

**GLOBAL AND LOCAL INNOVATION AND THE RELATIONSHIP WITH OUTSOURCING
ADVANCED AND BASIC ACTIVITIES**

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INTRODUCTION

An emerging stream of literature in strategic management over the last years is that dealing with the strategies of subsidiary managers within the multinational enterprise. The process by which subsidiary managers make strategic decisions and undertake ‘subsidiary initiatives’ within organizational networks presents new challenges to the thinking in strategic management (Rugman & Verbeke, 2001). In product innovation, novelty of the product is the key objective. According to Un and Asakawa (2015), the product needs to provide to the firm a way to differentiate its offer from those offered by its competitors, and eventually to have the best product in the marketplace in terms of price/quality relationship. In contrast, in process innovation the underlying objective is not necessarily novelty but rather efficiency in the manner in which firms conducts its operations (Ettlie & Reza, 1992; Hatch & Mowery, 1998).

According to Costa, Borini and Amatucci (2013) local innovation exists when the subsidiary develops to specifically meet the needs of the market in which it operates, so it is very peculiar to the context in which it is developed. In turn, global innovation can initially be developed to serve the market of the subsidiary's operations, but, secondly, there is a whole effort of the subsidiary to adapt the innovation to the processes and strategies of the other units of the multinational abroad (Birkinshaw, 1997; Rugman & Verbeke, 2001). These two levels of innovation are the independent variables of the study that will be associated with the outsourcing of basic and advanced activities.

In recent years, it has been observed an increasing trend for firms to realize their strategic aspiration through outsourcing initiatives. Organizations have turned to local and international outsourcing to improve performance (Deng et al., 2013). The outsourcing process was related to the manufacturing of goods by companies from the 60s to the 80s (Gião, Oliveira & Vasconcellos, 2011). Ramanujan and Sandhyia (2006) showed that in the 1990s market most of the companies were routinely outsourcing their information systems functions as well as other functions like finance and taxation, business process units, call centers and other important function which were considered as “taboo” in initial stages.

In this article, the term “outsourcing” refers to the accomplishment of some type of service or activity outside the borders of the organization, being in the country where the contractor is as in another country as well. Both basic and advanced activities are outsourced for several of reasons. Initially, it sought to reduce costs and improve financial results. More recently, however, the quest for non-existent internal competences or technologies has also become quite relevant (Gião, Oliveira & Vasconcellos, 2011).

Perhaps based on the distinction proposed by Prahalad and Hamel (1990) between core and noncore competencies and/or the cost leadership management strategies proposed by Porter (1998), organizations first started outsourcing part of their business to third-party providers but, thanks to the globalization process, some advanced activities have been outsourced in order to maintain or acquire further competitive advantages over new competitors from anywhere in the world. Strategic management of outsourcing can be the most powerful tool in

management and the outsourcing of innovation is its frontier (Quinn, 2000). What seems less clear is whether outsourcing will be done on a holistic basis or more opportunistically, using best-of-breed or integrated providers. In this sense, the research question is arose: The level of innovation influence the type of outsourced activity?

The main objective of this paper is to analyze if there are relations between the global and local innovation regarding the outsourcing practices of basic and advanced activities, as a process innovation strategy. For this purpose, the possible relation of global innovation with outsourcing of advanced activities will be analyzed, as well as the possible association of local innovation with outsourcing of basic activities. After applying the technique of structural equations modeling (SEM) with data from 172 foreign subsidiaries, the results showed that there is no association between local innovation and the outsourcing of basic or advanced activities. However, at the global level, the relationship with these two types of outsourcing was confirmed.

The important contribution of this study is to understand the correlation between local and global innovation with the outsourcing of basic and advanced activities. The findings allowed to understand that local innovation not necessarily stimulate companies to outsource basic or advanced activities. However, it was found that in a global level of innovation firms are more likely to outsource of both basic and advanced activities, thus this has gained increasing importance in today's global economy as organizations have been transferring responsibility for entire functions.

This article includes, in addition to this introduction, the following structure: the theoretical framework presents the central aspects about the effect of local and global innovation on the two types of activities that can be outsourced. The hypotheses highlight the association between local and global innovation and the preference for outsourcing basic and advanced activities. The methodology contemplates the database and the description of the dependent and independent constructs used. The results from the research demonstrate the validity and reliability criteria and test the hypotheses through the modeling of structural equations. It is followed by a discussion of the results with the reflections on the results found and, finally, presents the conclusion and the references used in this article.

