

Degree of Internationalization (DOI) and Performance Relationship: An Empirical and Conceptual Approach

José Satsumi López-Morales

Economic- Administrative Sciences Department Instituto Tecnológico de Veracruz México Email: jsatsumi@gmail.com

María Mercedes Gómez-Casas

Economic- Administrative Sciences Department Instituto Tecnológico de Veracruz México Email: m_mercedesgc@hotmail.com

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Abstract

The main goal of this paper is present a conceptual and empirical review about degree of internationalization (DOI) and performance relationship. In the first part of the paper the conceptual basis about DOI and performance are explained. In the second part the five models of DOI and performance relationship are described. In the third part is shown the empirical evidence about this phenomenon during the last years. In the last part some gaps of the literature are described.

Keywords: Degree of Internationalization, Performance, DOI.

Classification JEL: F23, M16.

1. Introduction

The international expansion of the firms has become a topic of study relevant in the academic community. This fact is due to the fact that the decision to get into the international markets generates the expectation of a utility maximization therefore a positive impact on business performance (Hitt, Tihanyi, Miller & Connelly, 2006). All the above, makes the study of the degree of internationalization (DOI) and performance relationship is an important subject of study in international business.

The relationship between degree of internationalization (DOI) and performance has been a topic of interest in the international business since 30 years ago (Contractor, 2012; Kirca, et al.

2011; Ruigrok & Wagner, 2003). The general belief assumes that the DOI is a factor that increases in a positive way the performance of firms (Kirca, et al., 2011; Ling, Liu & Cheng, 2011).

On the other hand Gomes and Ramaswamy (1999) in their seminal study demonstrated that the DOI has a negative impact on the performance of the firms. This hypothesis is contrary with the results of studies that show positive effects of the DOI in the performance. Likewise also has been added literature that supports this hypothesis (Ang, 2007; Thomas & Eden, 2004), therefore the empirical evidence does not provide conclusive results about the effects of the DOI in the performance of (Bae, Park & Wang, 2008; Bausch & Krist, 2007). Given the above, the main motivation for this work is try to explain this phenomenon with conceptual and empirical basis. Similarly, the relationship DOI- performance presents different approaches and important areas to be addressed.

Finally, this paper is organized as follows: first a review of some concepts of DOI and performance. Second, the five general models of the relationship DOI and performance are shown. Third, we performed a retrospective review of the empirical works about the DOI-performance in the last 20 years. Fourth, the future lines of researching are identified and finally a section where we discuss the main findings.

2. Conceptual Approach

2.1 Degree of Internationalization (DOI)

The DOI of the firms is an important issue since many years (Contractor, 2012; Cuervo-Cazurra, 2007; Sullivan, 1994). One of the first to define it was Ansoff (1957) that defines simply as "the performance of a company in foreign markets". Also, Ang (2007) notes that the geographical scope of the international presence of a firm is an indicator of the degree of dependence on foreign markets.

On the other hand, the DOI is also defined as the expansion through the borders of the regions of the world countries and in different geographical locations (Hitt, Hoskinsson & Kim, 1997). Similarly another relevant definition is the set of operations that facilitated the establishment of links more or less stable between the firm and the international markets, through a process of increasing involvement and international projection (Root, 1994).

Likewise the DOI refers to the degree to which the sales and operations of a firm are undertaken outside the country of origin (Elango & Prakash - Sethi, 2007). In addition the DOI can be classified into two geographical dimensions: regional diversification and diversification by country (Tsai & Kuo, 2010). On the other hand, Thomas and Eden (2004) defined DOI as the degree to which firms expand their sales and operations abroad.

As well, the DOI is defined as the degree to which a firm has international operations. This construct is typically measured by the number of countries in which the firm operates or the



number of subsidiaries that has the firm abroad. Therefore it is assumed that to a greater number of countries or subsidiaries where the firm operates generates an increase in the performance of a firm (Dau, 2011).

In accordance with the review of the literature about the concept DOI this is a broad term and can be approached from different perspectives. In addition, this diversity bring as a result various complexities in order to obtain a single definition. Finally, the study of the DOI as phenomenon in international business should be approached from a broad perspective that would lead to results which may unify the terminology about this phenomenon.

2.2 Performance

Performance is measured by the results of the firm. The results are often valued by the goals previously laid down. With this is possible to assess the progress of the firm's goals. The above approach is associated with the financial performance (Barnes & Jacobs, 2012; Kariv et al., 2009).

