in the motor industry.	Nissan debts.
	Nissan reputation in SUVs and pickup market.	
Nissan	Access to the European market.	Loss of management control.
	Financial and managerial support.	Takeover threat.
	Skills in design and production, marketing and design. The expansion of the model range.	Cross-cultural conflicts.

Ranking of possible outcomes for Renault and Nissan according to their preference on the basis of benefits and risks comparison for both partners depending on the selected strategies combination was conducted by the expert consultant with work experience in M&A and Due Diligence for enterprises and an employee of the Product Management Department of Adam Opel AG.

The expert analysis results were processed using the instrument DSSS ASPID-3W (Table 5).

*Sources: authors' analysis based on information in Nissan Company Corporate Website, Renault Company Corporate Website.

Table 5: Outcome ranking in Renault and Nissan motivational game in the alliance.

Situation in a game	$(A;\ A)$	$(A;\ P)$	$(P;\ A)$	$(P;\ P)$
Renault outcome ranking	4	1.7	2.7	1.7
Nissan outcome ranking	4	2	1.7	2.3

Table 5 generates a motivational game set in Table 6. In this game the only strong equilibrium realized is in the situation $(A;\ A)$, which indicates a motivational stability of the Renault and Nissan companies JV.

Renault had to enter the markets of North America and Japan, which were the largest consumers of car manufacturers. Despite the fact that the French company owned a rich set of competencies including advanced knowledge in the field of marketing and design, for the further successful development of the company new engineering solutions and production skills were required. Apart from this, Nissan had stronger positions in a pickup and SUV market resulting from a wide representation of the products.

Table 6: Renault-Nissan alliance motivational game.

Nissan strategies / **Renault strategies**	Participation	Exit
Active position	$\boxed{(4;\ 4)}$	(1.7; 2)
Passive position	(2.7; 1.7)	(1.7; 2.3)

Each JV has a threat of loss of its management control, which appears in case of a passive strategy of behavior in the alliance. Although the stage of signing the agreement and preparation for its implementation lasted for nearly four years, for both partners there was a threat of cross-cultural conflicts associated with the special identity of the Japanese culture. In addition, Renault had to cope with debt obligations of Nissan, which entered its area of responsibility. This means that the failure of the "Nissan Revival Plan" could undermine its economic position.

Regardless of strong and stable Nissan positions in Japan and the US, the European market remained its weakness. As a result, the alliance with the French Renault pursued the goal of entering a new market where the partner had already had an influence. Along with the acquisition of numerous skills, for instance, in the field of development and production, marketing and design, Nissan received financial support and a new CEO who was able to save the company from a complete bankruptcy. Hence, there was a takeover threat related to the fact that Nissan was materially and morally bound by obligations with Renault. Model range expansion was gradual and did not give significant advantages to any of the companies specifically; however, it should be noted that partially the success of Nissan is stipulated by the use of body models of Renault vans.

Thus, both companies were encouraged to choose an active strategy and to participate in the work of the JV; that indicates motivational resistance, which was preserved throughout the time of the alliance implementation.

In 1998, when Renault and Nissan signed an agreement, both of them needed a strategic partner for its development. Since the stage of implementation of the

Alliance started 11 years ago, we may perform a retrospective analysis. Renault needed to enter the markets of North America and Asia in order to maintain its competitiveness in the long term. Alliances with American companies such as Ford, General Motors and Daimler-Chrysler seemed unlikely due to the fact that these companies were interested in mergers and takeovers. It was important to apply to companies widely represented in the Asian market that led to a partner search in Japan. However, Japanese companies Subaru and Isuzu were under the influence of General Motors, and Mazda - under Ford. The most suitable partner was Nissan, whose strategic plans in geographical expansion corresponded with those of Renault.

In its turn, competencies of the companies were of mutual necessity. Production optimization skills and engineering solutions of Nissan in combination with design solutions and marketing strategy of Renault provided a competitive advantage that the companies could not have obtained on their own. It should be noted that the companies made a share exchange (44,4% of the Japanese company was given to Renault, 15% of the French company passed to Nissan), which means closer cooperation between the partners. Total investments of Renault and Nissan to the alliance reached $2.1 billion. Besides, at present time Renault and Nissan have a common supply chain, and some models in different countries are manufactured in partner factories. Therefore, even if there is a more attractive alternative at the market, costs of exiting the alliance will be rather high. Let us proceed to the formalization of the game according to the above-described methodology of strategic stability assessing.

Similar to motivational stability, ranking of possible outcomes for Renault and Nissan according to their preference on the basis of benefits and risks comparison for both partners depending on the selected strategies combination was conducted by the expert consultant with work experience in M&A and Due Diligence for enterprises and an employee of the Product Management Department of Adam Opel AG. The rankings of the strategic outcomes of the conflict are given in Table 7.