THEORETICAL FRAMEWORK

Innovation and process innovation

According to OECD (2005), innovation is the implementation of a new or significantly improved product (good or service), a new process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relations. Innovation is important for driving economic progress and competitiveness— both for developed and developing economies. Many governments are putting innovation at the centre of their growth strategies. The definition of innovation has broadened; It is no longer restricted to R&D laboratories and to published scientific papers (Dutta, Lanvin & Wunsch-Vincent, 2015). Innovation process can be explained as “a progressive and iterative process that begins with a raw idea, which is then developed into a concept, then generates invention and finally to be implemented and commercialized” (Chou & Chou, 2007, p. 292).

According to OECD (2005), four types of innovations are distinguished: product innovations, process innovations, marketing innovations and organizational innovations. Product innovation is the introduction of a good or service that is new or significantly improved with

respect to its characteristics or intended uses. Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software. Marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. Organizational innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations.

For purpose of this research, process innovation is the type of innovation addressed because according to Reichstein & Salter (2006) it remains a central element in the main theories of innovation and economic development, and can be defined as new elements introduced into an organization's production or service operations. Process innovations are central to improving a firm's productivity and contributing to efficiency and gross domestic product growth. As a result of the complexity of identifying, developing, and implementing process innovations, firms increasingly draw on external sources of knowledge (Patel & Terjesen, 2015).

There is limited understanding on how firms devise knowledge search strategies to develop process innovation (Keupp, Palmie, & Gassmann, 2011), that is, the creation or improvement of production or distribution activities. As Reichstein and Salter (2006, p. 653) state, "Process innovation has often been considered a second-order innovative activity, a rather dull and unchallenging cousin of the more glamorous product innovation".

Compared to product innovations, process innovations involve more proprietary aspects of the value chain and are less likely to be reverse-engineered (James, Leiblein, & Lu, 2013). Furthermore, firm level process innovations greatly enhance performance by reducing costs (Bernstein & Kök, 2009) and increasing quality (Terziovski & Guerrero-Cusumano, 2009), flexibility (Reichstein & Salter, 2006), and responsiveness (Craighead, Hult, & Ketchen, 2009).

Although process innovations are less tangible and less obvious to the customer than new product introductions, process innovations are more effective in creating competitive advantage (Gopalakrishnan, Bierly, & Kessler, 1999). At the macro level, process innovations are a major source of economic progress (Hollander, 1965), driving efficiency improvements that significantly contribute to gross domestic product growth (Mankiw, Romer, & Weil, 1992) and justify government support for innovation (Michael & Pearce, 2009).

In this article, it is considered the two views of process innovation established by Reichstein & Salter (2006). First, the incremental process innovation as a process innovation that is new to the firm but not new to the industry: such innovations will have been introduced in the industry by competitors. Second, radical process innovations are those process innovations developed by a firm and those that are also new to the industry. In this respect, radical refers to the degree of newness of an innovation to the industry, whereas incremental refers to innovations that may be imitated from other firms in the industry.

Outsourcing

Innovation allows a company to stay competitive in the market. However, most corporate innovative processes may take long time, high cost, and more resources to be implemented. Innovation outsourcing can be an option for this matter, and it is described as any company

that seeks external effort to support part of its work or research and development (R&D) to a lower-cost location or country (Chou & Chou, 2010).

In this study, outsourcing is treated as one of the practices in process innovation. Strategic management of outsourcing can be considered as the most powerful tool in management and the outsourcing of innovation is its frontier (Quinn, 2000). Innovation practice is always dependent on technological advancement. Innovation process is part of business strategy that needs to be carefully delivered and monitored. A large portion of R&D projects involves process innovation, in which innovation occurring in the ways of conducting business. So, process innovation can be one of those ways used by companies to gain more accessibility in the market and to take some advantages.

In the recent past, it was believed that it was impossible to outsource some activities, such as R&D and innovation, because of their importance to the company, but many things are changing in the business environment, spurred by the pursuit of better financial results and by a more fragmented value chain, down to the level of identifying value chain sub-links (Gião, Oliveira & Vasconcellos, 2008).

