

# PERFORMANCE DETERMINANTS OF BRAZILIANS INTERNATIONAL JOINT VENTURES

## *DETERMINANTES DE DESEMPENHO EM JOINT VENTURES INTERNACIONAIS BRASILEIRAS*

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### ABSTRACT

**Purpose** – Investigate the Joint Venture International performance determinants' relevance at each point of their life cycle.

**Design/methodology/approach** – Determinants already mapped in the literature were identified and grouped into three dimensions: internal, industrial and institutional. A questionnaire was developed and sent to academics and managers, which requested them to order the dimensions and determinants presented. Data was analyzed using Multi-Attribution Global Quality Inference (MAGIQ).

**Findings** - Results show that the dimensions' relevance varies according to the organization's stage in its life cycle. The internal dimension has more influence on performance during the startup period than the industrial and institutional dimensions, but this position is reversed when the IJV becomes mature.

**Research limitations/implications (if applicable)** – This study is based on specialists' perceptions about IJV's, so could be a gap between this perception and the facts that the organizational indicators can present.

**Practical implications** – Understanding IJV's performance determinants' relevance at each point of their life cycle can help manage these variables to create more efficient actions in accordance to the company's needs.

**Originality/value (mandatory)** – this study frames performance determinants in the three proposed dimensions within strategic administration theories, ranks them and uses MAGIQ for data analysis.

**Keywords** - Joint Venture; performance. strategic alliance. MAGIQ



## RESUMO

**Objetivo:** Investigar a relevância dos determinantes do desempenho em Joint Ventures Internacionais (JVI) Brasileiras em cada estágio do seu ciclo de vida.

**Metodologia:** Os determinantes já mapeados na literatura foram identificados e agrupados em três dimensões: interna, industrial e institucional. Um questionário que solicitou o ordenamento das dimensões e determinantes foi desenvolvido e encaminhado a acadêmicos e gestores. Os dados foram tratados por meio da técnica de análise multicritério MAGIQ (Multi-Attribute Global Inference of Quality).

**Resultados:** Os resultados evidenciaram que a relevância das dimensões varia conforme o estágio no ciclo de vida organizacional. A dimensão interna tem mais influência no desempenho de JVI durante o período de startup do que as dimensões industrial e institucional, contudo esta posição se inverte quando a JVI adquire maior maturidade.

**Limitações do estudo:** Os dados coletados para o estudo referem-se à percepção que os especialistas tem relação aos determinantes do desempenho em JVI Brasileiras. Isso significa que pode haver um gap entre esta percepção e os indicadores de desempenho quantitativos de uma JVI.

**Implicações práticas:** Entender qual é a relevância dos determinantes do desempenho de JVI em cada fase do seu ciclo de vida pode facilitar o manejo dessas variáveis de forma a possibilitar a criação de ações mais eficientes de acordo com o momento da empresa.

**Originalidade:** O estudo enquadra os determinantes nas três dimensões propostas pelas teorias de administração estratégica estabelecendo um ranking entre eles e utiliza técnica MAGIQ na análise dos resultados.

**Palavras-chave:** Joint Venture. Desempenho. Aliança Estratégica. MAGIQ.

## 1 INTRODUCTION

Alliances of big corporations with companies from emerging economy countries occur with the goal of obtaining competitive advantage in the globalized marketplace (Gümüs & Apak, 2011; Larimo & Nguyen, 2015; Meschi & Wassmer, 2013). With this in sight, International Joint Venture (IJV) strategic alliances emerge as an option for organizations to enter new markets, sharing costs and risks, and accelerating the organizational learning process by taking forward partnerships with companies that present complementary characteristics to theirs (Barney & Hesterly, 2014; Hek & Mukherjee, 2011).

A Joint Venture alliance is that when two companies form a third, in which they share management duties (Gümüs & Apak, 2011). In this case, the partner companies share strategic goals, but remain independent, invest complementary resources and control specific activities generally aligned to their business know-how (Yoshino & Rangan, 1996).

Despite their goal of obtaining competitive advantage, it has been shown that 50% of the IJVs do not succeed due to internal conflicts (Meschi & Riccio, 2008; Tidd & Bessant, 2015) that affect their financial performance (Ding, 1997; Ren, Gray, & Kim, 2009). In sight of this fact, several researches has attempted to identify which are the determinants that impact an IJV's performance (Baughn, Neupert, Anh, & Hang, 2011; Choi & Beamish, 2013; Larimo & Nguyen, 2015; Lavie, Haunschild, & Khanna, 2012; Meschi & Wassmer, 2013; Wahab, Abdullah, Uli, & Rose, 2010).

A study by Meschi and Riccio (2008) with two Brazilian IJVs presented evidence that some determinants have variable effects on performance, depending of the life cycle stage. The authors argue that distance between the partners' national cultures, for example, have more effect on performance in the alliance's first years, losing strength as the organization becomes more mature. Here, processes are more structured and the IJV acquires more efficient mechanisms to deal with their differences (Hanks, 2015). Similarly, Park et al. (2015) show that the transfer of tacit knowledge between the JV parents is positive affected by the JV age and this affects performance.

Research such as Meschi and Riccio (2008) and Park et al. (2015) show the relevance of relating determinants to organizational life cycle and evidence the need to deepen the topic regarding other determinants.

However, the literature review conducted did not reveal other researches that tried to identify these determinants' relevance on performance in each life cycle stage of an IJV, making possible to rank these variables. The few studies conducted identified only the variables' degrees of significance to performance, without relating them to the organization's age (Reus & Rottig, 2009).

This raises the question: what is the performance determinants' relevance in an IJV in each life cycle stage? The main goal of this research was to identify performance determinants' relevance for IJVs opened in Brazil in function of their life cycles.