Table 7: Renault and Nissan JV strategic conflict outcome rankings.

Situation in a game	$(P;\ P)$	$(P;\ E)$	$(E;\ P)$	$(E;\ E)$
Renault outcome ranking	4	1.7	2.7	1.7
Nissan outcome ranking	4	1.3	2.3	2.3

Table 7 gives rise to a strategic game represented in Table 8, in which the only strong equilibrium is realized in the situation $(P;\ P)$, which proves the stability of the Renault–Nissan strategic alliance.

Table 8: Renault-Nissan alliance strategic game.

Nissan strategies **Renault strategies**	Participation	Exit
Participation	$\boxed{(4;\ 4)}$	(1.7; 1.3)
Exit	(2.7; 2.3)	(1.7; 2.3)

Renault–Nissan JV dynamic stability. Renault and Nissan not only established a joint venture in the framework of strategic cooperation, but also made mutual exchange of shares. Therefore, Renault and Nissan cooperation brings benefits in the form of JV profits and the joint cost of the companies themselves. As long as the partners are joint owners of each other, dividend payments must be considered as the benefits of cooperation as well.

Eventually, to estimate the total annual economic benefits of the Renault–Nissan alliance, we use the following formula:

$$Profit_{alliance} + ShEq_R + ShEq_N + Div_R + Div_N,$$

where $Profit_{alliance}$ is a net profit of the Renault–Nissan alliance in the form of JV for a year; $ShEq_R$ – capitalization of Renault (assessed through equity share); $ShEq_N$ – capitalization of Nissan in the current year (assessed through equity share); Div_R – dividends paid by Renault in the current year; Div_N – dividends paid by Nissan in the current year. Total economic benefits of the Alliance in its implementation period from 2004 to 2014 are presented in Table 9.

Table 9: Renault and Nissan economic benefits, billion € *.

Year	JV net profit	Capitalization of Renault	Capitalization of Nissan	Renault dividends	Nissan Dividends	Total economic benefit
2004	5.26	15.86	18.40	1.80	0.70	42.03
2005	6.36	19.49	22.57	2.40	0.77	51.60
2006	5.33	21.07	24.55	3.10	0.90	54.95
2007	4.39	22.07	24.00	3.80	0.94	55.20
2008	1.25	19.42	23.35	0.00	0.83	44.85
2009	-4.07	16.47	27.81	0.00	0.00	40.21
2010	5.02	22.76	34.18	0.30	0.18	62.43
2011	4.10	24.57	38.47	1.16	0.57	68.85
2012	3.68	24.55	39.74	1.72	0.83	70.52
2013	2.82	23.21	36.22	1.72	0.87	64.84
2014	4.15	24.90	36.14	1.90	0.94	68.04

The benefits of participation in the alliance for each company are measured using the same components as for the benefits of the entire alliance; still, the share of mutual participation of partners in the capital stock of each other is also taken into account. Therefore, the economic benefits of Renault can be assessed by the following formula:

$$Profit_{renault} + 0,85ShEq_R + 0,444ShEq_N + 0,85Div_R + 0,444Div_N,$$

where $Profit_{renault}$ is the Renault profit from participation in a JV with Nissan, $0,85ShEq_R$ – Renault benefits from the management of 85% of its own stake; $0,444ShEq_N$ – Renault benefits from possession of 44.4% stake in Nissan; $0,85Div_R$ – the dividends of Renault shareholders; $0,444Div_N$ – Renault dividends on 44.4% of Nissan's shares.

* Sources: Compiled information from Nissan Company Corporate Website, Renault Company Corporate Website and the annual reports of the companies from these websites.

Calculation of economic benefits from participation in the alliance for Nissan is performed similarly according to the formula

$$Profit_{nissan} + 0,15ShEq_{R} + 0,5596ShEq_{N} + 0,15Div_{R} + 0,5596Div_{N}.$$

Profit and economic benefits of Renault and Nissan in each year from 2004 to 2012 are shown in Table 10.

Table 10: Economic benefits of Renault–Nissan alliance, billion € *.

Year	Renault profit in JV	Nissan profit in JV	Renault economic benefit	Nissan economic benefit
2004	1.35	3.91	24.78	17.25
2005	1.18	5.19	30.07	21.53
2006	1.07	4.26	32.82	22.12
2007	1.45	2.95	34.41	20.78
2008	0.25	1.00	27.40	17.44
2009	-2.17	-1.91	24.08	16.13
2010	2.41	2.61	37.13	25.30
2011	0.81	3.29	39.86	28.99
2012	0.50	3.18	40.54	29.64
2013	-0.80	3.62	36.72	28.11
2014	0.44	3.71	39.55	28.48

Table 11 summarizes the results of the previous calculations of the distribution of benefits from cooperation (tables 9 and 10), and indicates the share of each company from the common benefits of the alliance for each year.