Outsourcing is a strategic practice in business world since it can save cost for organizations, and in its essential implication, is to hire outside professional services to congregate an organization's domestic needs. The motivation for outsourcing usually was cost reduction; however, the new purposes of outsourcing involve achieving technological flexibility, eliminating seasonal staffing problems and buying time to focus on in-house competencies (Chou, 2007).

Chou & Chou (2010) mentioned, according to the Outsourcing Institute Survey some reasons for outsourcing decisions as: to reduce and to control operating costs; to improve company focus; to gain access to world-class capabilities; free internal resources for other purposes; resources not available internally; to accelerate re-engineering benefits; function difficult to manage/out of control; to make capital funds available; to share risks; and cash infusion.

Assuming on this study outsourcing as a process innovation practice, it is necessary to mention what is outsourced. Based on the literature, the activities were sorted as basic (non-core) or advanced (core) to make the correlation with the local and global innovation outsourcing strategies. Quinn (1999) said that non-core activities can be outsourced. In agreement with this, Lislle (2003), after Gottschalk and Solli-Saether (2006), suggested that a core competency can be outsourced as well. In light of this situation, some firms are dispersing their core and non-core competencies around the globe, seemingly tempting fate by locating them in countries that may build on those activities to launch possible future competitors (Lynn & Salzman, 2005).

In other words, within the interpretation of other concepts, this paper analyses the outsourcing of activities made by enterprises as process innovation in the local and global environment. This interaction is evaluated according to the type of activity developed in the country (basic or advanced), and whether these outsourced activities are sufficient to carry out its operations and to meet the objectives defined by the companies as a whole. In addition, regarding to the business model established, are also considered factors such as how do they perceive competitiveness and identify risks of loss or inhibition of competencies by the type of outsourcing used.

The performance or contracting of outsourced activities is directly related to the competitiveness of organizations. Nowadays, more dynamic competitive environments can put pressure on organizations to restructure more efficiently (Chesbrough; Teece, 1996). According to the OECD, the fragmentation of production processes across several countries has led companies to restructure in terms of outsourcing and offshoring processes. Offshoring includes international outsourcing, where activities are contracted from third parts in other countries (Gião, 2011).

Even so, the decision to carry out activities internally or externally still needs some clarification. For McIvor (2005), outsourcing includes goods and services supply previously made internally of the organization to external suppliers and can also evolve the entire functions transfer of the business to another supplier. Furthermore, outsourcing has evolved from peripheral activities of the business to critical business activities to contribute to the competitive advantage of the organization, seeking greater efficiency and cost reduction (MCIVOR, 2005).

According to Gião (2011), not only low value-added activities or services (basic) are transferred to other places or countries but the ones with high value-added (advanced) have been transferred as well. In a comprehensive way, call center, back office, systems data inputs, technical support and equipments assembly are some examples of basic activities. On the other hand, advanced activities can be research & development, design, new product and services development, engineering services and create or change the production process.

HYPOTHESIS

For this study, the main construct (outsourcing) refers to what kind of business activities are outsourced according to the level of innovation the firms most do. For this purpose, it is measured how much the independent variables, which are global innovation and local innovation, influence this interest by the companies for outsourcing their activities. This, considering companies with global innovation status tending to outsource advanced activities and companies with local innovation status outsourcing basic activities.

Drawing upon these views of outsourcing in the literature, it is expressed the first dimension of the construct for this study through the underlying local innovation. Various authors have also proposed criteria that identify and define the component elements of local innovation. Asheim and Isaksen (1997) add that local innovation consists of a production structure and an institutional infrastructure. Doloreux (2002) instead concentrates on the aspect of the local innovation as a social system, which features relations among different groups of public and private actors, acting in a systematic manner and resulting in increased learning potentials within the given region.

Local innovation often occurs in the face of new challenges or opportunities. Todtling and Kaufmann (1999) stress that the central elements are the firms that belong to the region's principle industrial sectors, flanked by those that operate in complementary sectors. These firms compose different types of networks that operate both within the region and beyond its boundaries, based on supplier-client relationships, cooperation and information exchange. The relational networks created are the vehicles for knowledge and information exchange, and thus enrich the territorial knowledge base.