For such, a survey on performance determinants for IJVs found in the academic literature was carried out, which were later categorized into three dimensions (internal, industrial and institutional) throughout Content Analysis (Bardin, 2011). The determinants' relevance was identified but the assessment of field experts (academics and executives acting in IJVs in Brazil) through a questionnaire. MAGIQ (*Multi-Attribute Global Inference of Quality*) multicriteria analysis, developed by por McCaffrey (2009), was used for data analysis. The results showed that determinants related to the internal dimension have more influence in a young IJV, giving space to those related to the industrial and institutional dimensions in IJVs with over five years.

This research brings a theoretical contribution by framing determinants within the dimensions proposed by strategic management (internal, industrial and institutional) and by ranking them in function of organizational life cycle. Also, it presents methodological contribution by using MAGIQ – originally developed for use in software testing environments (McCaffrey, 2009) – in a study on strategic management. Ranking performance determinants in function of life cycle is important as it allows managers to focus on more critical aspects of each stage, giving priority towards actions that mitigate eventual problems in organizational performance, being this a managerial contribution to the field. Adjusting strategy to organizational development stage is important because each stage is unique, requiring different skills and actions to guarantee results (Hanks, 2015).

## 2 JOINT VENTURES PERFORMANCE DETERMINANTS

Literature on strategic management suggests that company planning is only effective when evaluated by three dimensions: (a) an internal dimension, related to internal resources capable of leading to competitive differentials (Barney & Hesterly, 2014); (b) an industrial dimension, that draws attention to the need to assess the interactions between the five forces that form its structure (customers, suppliers, new entries, substitute products and competition) (Porter, 2008); and (c) an institutional dimension, defined by political, economic, social, cultural, legal and technological contexts (Certo, Marcondes, & Cesar, 2005; Su, Peng, & Xie, 2016). Thus, determinants were categorized into internal, industrial and institutional dimensions so that their study could become more systematic (Meschi & Wassmer, 2013), being part of the so-called strategy tripod (Peng et al., 2009).

### 2.1 Internal dimension

The first years of an IJV's operations are the most critical since there is a period of adaptation between partners and the birth of a new organizational culture (Meschi & Riccio, 2008). As with any other organization, an IJV is subject to *liability of newness*, in which a young company presents great extinction risk than an older one (Brüderl et al., 1990).

According to Brünerl and Schüssler (1990), the absence of clear norms and procedures for a recently created organization to operate elevates its dissolution risk between six to ninth months from beginning. Startup period would take, in average, three to five years, when capital invested starts to return (Campos, Parellada, Atondo, & Quintero, 2015).

Meschi and Riccio (2008), in a survey on IJV mortality in Brazil, showed that 30% of them perish in their first five years. As years go by, the organization creates procedures and mechanisms to deal assertively with conflicts that result from cultural differences and with market dynamics, reducing the likelihood of its dissolution.

This is why several studies defend that the existence of relational mechanisms have positive impact on an IJV's performance (Ali & Khalid, 2017; Larimo & Nguyen, 2015; Lavie et al., 2012). These mechanisms involve creating a mutual trust environment, commitment, flexibility towards differences and creating a promising face-to-face relationship that has mutual learning, allowing that both parties develop more specialized knowledge and align with business (Lavie et al., 2012), what Nielsen (2007) names as collaboration network or collaborative know how. This collaboration network allows partners to freely share knowledge, leaving protectionist practices behind (Nielsen, 2007).

Those mechanisms promote a positive relationship among partners, which impacts in quantity and intensity of conflicts generated by cultural and operational differences, resulting in more effective organizations (Baughn et al., 2011; Larimo & Nguyen, 2015). Therefore, flexibility to deal adequately with differences has positive consequences on an IJV's performance (Kwon, 2008; Mohr & Puck, 2005).

If creating an organizational environment in which differences are respected and used as a starting point for learning is important, then organizational culture is another aspect that deserves attention. The development of functional relational mechanisms would be facilitated by the proximity of the partners' organizational cultures (Ren et al., 2009).

Organizational culture can be defined as a pattern of common beliefs that result in an automatic way of perceiving and thinking about things and reflect in a pattern of repetitive behavior inside the organizational structure the gives stability and comfort to the individuals within this system (Schein, 2010). Forming a culture involves experimentation and errors and usually guides organizational choices (Lavie et al., 2012).

Differences between organizational values of partner companies have effects on their strategic decisions and lead to different expectations on the IJV's operations, politics and structure (Baughn et al., 2011). These differences give rise to conflicts (Reus & Rottig, 2009) that reflect in organizational performance (Lavie et al., 2012; Pothukuchi et al., 2002). This means that similarity between organizational cultures minimize conflicts related to strategic issues (Lee, Madanoglu, & Ko, 2013). However, research results are still controversial and with opposite conclusions, with evidence also showing that organizational differences do not have significative impact on performance (Baughn et al., 2011; Ng, Lau, & Nyaw, 2007).

Other studies detail even more the issue of organizational culture, specifically examining impacts of divergences in managerial styles between partners on IJV performance (Dume & Frank, 2014; Larimo & Nguyen, 2015). However, results diverge between being negative (Larimo & Nguyen, 2015; Mohr & Puck, 2005) or with little impact (Lavie et al., 2012) on performance.

Internal conflicts are inherent to an organization's existence. It's a means for their evolution, to adapt to changes. However, how organizations deal with conflicts can negatively impact their performance (Ren et al., 2009). Harshness can wear out the partners' relationship and raise a negative work climate that impacts performance (Ding, 1997).

Communicating strategic decisions can ease problems that arise from misunderstandings that can come from cultural differences and which, consequently, minimizes conflicts and increases the IJV's performance. Frequency, formality (Zeybek, O'Brien, & Griffith, 2003) and efficiency level of communication have positive impacts on performance (Kwon, 2008; Mohr & Puck, 2005). Also, guaranteed access to reliable information among partners can determine the alliance's success or failure (Meschi & Wassmer, 2013; Vares, Ghanbari Kivi, & Bannazadeh, 2020).

Relational mechanisms that are functional within the organization's context, small distance in organizational culture divergences between partners and management styles, and efficient communication make an effective knowledge management easier (Nielsen, 2007). Knowledge and skills transfer between partners is key to the IJV's success (Park, Vertinsky, & Becerra, 2015; Ren et al., 2009).