Table 11: Distribution of profits from participation in the alliance, billion €*.

Year	Renault economic benefits	Nissan economic benefits	Total economic benefits of the alliance	Renault share	Nissan share
2004	24.78	17.25	42.03	0.59	0.41
2005	30.06	21.53	51.60	0.58	0.42
2006	32.82	22.12	54.95	0.59	0.40
2007	34.41	20.78	55.20	0.62	0.38
2008	27.40	17.44	44.85	0.61	0.39
2009	24.08	16.13	40.21	0.60	0.40
2010	37.13	25.30	62.43	0.59	0.40
2011	39.86	28.99	68.85	0.58	0.42
2012	40.54	29.64	70.18	0.58	0.42
2013	36.72	28.11	64.83	0.56	0.43
2014	39.55	28.48	68.03	0.58	0.42

Distribution of shares presented in Table 11 is also illustrated in Figure 5.

* Sources: Compiled information from Nissan Company Corporate Website, Renault Company Corporate Website and the annual reports of the companies from these websites as well as authors' calculations.

Figure 5 shows that distribution of total benefits from cooperation within the framework of the strategic alliance was structurally stable: 58,96% for Renault and 41,04% for Nissan. There are small annual fluctuations, standard deviation from the specified distribution of which is $\sigma = 0.02\%$. Therefore, Renault–Nissan joint venture is dynamically stable, that reaffirms its general resistance as it possesses all types of stability – external and internal (motivational, strategic and dynamic).

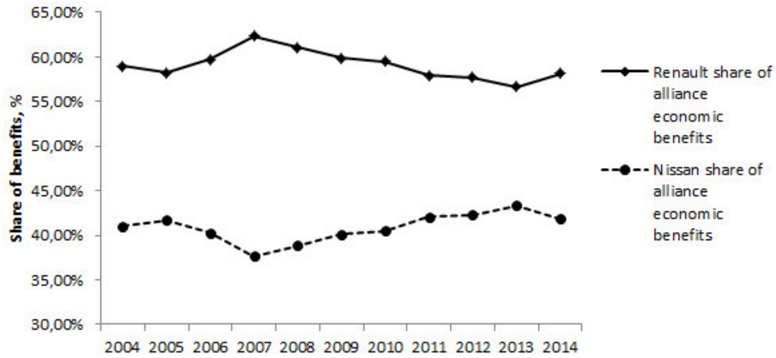

Fig. 5: Economic benefits of Renault and Nissan from participation in the alliance

5. Conclusion

In the first section of the article an overview of the literature and the evolution of the concept of strategic alliance and joint venture is provided; main tendencies of development of the given forms of cooperation of companies are revealed. We suggest author's definitions of the strategic alliance and joint venture, based on the analysis of the results of existing research, and meeting the requirements of the study; their classification is introduced and evolution of theories of strategic alliances and joint ventures is traced. The second section of the article describes the basic concepts of stability of strategic alliances and joint ventures, identifies their advantages and disadvantages. On the basis of the existing research we describe the factors affecting the stability of cooperative agreements. In addition, it is shown that modern stability theories cannot fully cover all possible factors and conditions peculiar to joint ventures, and address the JV stability problem from only one position that is of interest to researchers.

In addition, most existing approaches to the assessment of stability can hardly be called applicable. The reasons for this are various: from the inability to quantify the stability of the alliance to the problems with clear allocation of factors and criteria affecting the JV stability. In this regard, the authors propose their own approach to the definition of stability of a joint venture. The introduced concept of stability is a kind of synthesis of modern approaches to the alliance stability. Unlike all previous models, it does not consider the specific nature of motifs that influence creation or dissolution of an alliance. In the framework of this concept the existence of motifs for following or deviation from the cooperative path suffices. Thus, the author's concept of JV stability covers all previously listed theories and approaches to the definition of strategic alliance stability. Besides, it should be noted that this concept is a result of the integration of the strategic management theory and mechanisms of dynamic games theory. The advantages of this approach are obvious: it combines both the accuracy of game-theoretic analysis and its application to a variety of factors (determining the nature of motivation of the joint venture participants), the plenty of which can be found in the strategic management theory.

Finally, it was demonstrated that the stability concept can be applied to assessing the stability of existing ventures and predicting the stability of a potential JV, which helps to formulate recommendations and requirements of the agreement on formation of an alliance. The results of the research can serve as a theoretical base for future research in the field of stability analysis of strategic alliances.

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