The correlation between local innovation and outsourcing has been taken into account from some authors (Chou & Chou, 2010, Linder, 2004) since they argued that outsourcing play a

major role in the efficacy of the innovation process for companies that seeking external effort to support part of its work for a lower-cost. Also, according to Gião et al. (2008), it is structurally simpler to outsource services than manufacturing, in terms of resources, space and equipment. Thus, services outsourcing can be implemented faster than in manufacture process.

Linder (2004) added that frequently, the purpose of outsourcing is to offload activities companies declared to be non-core in order to cut costs and improve strategic focus as to facilitate rapid organizational change, to launch new strategies and to reshape company boundaries. So, they are engaging in transformational outsourcing: partnering with another company to achieve a rapid, substantial and sustainable improvement in enterprise-level performance. Thus such argument leads to the following hypothesis:

Hypothesis 1: The local innovation is positively associated to outsourcing of basic activities.

The second construct of this study is about global innovation. Buse, Tiwari and Herstatt (2010) examined “motivators” of global innovation, such as access to knowledge, cost advantages, and market opportunities. Global innovation activities, particularly when conducted in emerging, fast-growing markets such as China and India, may offer tremendous opportunities, such as vast pools of qualified human resources in science and technology, cheaper labor costs and access to new, fast-growing consumer markets with substantial purchasing power and/or infrastructural needs.

In parallel with the growing importance of networks to explain the generation of global innovation, studies in management of multinational corporations were marked by the evolutionary perspective of subsidiaries (Birkinshaw, 1997, 2001; Birkinshaw, Hood, & Jonsson, 1998).

In the recent past, it was believed that it was impossible to outsource some activities, such as R&D and innovation, because of their importance to the company, but many things are changing in the business environment, spurred by the pursuit of better financial results and by a more fragmented value chain (Gião, Oliveira & Vasconcellos, 2008). Here in this article, the access to technologies through business-to-business co-operation, technology alliances and development partnerships represent the importance of this dimension for the global innovation. In such context, the possibility of companies joining different partners emerges through several interorganizational relations strategies, which include networks, alliances, joint ventures and other forms of collaboration (Cropper, 2008; Tidd, Bessant, & Pavitt, 2008) which are meaningful for some firms seeking to outsource some advanced business activities.

Gottfredson, Puryear and Phillips (2005, p.132) stated that “outsourcing is becoming so sophisticated that even core functions like engineering, R&D, manufacturing, and marketing can – and often should – be moved outside. And that, in turn, is changing the way firms think about their organizations, their value chains, and their competitive positions.”

Hypothesis 2: The global innovation is positively related to outsourcing of advanced activities.

The present research focus on how much the dependent variables outsourcing of basic and advanced activities are influenced by the local and global innovation respectively.

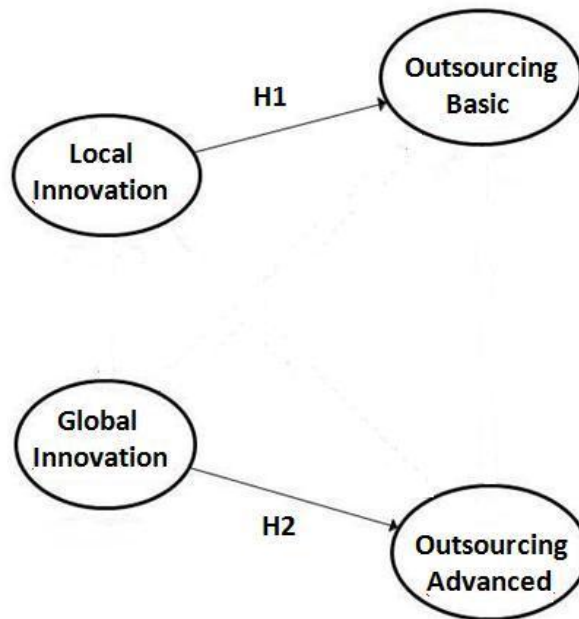


Figure 1: Proposed model.
Source: authors

METHODOLOGY

The approach adopted in this research is a quantitative character, through the use of primary data survey collection method. The survey was answered by directors and managers working for multinational companies' subsidiaries located in Brazil. Data collection were obtained through online answers to questionnaires between November 1st, 2009 to December 15th, 2009. Then, the final sample is formed by 172 completed and valid answers.