Knowledge management encompasses technological transfer through internal strategies that allow knowledge spirals with outsourcing, communication, internalization and socialization processes (Carvalho, 2002). Operational and cultural trainings can be included among these strategies. Research has shown that a well-managed knowledge management has positive impact on performance (Baughn et al., 2011; Wahab et al., 2010).

Other aspects that affect the studied relationships pointed out in the field's literature are control related issues, that is, how power relations are established within partnership and how this power struggle affects IJVs' performance (Mantecon, Song, & Luo, 2016; Shah, 2015).

Research shows that in contexts of big differences among partners, strict and formal control over the IJV's operations, covering operational and strategic areas, tends to result in better performance (Le, 2009). When there are small differences between partners, a more social control, restricted to the core business, leads to the best results (Le, 2009). Larimo and Nguyen (2015) defend that in a context with a trust relationship among partners, a more social control becomes more effective as it allows the local partner to be more involved in business and reduces transaction costs.

Other studies focus the influence each partner has on the IJV's decisions and how this impacts on performance (Ali & Khalid, 2017; Ding, 1997; Mantecon et al., 2016). Ding (1997) shows that when a foreign partner controls the business's strategic decisions, the IJV has better performance. Mantecon et al. (2016) highlight the need for one of the partners having approval control over strategic decisions to avoid opportunistic behaviors. When control over strategic decisions is shared, partners can veto important decisions to protect personal interests at the expense of the IJV's needs (Mantecon et al., 2016), this improves the trust relationship, as a consequence, the performance (Ali & Khalid, 2017). Control issues (mechanism, focus and extension) have impact on performance.

Some aspects related to the partners' businesses' internal structure have also been mapped in specialized literature as relevant to IJVs performance. Among them it can be highlighted: (a) partners' previous experience in strategic alliances by which they could already have developed the needed relational skills to best deal with conflicts that arise from opinion divergences in the IJV's management, leading to positive impacts on the organization's financial indicators (Larimo & Nguyen, 2015; Ng et al., 2007); (b) having common, duly formalized goals regarding the IJV's strategies (Baughn et al., 2011; Ren et al., 2009); and (c) the competitive strategy adopted to enter the new market (Acquaah, 2009; Larimo & Nguyen, 2015).

Acquaah (2009) evidenced that when the IJV's partners come from developed countries, a strategy of market differentiation generates better performance and when they come from emerging countries, a strategy focused on cost reduction leads to better impacts. However, Larimo and Nguyen (2015) point out that, independently of the partners' origin, the IJV's management has to assess the type of market in which the organization is inserted and adjust its strategy to the consumers' profile in order to obtain better results.

The information exposed so far leads to the hypothesis that:

H1: The internal dimension has more influence in Brazilian IJVs' performance during the startup period (first five years) than after this period.

## 2.2 Industrial dimension

The industrial dimension is characterized by the influence of external factors with more immediate impacts in the company's operations. It relates to forces exercised by customers, competition, suppliers (Certo et al. 2005; Porter, 2008) and the sharing among partners of resources from the companies that originated the IJV. For an organization to succeed in new markets it's necessary to understand the dynamics of forces that act in this new context. To guarantee strategic efficiency, the company must consider the external environment it's in (Winckler & Molinari, 2011), what requires the strategist to have knowledge on the forces' balance of power (Porter, 2008).

According to Porter (2008), customers exercise bargain power over the organization in situations where there are several suppliers, because they choose the company that offers the best service for a lower price, driving competition. Providers control prices of raw materials or basic services needed to deliver the final product or service to the consumer. Competitors can change market rules by offering customers innovative products, tightening market share competition and offering products and services for a lower price. Competition for a specific market has direct impact on a company's profitability depending on its intensity and the basis of this competition.

Literature on IJVs shows that having complementary resources between partners and using these resources efficiently lead to better results (Almeida & Machado Filho, 2013; Ren, et al., 2009). These resources are related to easier access to a network of suppliers of providers, technology or resources that allow the company to obtain competitive differences (Barney & Hesterly, 2014). As understood, complementary resources among partners and its management impacts IJV performance.

Since startup period is a critical phase due to adaptation to cultural differences between partners (Meschi & Riccio, 2008) and the need to create clear norms and procedures is crucial to reduce the alliance's dissolution risk (Brüderl, Schüssler, & Maximilians, 1990), it is assumed that management looks towards the internal dimension during the startup phase and, only after this period, the industrial dimension becomes a focus.

H2: The industrial dimension has more influence in Brazilian IJVs' performance after its first five years of operation than during startup phase.

## 2.3 Institutional environment

The institutional environment relates to contexts in which the organization is framed and that reduces its own control power. It involves political, economic, social, cultural, legal and technological contexts (Certo et al., 2005; Su et al., 2016) and covers formal and informal rules that restrict organizational practices, legitimizing or not the organizations stay that market (Garrido et al., 2014; Peng, Sun, Pinkham, & Chen, 2009).

Studies on IJVs relate country risk to organizational performance (Larimo & Nguyen, 2015; Meschi & Riccio, 2008) since it's an indicator that groups legal, social and economic issues together (Nielsen, 2007). Results show that country risk significantly influences in the choice of which country the IJV will be based (Larimo & Nguyen, 2015; Nielsen, 2007). Kwok, Sharma, Gaur, e Ueno (2019) emphasize that environmental uncertainty negatively affects performance. Li and Sun (2017) and Xiasong and Jinmins (2011) defend that regulatory issues impact organizational performance.

Other studies direct their attention to divergences that come from partners' national cultural differences and their impacts on the IJV's results (Nielsen, 2007; Ren et al., 2009). In this case, the results are controversial in the sense that some authors present evidence a negative correlation between cultural differences and performance (Kwon, 2008; Ren et al., 2009), while others don't identify any significant correlation (Nielsen, 2007; Pothukuchi, Damanpour, Choi, Chen, & Park, 2002). Meschi and Riccio (2008) evidence that partners' national cultural differences are negatively correlated to the IJV's survival in emerging markets and that this variable has greater relevance during the startup period (Brüderl et al., 1990; Meschi & Riccio, 2008).