Three constructs were extracted from such data base for the purpose of this research. It is important to notice that the construct outsource is subdivided in two parts – basic and advanced activities. These constructs are measured through the Likert scale of five points. At one extreme, one has the value "1", which indicates "strongly disagree" and the other, represented by the value "5", which indicates "strongly agree" (Figure 2).

Construct	Variables
Global Innovation	In recent years, your subsidiary has been considered responsible by the headquarter for executing innovation processes in Brazil?
	In recent years, your subsidiary has developed products that have been sold by other subsidiaries nowadays?
	In recent years, your subsidiary has developed organizational processes that are now adopted by other subsidiaries?
Local Innovation	Your subsidiary has full autonomy to change the design of the products and services offered?
	Your subsidiary has full autonomy to develop new products and services?
	Your subsidiary has full autonomy to develop new suppliers and partners?
	Your subsidiary has full autonomy to make purchases for the parent company and other subsidiaries?
Outsourced basic activities	How often does your company hire third parties to assemble equipments?
	How often does your company hire third parties for call center, back-office, help-desk activities?
	How often does your company hire third parties for Information Technology (IT) services?
Outsourced advanced activities	How often does your company hire third parties for products desing?
	How often does your company hire third parties for research and development (R&D)?

Figure 2: Constructs and variables.

Source: Authors

To test the hypotheses of the study, it was used the data analysis technique from structural equations modeling (SEM) estimated using Smart PLS software version 3.2.4 (Ringle, Wende, & Becker, 2015). The structural equations modeling (SEM) is a multivariate analysis technique, which, based on statistical models, seeks to explain the relations among multiple variables, thus examining a set of relations of dependence simultaneously (Hair Jr., Hult, Ringle, & Sarstedt, 2014).

The minimum sample size was calculated from the software G * Power 3.1.9.2, indicated for the studies that adopted the modeling of structural equations based on partial minimum squares (Ringle, Silva, & Bido, 2014). To do so, the technical parameters used in the software were as follows: family (F tests), type of statistical test (Linear multiple regression: R² deviation from zero), type of analysis (a priori: compute required sample size - given, power, and effect size), effect size of 0.15, level of significance of the allowed error of 0.05, significance level of 95%, statistical power of 0.80 and 3 as number of predictors. The test delineated a minimum sample of 77 questionnaires and, as presented previously, the final sample of the study was composed of 172 valid questionnaires, therefore satisfactory, since it represents a bit more than 2 times the recommended one.

RESULTS

In this section, it is presented the analysis of validity and reliability criteria concerning the structural equations modeling and in sequence the results obtained by testing the proposed hypotheses. Table 1 presents the coefficients of the validity and reliability parameters of the proposed model. It should be noted that the values of Average Variance Extracted (AVE)

above 0.50, Cronbach's Alpha (CA) greater than 0.60 and Composite Reliability (CR) higher than 0.70 that are considered satisfactory (Hair Jr. et al., 2009; Ringle et al., 2014).

Table 1: Cronbach's Alpha, Composite Reliability and Average Variance Extracted

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Local Innovation	0.763	0.851	0.590
Global Innovation	0.626	0.796	0.566
Outsource Basic	0.622	0.799	0.572
Outsource Advanced	0.674	0.860	0.754

Source: Authors.

In relation to the discriminant validity of the model, which is understood as an indicator that constructs or variables are independent of each other, the method of Fornell and Larcker (1981) was adopted. According to Table 2, the values of the diagonal in bold (roots of the AVE) are superior to the others (R^2), taking into account the prerogatives of this method that validates the existing difference between the considered constructs.

Table 2: Discriminant Validity Fornell-Larcker Criterion (1981)

	Local Innovation	Global Innovation	Outsource Basic	Outsource Advanced
Local Innovation	0.768			
Global Innovation	0.347	0.752		
Outsource Basic	0.071	0.184	0.757	
Outsource Advanced	0.168	0.279	0.335	0.868

Source: Authors.