Despite the literature on strategic management show evidences that the industrial (Porter, 2008) and institutional (Su et al., 2016) dimensions influences any kind of organization, few of them deal with variables related to them in IJVs (Larimo & Nguyen, 2015; Xiaosong & Jinming, 2011).

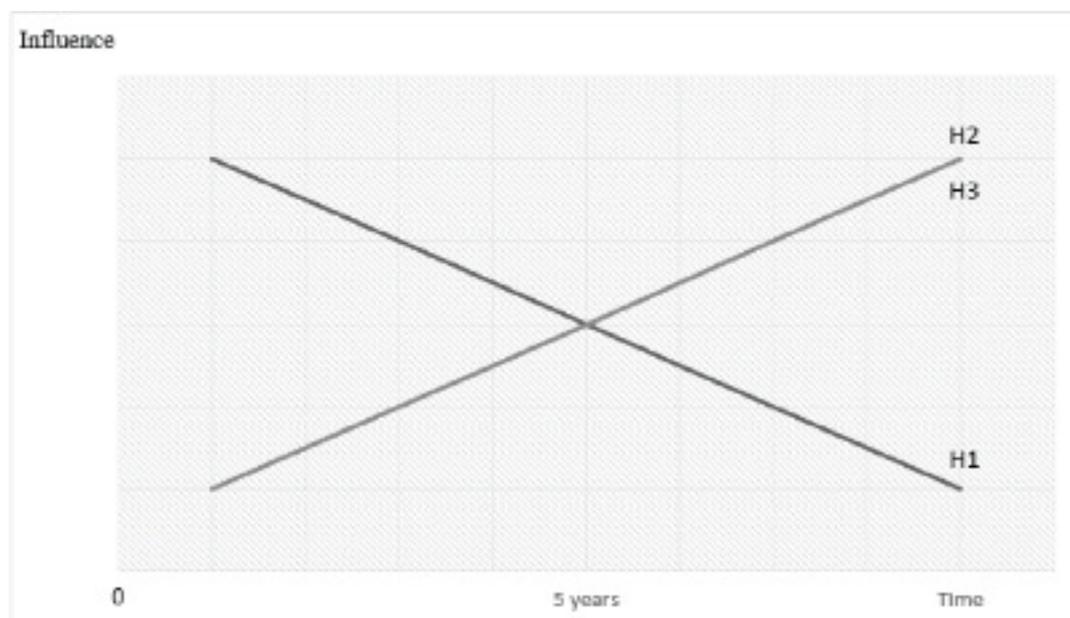
The first years of an IJV's life are the most critical, in large part due to the internal divergences. As the organization matures, these conflicts withdraw from attention and the institutional dimension gains importance. This leads to hypothesis H3:

H3: The institutional dimension has more influence in Brazilian IJVs' performance after their first five years of operation than during the startup period.

## 2.4 Theoretical model

Figure 1 presents a model formulated based on a literature review on IJVs. It evidences that the internal dimension loses influence as the IJV matures (H1), when its processes are formalized and it deals more assertively with internal conflicts that arise from cultural clashes (Meschi & Riccio, 2008). It also shows that the industrial and institutional dimensions assume a more relevant position after the startup period (H2 and H3). Figure 2 complements this synthesis as it presents each dimension's variables, their definitions, as well as the authors of the studies.

Figure 1: Dimensions' influence in function of time.



Source: Developed by the authors (2019).

### 3 METHODOLOGY

This study, which comes from a positivistic epistemology (Martins & Theóphilo, 2016), is quantitative and descriptive, adopting a multicriteria method for its data analysis, which assumes treating data in three phases: (a) identifying the variables to be worked on; (b) constructing a model to be analyzed; and (c) analyzing that model based on the information collected (Jerônimo, Melo, & Aquino, 2016).

Variable identification was done by a literature review that aimed to identify IJV performance determinants. Scientific articles published between 1996 and 2016 were collected in *Plataforma CAPES*, *Ebsco*, *Host*, *Science Direct* and *Google Scholar* databases. The keywords used were *Joint Venture*, *strategic alliance* and *performance determinants*, in Portuguese and English. 44 articles were selected, and 124 determinants were cataloged. Determinants were categorized and grouped into three dimensions (internal, industrial and institutional) according to similarities in their definitions, using a content analysis technique (Bardin, 2011) and looking for equalities, similarities and inclusions of one term in another. With this procedure, the number of determinants fell to 19: ten in the internal, four in the industrial and five in the institutional dimension. This filter was validated by two independent judges, researchers with their doctoral degrees on IJV. The IJV's lifetime (under or over five years of existence) was the control variable.

Afterwards, the model used for later analysis the experts was built. The nineteen determinants identified were grouped within the internal, industrial and institutional dimensions, according to the details shown in Figure 2.

A questionnaire was developed so that the experts could classify factors and subfactors regarding their impacts on the Return on Equity (ROE) indexes of a IJV, considering the following conditions: determinants' influence during its first five years of operation and after this period. This distinction is necessary, once the different organizational life cycle stages require appropriate strategies for each context (Hanks, 2015). A company in startup phase is subject to liability of newness, diverging itself from those in full operation (Brüderl et al., 1990). ROE was chosen as a performance index since studies by Soekano and Azhiri (2009) show that it's effective to identify IJVs with good performance. The *Google DOC* tool gave the necessary support for developing and distributing the questionnaires.

The questionnaire was submitted to a pre-test with two IJV managers and two university professors with doctoral degrees so that its reliability and validation could be guaranteed, avoiding possible comprehension issues by research participants. The instrument was adjusted following the given remarks.

Figure 2 – IJVs' performance determinants.

<b>DIMENSION (factor)</b>	<b>DETERMINANT (subfactor)</b>	<b>DEFINITION</b>	<b>LITERATURE</b>
<b>INTERNAL DIMENSION</b>	<b>Relational mechanisms</b>	Existence of a mutual trust environment, flexibility in face of differences and creation of a promising face-to-face relationship	Ali & Khalid (2017); Larimo & Nguyen (2015); Lavie, Haunschild, and khanna, (2012); Mohr & Puck (2005); Ren, Gray and Kim (2009)
	<b>Organizational culture</b>	Common belief pattern that results in an automatic way of perceiving and thinking about things, which reflects in a pattern of repetitive behavior inside the organizational structure, bringing comfort and stability to individuals who take part of this system.	Kamoche, K., Siebers, L. Q., Mamman, A., Newenham-Kahindi, A., Gómez-Miranda, M. E., Pérez-López, M. C., ... & Rodríguez-Ariza, L. (2015); Lavie, Haunschild and Khanna (2012); Lee, Madanoglu and Ko (2013); Le (2009); Pothukuchi et al., (2001); Ren, Gray and Kim (2009); Sirmon & Lane (2004)
	<b>Management style</b>	Divergences between partners' management style.	Abdul-Rahman (2014); Dume & Frank (2015); Le (2009); Lavie; Haunschild and Khanna (2012); Larimo & Nguyen (2015); Mohr & Puck (2005);
	<b>Internal conflicts</b>	Relationship clashes between partners, executives and collaborators.	Ding (1997); Ren, Gray and Kim (2009)
	<b>Communication</b>	Ways in which the company expresses and communicated its strategic decisions.	Kwon (2008); Meschi & Wassmer (2013); Mohr & Puck (2005); Vares, H., Ghanbari Kivi, F., & Bannazadeh, M. J. (2020); Zeybek, O'brien and Griffith (2002)
	<b>Knowledge management</b>	Knowledge transmission in all organizational levels.	Almeida & Machado Filho (2013); Baughn et al., (2011); Nielsen (2007); Park, C., Vertinsky, I., & Becerra, M. (2015). Ren, Gray and Kim (2009); Wahab et al., (2010)
	<b>Partners' previous experience</b>	Prior experience in other strategic alliances.	Larimo & Nguyen (2015); Ng, Lau and Nyaw (2007)
	<b>Control</b>	Balance of power among partners and how they track business indicators.	Ali; Khalid (2017); Ding (1997); Kamoche, K., Siebers, L. Q., Mamman, A., Newenham-Kahindi, A., Gómez-Miranda, M. E., Pérez-López, M. C., ... & Rodríguez-Ariza, L. (2015) Larimo, Nguyen (2015); Le (2009); Mantecon; Song and Lou (2016); Ren; Gray and Kim (2009); Shah (2015)
	<b>Existence of formalized strategic goals</b>	Existence of formalized strategic goals in the partnership contract.	Baughn (2011); Kwon (2008); Larimo & Nguyen (2015); Le (2009); Ren; Gray; Kim (2010)
	<b>Competitive strategy in line with client profile</b>	Type of strategy adopted by the organization to differentiate itself in market (if directed towards cost reduction or product or services differentiation).	Acquaah, (2009); Larimo & Nguyen (2015)



Figure 2 – continuation

<b>INDUSTRIAL DIMENSION</b>	<b>Competitors' bargain power</b>	Pressure from new players, current rivals and substitute products.	Bernardi (2011); Xiaosong & Jinmins (2011)
	<b>Suppliers' bargain power</b>	Pressure from suppliers as they raise prices or limit quality of required goods.	
	<b>Clients' bargain power</b>	Client pressure by demanding more product or service quality or by demanding price reduction when compared to the competition.	
	<b>Existence of complementary resources among partners</b>	Resource transfer from each partner to the IJV in an efficient manner. Related to easier access to suppliers, technology, know-how, network, among others.	Almeida & Machado Filho (2013); Kwon (2008); Nielsen (2007); Ren; Gray and Kim (2009); Sirmon, Lane (2004)
<b>INSTITUTIONAL DIMENSION</b>	<b>Economic stability</b>	Level of economic oscillation in the country the IJV is based.	Kwok, F., Sharma, P., Gaur, S. S., & Ueno, A. (2019); Li, X.; & Sun, L. (2017). Meschi & Riccio (2007; 2008); Vares, H., Ghanbari Kivi, F., & Bannazadeh, M. J. (2020); Xiaosong & Jinmins (2011)
	<b>Political stability</b>	Level of political oscillation in the country the IJV is based.	
	<b>Cultural diversity</b>	Differences between the partners' national cultures.	
	<b>Sudden legislation changes</b>	Changes in regulations that guide how the IJV acts in that market.	
	<b>Technological environment</b>	Level of the market's technological development.	

Source: Developed by the authors (2017).

Choosing specialists to answer the questionnaire is part of using a multicriteria analysis method and it's one of this process's critical phase. They should have experience and/or deep knowledge on the subject matter (Gomes, Mello, & Mangabeira, 2008). Academics that conducted studies on the Brazilian context around IJVs and managers (supervisors, managers and directors of Brazilian IJVs) were taken into consideration for having practical and/or theoretical knowledge on the issues investigated, therefore, being a non-probabilistic sample. A link to access the questionnaire was sent to the participants by e-mail between March and July of 2017.

68 scholars that published articles on the subject matter using the *Plataforma CAPES*, *Ebsco Host*, *Science Direct* and *Google Scholar* databases.

51 IJVs were identified operating in Brazil using data presented in investment reports published between 2004 and 2015, available at the Development, Industry and Foreign Trade Ministry (*Ministério do Desenvolvimento, Indústria e Comércio Exterior*, in Portuguese) website, the list of the top 150 companies to invest in the of 2015 (Você S/A, 2015), and companies mentioned in academic studies on IJVs. However, only 31 IJVs were considered viable samples, because they were international alliances that had the required information in their corporate website, which allowed access to managers. E-mails were sent to 40 managers.