Other adjustment indexes of the model were also satisfactory given the nature of the study, according to Table 3. The coefficient of determination of Pearson (R^2), in the scale proposed by Cohen (1988) for the area of social and behavioral sciences, when it presents value of 2% should be classified as small effect, 13% as medium effect and 26% as large effect (Ringle et al., 2014). Among the constructs, the greatest effect was found in Innovation Openness (20%), while the lowest, in the construct Access to Innovation (11%).

Table 3: R Square (R^2), Crossvalidated Community (f^2), Crossvalidated Redundancy (Q^2)

	R^2	f^2	Q^2
Local Innovation	*	0.318	*
Global Innovation	0.120	0.171	0,055
Outsource Basic	0.034	0.185	0.014
Outsource Advanced	0.166	0.254	0.101

Source: Authors. * Not applied (explanatory variable)

In the analysis of how much each construct is "useful" to fit the model (f^2), the Local Innovation has a value close to large (35%) and the other constructs showed closer to the value considered large than the value considered average (15%) in the classification of Hair Jr. et al. (2009). Finally, as to the accuracy of the adjusted model, the constructs obtained Crossvalidated Redundancy (Q^2), as they presented values of $Q^2 > 0$ (Ringle et al., 2014).

Following, after verifying the assumptions and indexes of fit of the model, the results of the tests of the proposed hypotheses are presented. Table 4 shows the significance of the hypotheses H1 and H2.

Table 4: Hypotheses test of the study

Hypotheses and relationship between constructs	β Path Coefficients	Sig. (p)	Outcome
H1: Local Innovation → Outsource Basic	0.008	0.928	Not supported
H2: Global Innovation → Outsource Advanced	0.198	0.023	Supported

Source: Authors.

The present study has two hypotheses to support the proposed correlations of innovation level with the outsourcing of basic and advanced activities as a process innovation strategy. The first hypothesis H1: The local innovation is positively association with outsourcing of basic activities, was not supported. According to Table 4, the local innovation is not associated to outsourcing basic activities, because β coefficient 0.008 is not significance on level $p < 0.01$, which means the local innovation has not a significant relation with outsourcing basic activities.

Following the discussion, the second hypothesis H2: The global innovation is positively associated with outsourcing advanced activities was supported. According to Table 4, in the isolated condition, the global innovation is associated with advanced outsourcing having β coefficient 0,198, with significance level $p < 0.05$ confirming this relation.

Table 5 shows the results of statistical significance of the associations not defended in the present study, but which were also tested to see all the relations between the constructs of the model and it was expected that these associations were significant to explain the main hypotheses.

Table 5: Other hypotheses tested in the study

Hypotheses and relationship between constructs	β Path Coefficients	Sig. (p)	Outcome
Local Innovation → Global Innovation	0.347	0.000	Supported
Local Innovation → Outsource Advanced	0.079	0.297	Not Supported
Outsource Basic → Outsource Advanced	0.293	0.000	Supported
Global Innovation → Outsource Basic	0.182	0.034	Supported

Source: Authors.

The first association was considered statistically significant showing β coefficient 0.347 and the significance level $p < 0.01$, that means the local innovation has association with the global innovation. In addition, it is possible to infer that this relation means the local innovation is followed by global innovation as a second step when taking the decision about outsourcing activities. The second association was not supported because β coefficient 0.079 in not significance on level $p < 0.01$, so the local innovation has not significant relation with outsourcing advanced activities, and that makes sense in the study because it was defended the relation between local innovation and outsourcing basic activities, which was not confirmed either. The third not proposed association is the relation between outsourcing basic and advanced activities, it was supported through its results β coefficient 0.293 and the significance level $p < 0.01$, giving the same idea of the first association when assuming that

outsourcing advanced activities is a second step after outsourcing basic activities. The last not proposed association is the relation between global innovation and outsourcing basic activities, was supported as the β coefficient 0.293 is significant on level $p < 0.01$. This finding contribute to the understanding that global innovation is in a higher stage of outsourcing, so basic activities have been outsourced previously.

DISCUSSION

The results show that the local innovation is not associated with outsourcing basic activities, nor with advanced activities. However the global innovation has influence on both. Furthermore, the associations between local innovation and global innovation were significant, as the association between outsourcing basic and advanced activities as well. The final model after the tests of the hypotheses and other associations is presented in Figure 3.