Five academics and ten managers, among 108 e-mails sent, answered the questionnaire, giving a total of fifteen responses, being in accordance with Godet's (2000) recommendation of 15-30 specialists to enable scenario prospection and strategic decision-making analysis.

The MAGIQ multicriteria analysis used in this study was developed by McCaffrey (2009) to enable data normalization within a general measure of quality, when compared to an arbitrary number of attributes, thus being ideal for setting elements in hierarchical order, which is a central

goal here. MAGIQ is more intuitive than AHP (*Analytic Hierarchy Process*) and its results present less inconsistencies (McCaffrey & Koski, 2006). It's a reliable and precise technique when having several judges at hand and there isn't a consensual agreement between each variable (Barron & Barret, 1996).

To apply it, first the ROCs (Rank Order Centroids) were identified, allowing that classification orders (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and so on) could be converted to numerical weights, both for factors (di-

mensions) and subfactors (determinants) using the  $W_j^l(k) = \frac{\sum_{i=k}^n \frac{1}{i}}$  equation, where  $W^l$  represents the local weight of factor  $k$  and  $n$  is the total number of factors considered (McCaffrey J. D., 2009; Nogueira, 2014). Factor ROCs were determined in conformity by the calculations below:

$$W_j^l(1) = \left(\frac{1}{1} + \frac{1}{2} + \frac{1}{3}\right) = 0,6111$$

$$W_j^l(2) = \left(0 \frac{1}{2} + \frac{1}{3}\right) = 0,2778$$

$$W_j^l(3) = \left(0 \frac{1}{2} + \frac{1}{3}\right) = 0,1111$$

For every  $j$  individual answering the questionnaire, there has to be:  $\sum_{k=1}^n W_j^l(k) = 1$

The same procedure was done for each group of subfactors. Afterwards, the average ROC of all participants was calculated so that local weights for each determinant could be obtained. The global average weight was reached by the solution described by Lipovetsky (2009) when using AHP, multiplying the local weight average of each determinant by the local average of its corresponding dimension. Values obtained were compared with each other. This procedure was done to rank determinants independently from dimensions.

*Google DOC and Microsoft Excel* were used to organize data.

## 4 RESULTS AND DISCUSSION

The questionnaire asked that the specialists put the internal, industrial and institutional dimensions in order, according to its influence on the IJV's performance, considering its lufe cycle stage. Results are shown in Table 1.

Table 1 – Each dimension's influence based of the experts' opinions.

		INTERNAL DIMENSION	INDUSTRIAL DIMENSION	INSTITUTIONAL DIMENSION	SUM
<b>LESS THAN 5 YEARS OF OPERATION (STARTUP)</b>	<b>Local ROC</b>	0,4667	0,3111	0,2222	1
	<b>Classification</b>	1	2	3	
<b>OVER 5 YEARS OF OPERATION</b>	<b>Local ROC</b>	0,2778	0,4333	0,2889	1
	<b>Classification</b>	3	1	2	

Source: Developed by the authors (2017).

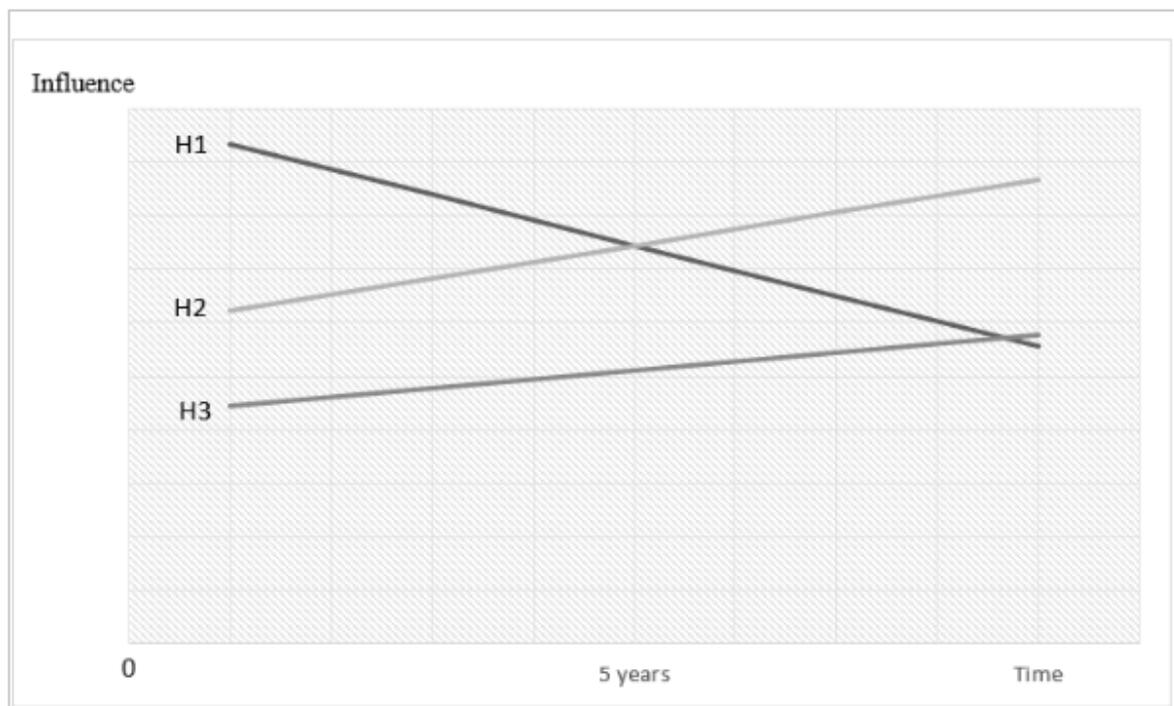


Data analysis showed that, for a company in its startup phase, determinants related to the internal dimension were those with greater influence on ROE, followed by the industrial and institutional dimensions, respectively. An organization in startup age goes through a period of adaptation among partners (Meschi & Riccio, 2008), when an absence of clear norms and procedures is common (Brüderl et al., 1990; Hanks, 2015). With this context in sight, it's natural that managers direct their attention to solving internal conflicts that are more frequent in this period.