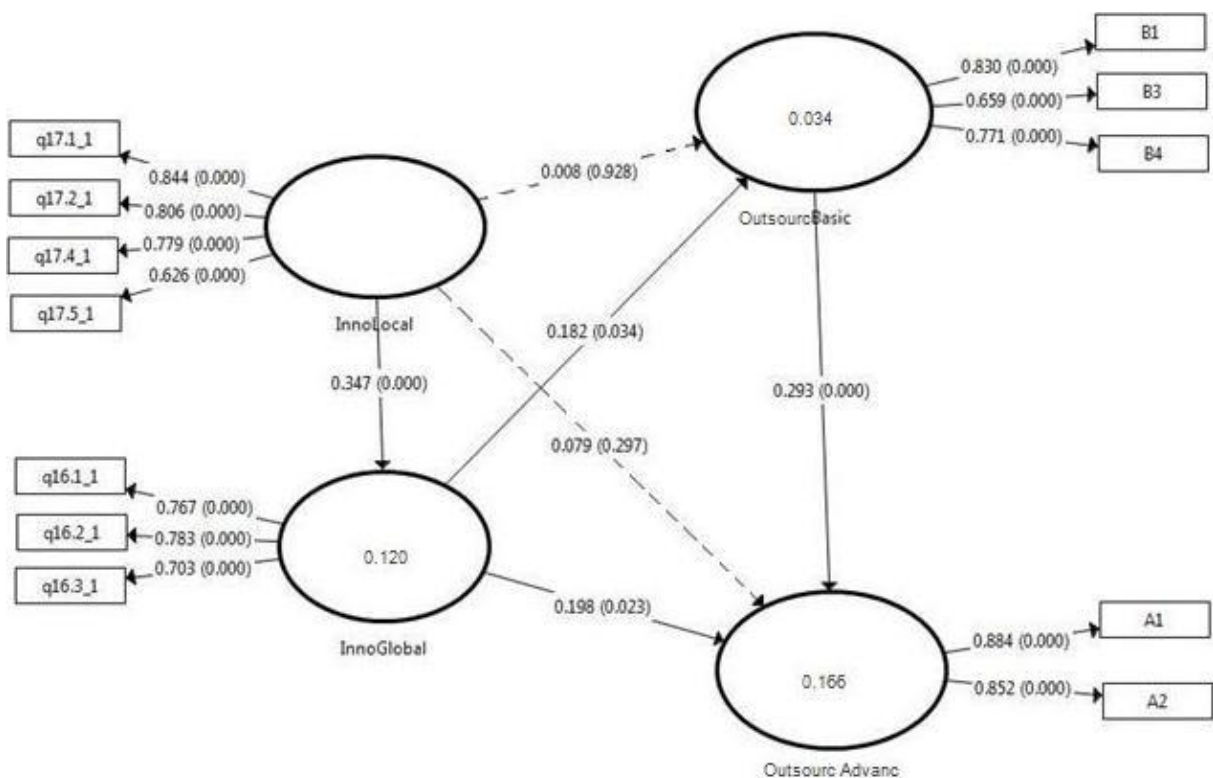


Figure 3: Results of the tests of the proposed hypotheses and not proposed associations.

Source: Authors. Note: (0.000) is the significance level.

As mentioned before, the first proposed hypothesis H1: The local innovation is positively associated with outsourcing of basic activities, was not supported. So, a company focused in local innovation not necessarily outsources basic activities. Therefore, it is inferred that a company that innovates locally does not outsource basic activities because it does not have the need to delegate these activities to third parties, that is, it can develop its basic activities without losing focus on the core activities. In addition, there are challenges associated with the decision to outsource, as internal factors (lower production costs and human resources) and external factors (pressure for cost reductions and culture differences), mentioned by Gerbl, McIvor & Humphreys (2016).

Following this reasoning, it is understood that the company that innovates locally will not outsource advanced activities either. Such understanding was in accordance with the result of the association tested and unsupported between local innovation and the outsourcing of

advanced activities. Hardly in the local innovation the process of outsourcing will already be initiated in the advanced activities without having been realized the outsourcing of the basic activities previously. Most companies can benefit from extending outsourcing first in less critical areas – or in parts of activities, such as the payroll, for instance, rather than their entire accounting (Gião, Oliveira & Vasconcellos, 2008).