According to answers to our questionnaire, internal aspects withdraw from main focus in companies with over five years of operation, giving space to issues related to the industrial dimension, such as relationship with suppliers, customers and competition. Here, the organization is going through a growth process and needs to develop abilities to increasingly produce and distribute its products to diversified consumer profiles (Hanks, 2015). The institutional dimension comes in second place regarding its influence. After diversifying customer, supplier and competition strategies efficiently, sudden changes in the political, economic, social, cultural legal and technological environments can lead to insecurity and negatively impact the IJV's performance (Xiaosong & Jinming, 2011).

The results sustain hypotheses H1, H2 and H3, which predicted that the internal dimension has more influence on financial performance during the first five years of forming the alliance, giving space to the industrial and institutional dimensions after this period. Figure 3 presents changes made to the theoretical model proposed earlier after analyzing the questionnaire results. These changes are mainly due to the relevance specialists gave to each researched dimension.

Figure 3: Dimensions' influence in function of time after data analysis.



Source: Developed by the authors (2017).

This research also allowed that determinants were ranked inside each dimension. Box 1 shows the determinants' influence in each dimension (local classification), as well as its relevance in a global rank (global classification). The existence of formalized strategic goals was classified as one

of the most important determinants, independent of the organization's age (first place for young IJVs and second place for those with over five years). Since management duties of an IJV is shared among two or more companies, often with different profiles, having clear goals allows the development of a common understanding of the organization's purpose, reducing conflicts (Baughn et al., 2011).

Box 1 – Local and global influence of performance determinants on IJVs related to its life cycle stage.

		Local ROCs	Local Classification	Global ROCs	Global Classification	Local ROCs	
INTERNAL DIMENSION	RELATIONAL MECHANISMS	0,1104	3	0,0515	9	0,08036	
	ORGANIZATIONAL CULTURE	0,0743	10	0,0347	18	0,07707	
	MANAGEMENT STYLE	0,1198	2	0,0559	8	0,09653	
	INTERNAL CONFLICTS	0,0914	7	0,0427	14	0,06976	
	COMMUNICATION	0,0920	6	0,0429	13	0,08453	
	KNOWLEDGE MANAGEMENT	0,0746	9	0,0348	17	0,10610	
	CONTROL	0,0840	8	0,0392	15	0,12379	
	PARTNES PREVIOUS EXPERIENCE	0,0992	5	0,0463	11	0,07060	
	EXISTECE OF STRATEGIC GOALS	0,1478	1	0,0690	5	0,12804	
	COMPETITION STRATEGY ADOPTED	0,1065	4	0,0497	10	0,16322	
	INDUSTRIAL DIMENSION	COMPLEMENTARY RESOURCES	0,318	1	0,0990	1	0,14028
		COMPETITORS' BARGAIN POWER	0,224	4	0,0696	4	0,26250
SUPPLIERS' BARGAIN POWER		0,229	2	0,0713	2	0,23194	
CUSTOMERS' BARGAIN POWER		0,229	3	0,0713	3	0,36528	

Source: Developed by the authors (2017)

The five most relevant determinants on financial performance for a young IJV were: (1) formalized goals; (2) management style; (3) relational mechanisms; (4) competition strategy adopted; and (5) partners' previous experience.

During the startup period, no solid formal structure exists and, planning and control occur more intuitively, with management focused on the founder (Hanks, 2015). Generalizing this assumption to the context of an IJV, having two or more partners with different managing profiles can lead to barter and negotiation among them, slowing down decision-making processes and elevating transaction costs (Larimo & Nguyen, 2015).

Having formalized strategic goals can help partners maintain their focus on what's important, reducing conflicts and speeding strategic decisions. Regarding management style, the more the differences between partners' styles, the greater will be their negative effects on performance (Mohr & Puck, 2005), since it can lead to conflicts and incompatible goals (Larimo & Nguyen, 2015).

The development of relational mechanisms can nurture a positive relationship among partners by creating a culture based on trust and mutual partnership, positively impacting performance (Baughn et al., 2011; Larimo & Nguyen, 2015). Larimo and Nguyen (2015) defend that the competitive strategy adopted by the IJV should be oriented towards the context in which the company lies in. Inadequate choices have negative impacts on performance.

The partners' previous experience can soften the organization's passing through startup period and positively impacts performance since, according to Ng et al. (2007), they already have the necessary skills to deal with cultural differences assertively.

For a company with over five years, the five most relevant determinants were: (1) competition strategy adopted; (2) existence of formalized strategic goals; (3) control; (4) knowledge management; and (5) management style. Its noteworthy that (1), (2) and (5) are still among the top five list, just shifting their positions. This indicates that, independent of the organization's life cycle period, these three determinants are critical.

According to Hanks (2015), after startup period, the company enters an expansion phase in which its main goals are to increase productivity and meet an increasingly diversified customer demand. For such, it needs to develop a supply chain area and build an infrastructure to support growth. This is when departments (human resources, administration, financial, accountability, production, quality control, suppliers, among others) start becoming robust, and control systems and process automatization becomes more necessary. Possibly due to this context, control and knowledge management became more important determinants, according to specialists.

The order of relevance of the industrial dimension's determinants is in accordance to the organization's needs regarding its life cycle. Startup period is mostly focused on managing internal resources (Hanks, 2015). Consequently, making the best of what the partners have to offer is crucial to success in this period and has a positive impact on performance (Almeida & Machado Filho, 2013; Ren et al., 2009). In the specialists' opinions, having complementary resources is the most relevant determinant in this period. After five years, when the company expands and its attention goes to the foreign market, consequently developing its supply chain (Hanks, 2015), the power that customers, competitors and suppliers have to bargain assume a prominent role.