Two of the not proposed but tested associations seem to walk together when they are recognized as a following step of one another. The association of outsourcing basic activities with outsourcing advanced activities was supported. As they gain experience, firms may increase profit opportunities by outsourcing other activities (Gião, Oliveira & Vasconcellos, 2008). In the same way, if they are able to outsource basic activities they can take some advantages outsourcing advanced activities as well.

The association of local innovation with global innovation was supported. Patel and Pavitt (1997) argue that the main innovation actors, firms, develop most of their new technologies in house by modifying processes alongside contributions from other firms and the science base. Studies by Meyer, Mudambi and Narula (2011) and by Narula (2014) strongly emphasize the need for integration between the headquarters and subsidiaries (Nohria & Ghoshal, 1997) as a key element so that local innovation can become a global innovation. This is because embeddedness, understood as the strong alignment between subsidiary and headquarters, would allow that the innovation of the subsidiary were more easily recognized and used by the headquarters and other corporate units (Birkinshaw et al., 1998; Frost, Birkinshaw & Ensign, 2002).

The hypothesis 2 confirmed the global innovation is positively associated with outsourcing advanced activities. This result help clarify what global innovation is in the context of outsourcing, and it contributes with Subroto and Sivakumar (2012) research, where the authors argued about three important aspects of outsourcing activities that make a crucial step in the context of innovation. First, unlike past outsourcing, many currently outsourced activities are closer to the core competencies of the firm (Arnold, 2000; Coombs, Narandren, and Richards, 1996). Second, outsourcing activities are increasingly knowledge based; thus, knowledge management to sustain innovation becomes an important objective (Quinn, 2000). Third, when a knowledge-based activity is outsourced, the outsourcer organization needs to understand the impact on the generation of innovations (Quinn, 2000). It is possible to infer also that while innovation is still created internally, collaborating with a supplier network is perceived as an important vehicle for tapping into sources of change and transformation. There is evidence that firms have been focusing on getting value adding services from their third party supplier in addition to cost savings, for instance.

The association of global innovation with outsourcing basic activities, were both supported by the tests. The results showed similarity with the findings of Costa, Borini and Amatucci (2013) because the authors concluded that global innovation can come from a process of meeting specific needs of the market, but may also be the internal demand of the multinational. In this case, the need to outsource basic or advanced activities will depend on what the market needs and what are the internal demands of the company. This result also agrees with Costa and Borini (2017) where the authors stated that global innovation in subsidiaries has as mediating element the insertion into networks. So, this insertion can also be a relationship with partners that accomplish outsourced activities for firms that hired them.

CONCLUSION

The research presented in this paper has important implications for both theory and practice. This study intended to show that the level of innovation used by companies can influence the outsourcing of basic or advanced activities as a process innovation strategy. According to Gerbl, McIvor & Humphreys (2016) business process outsourcing has been one of the most prominent, though controversial trends, over the last decade. It has gained increasing importance in today's global economy as organizations have been transferring responsibility for entire functions such as human resources, logistics, customer contact, and information technology (IT) services to both local and global vendors.

For Deng et al., (2013), organizations have turned to local and international outsourcing to improve performance and for Gerbl, McIvor & Humphreys (2016) the location distance choice refers to the distance between the customer's home nation and location of the outsourced operation. Therefore, the main contribution of this study is to make the correlation between the level of innovation (local or global) with the type of outsourced activities (basic or advanced). The findings allowed the understanding that local innovation not necessarily influence companies to outsource basic and advanced activities. However, it was found that in a global level of innovation there is more propensity to make firms outsource both basic and advanced activities.

Looking to outsourcing of basic and advanced activities as process innovation can enable firms to gain performance; thus, a better understanding of process innovation allows a greater appreciation of the means by which firms gain and sustain competitive advantage while they outsource some activities in order to concentrate in new others.

One of the limitations of the study is the sample used considering subsidiaries situated in only one country, which is Brazil. A country's environment may not reflect what happens in other parts of the world exactly. Although the subsidiaries are located in the same country, they all come from different countries, so that makes it interesting as suggestion for future research to investigate if this relationship between the levels of innovation and types of activities outsourced occurs differently in subsidiaries located in other countries with different local contexts.

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