As for the institutional dimension, there was a 60% consensus in the specialists' opinions, showing that there aren't any significant changes in the determinants' relevance order regarding the organization's life cycle. Economic stability and technological environment were placed in first and last place, respectively, independent of the organization's age. Political stability and sudden legislation changes were put in third and second place for young IJVs and second and third place for those with over five years.

Since this research was done with Brazilian researchers and executives, it's noteworthy that the results could have been affected by the economic and political moment the country was going through. Brazil is facing its biggest economic crisis ever recorded. In 2016, for the second consecutive year, Gross Domestic Product (GDP) had a 3.6% retraction, unemployed closed in 12%, inflation was 6.2% and the dollar closed the year bid at R\$ 3,25 (Trevizan, 2017). These numbers impacted industry and commerce negatively, which also retracted 6.6% and 6.2%, respectively (Trevizan, 2017). This crisis was aggravated by political uncertainty, reflected from revelations of the Car Wash operation (Operação Lava Jato, in Portuguese), president Dilma Rousseff's impeachment in 2016, and Joesley Batista's, owner of JBS, plea bargaining in 2017, which involved high ranking political figures, among them president Michel Temer. This scenario of political uncertainty affects the economy as it limits investments made in Brazil (Trevizan, 2017). The Brazilian political and economic context form when this research was done could have put the economic stability and political stability determinants in



higher relevance, explaining why they appeared better classified by specialists: first and third place for young IJVs and first and second place for those with over five years.

Regarding the determinants' global ranking, it has to be noted that determinants of the industrial dimension, independent of the IJV's age, are among the top five in relevance in the specialists' opinions. However, in the previous literature review, few studies investigated these determinants (Bernardi, 2011; Xiaosong & Jinming, 2011).

Despite startup period of an IJV being that with most likely dissolution of the alliance (Brüderl et al., 1990) due to internal conflicts that can arise from differences between partners, thus being a phase of adaptation and new culture formation (Meschi & Riccio, 2008), managers can't keep market related variables out of sight, since they have greater relevance on performance, independent of being a young or mature company.

Regardless the organization's age, the determinants cultural distance, competitive strategy and organizational culture remains without variation or with one point of variation for more or less in the scale. Thus, its impact on performance is practically null, regardless the life cycle stage the IJV is in. It has to be noted that the stability evidenced in the cultural distance determinant confronts Meschi and Riccio's (2008) studies, in which they state that cultural distance has more relevance during the organization's first five years.

Only two internal dimension determinants (knowledge management and control) increased their relevance positions when the IJV leaves startup and becomes mature. Since this phase is marked by the company's growth and departmentalization (Hanks, 2015), it's comprehensible that these two determinants gain importance when it becomes necessary to implement controls that make management easier and to guarantee that knowledge flows freely through departments. They elevated five and four points, respectively, in their relevance degree. The rest of the factors lost positions (an average of five positions) when passing from startup to maturity. Possibly this is due to lesser conflicts, as it is expected that, after five years, the company has already establishes strategies to deal with differences among partners (Meschi & Riccio, 2008) and, therefore, other factors become more relevant.

While internal dimension factors lose an average of five positions in global ranking along time, the opposite happens with institutional dimension factors, that gain an average of six positions. If the internal environment becomes relatively stable after five years of operations (Hanks, 2015), any variation in (industrial dimension) or in the institutional dimension can impact heavier the IJV's performance.

## 5 CONCLUSION

This research allowed that performance determinants of internal, industrial and institutional dimensions of IJVs got ranked, supplying data to better direct strategic actions, depending on the organization's age, to mitigate possible performance issues. Ranking these variables allows that strategic decision-making becomes more effective. Framing the determinants in the dimensions mentioned, as well as relating variables to an IJV's life cycle, is a theoretical contribution of this study. Also, this research presents the possibility of using the MAGIQ technique in applied social sciences as an alternative to AHP, being more intuitive, of easier application and generating less inconsistent results.

The internal dimension has more relevance during startup period, when there's more turbulence due to the absence of clear procedures and rules to deal with issues related to partner divergences, which requires that managers have skills to deal with these conflicts. In this phase,



it's important to stabilize production processes so that the company can have returns on their investments. After this period, the industrial and institutional dimensions assume more relevance. It is assumed that when the company matures, it has already structured its organizational processes, giving managers a clear orientation in how to behave when faced with issues related to business and, therefore, issues related to the external environment gains importance. In this life cycle stage, the IJV strives to become more competitive and, for such, needs to meet and exceed the customers' expectations, without ignoring institutional rules and technological development of its context.

As for determinants, when grouped in each dimension, the study showed that their order of relevance varies in function of the organization's life cycle. However, when put in a global rank, determinants from the industrial dimension appear among the top five places, independent of the organization's age.

These findings answer the initial inquire of this research, that aimed in identifying the relevance of performance determinants in IJVs for each of its life cycle phase. The proposed goals were reached: (a) the determinants' relevance level was identified; (b) determinants were ranked for each dimension; and (c) a global determinant rank was established, with organizational age as the control variable.

Some limitations identified were: (1) some participants were critical to the high amount of determinants to be analyzed already in the first question, which made the instrument complex and could have limited the number of those who answered it; and (2) quantitative data related to the Brazilian IJVs' performance and their determinants weren't analyzed, meaning that there may be a gap between the specialists' perception and the facts that the organizational indicators can present.

We suggest that how these determinants affect performance and how they can be managed be focus of future investigations. Another topic could be a quantitative assessment of the variables proposed and its reflexes on ROE, since this study was based on specialist evaluations regarding the influence of performance determinants of Brazilian IJVs.

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2. Development of hypotheses or research questions (empirical studies)	√	
3. Development of theoretical propositions (theoretical work)		
4. Theoretical foundation / Literature review	√	√
5. Definition of methodological procedures		√
6. Data collection	√	
7. Statistical analysis	√	
8. Analysis and interpretation of data	√	√
9. Critical revision of the manuscript	√	√
10. Manuscript writing	√	