We have mentioned some characteristics, advantages and limitations of the performance. The key question is what the performance means? The concept of performance is not an easy task (Barnes & Jacobs, 2012; Kariv et al., 2009; Brown & Schiuma, 2003). The term can be used in several levels of the organization, for example: individual performance, team performance and organizational performance (Brudan, 2010). Hence the difficulty so you can define it accurately.

The performance is a term in which each who puts the concepts that are best suited to their particular interests and the same environment (Barnes & Jacobs, 2011). Neely Adams & Kennerley (2002) conceptualize the performance measures as "processes to quantify the efficiency and effectiveness of the last action". The definition above says that the performance is a tool to help managers in the choice of routes of action.

The above discussion about the concept of performance suggests that performance is oriented to the past and uses quantitative indicators for its measurement. In addition it can be approached from different units of analysis. Finally, the quantification of the performance was very useful in helping managers to make strategic decisions in the firms.

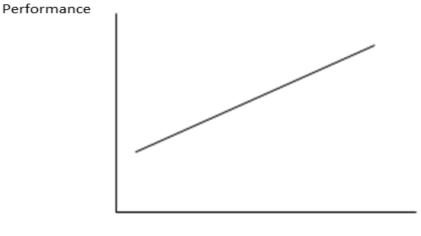
2.3 Models of DOI and Performance Relationship

Different studies have identified five general models that try to explain the relationship between the DOI and performance. These models try to give explanations about the behavior of the DOI in the firm's performance, these are:

 Positive and Linear Model: Empirical evidence indicates that the relationship between DOI and performance has a positive linear relationship (Grant, 1987; Grant, Jammine & Thomas 1988). It is important to point out that this model is the more is



associated with this relationship; that is to say, it is assumed that the DOI always positively impacts performance (Contractor, Kundu & Hsu, 2003), this means that a greater DOI generates an increase in the economic benefits to the firms.



DOI

Figure 1. Positive and Linear Model.

Source: Own elaboration based in Thomas & Eden (2004).

ii. Positive But Diminishing Returns Model: Since the linear approach, has been found empirical evidence that shows that the DOI with the time affects adversely the performance (Gomes & Ramaswamy, 1999), therefore the DOI remains positive in the performance, but these benefits begin decrease, that is to say, these are not as great as at the beginning of the international expansion.

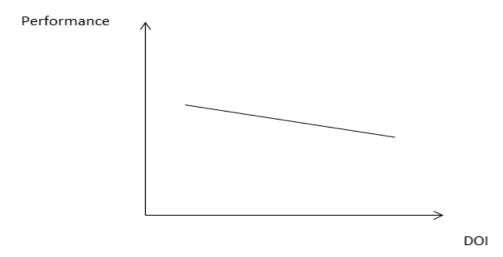
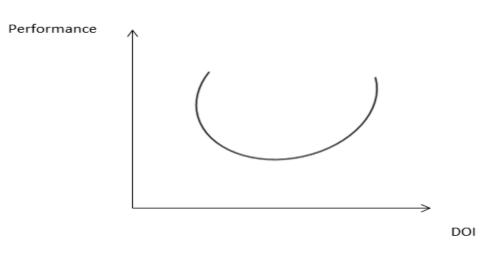


Figure 2. Positive But Diminishing Returns Model. Source:

Own ellaboration based in Thomas & Eden (2004).



iii. "U"shaped relationship: Other studies have found evidence that the way that acquires the relationship DOI - performance is in the form of "U", i.e. the firms initially presents a negative performance when starts the internationalization process. With the time this trend is slowly changing becoming a positive relationship (Ruigrok & Wagner, 2003; Qian, 1997).



Source: Own ellaboration based in Contractor, Kundu & Hsu (2003).

Figure 3. "U" shaped relationship.

iv. Inverted "U" relationship: There is in the academic literature empirical evidence that have been found a relationship in the form of inverted "U" between the DOI and the performance of the firm (Gomes & Ramaswamy, 1999; Hitt, Hoskisson & Kim, 1997, Sullivan, 1994), this means that with the passage of time, the positive impact on performance is offset by the costs of coordinating a loose network of international operations in different countries.

With the foregoing, the slope of the curve is a positive start and after reaching its highest level begins to be negative, this relationship is that a greater geographic dispersion increases the costs of coordination (Hitt, Hoskinson & Kim, 1997), hence the DOI offers the ability to leverage economies of scale, use the benefits of country of origin, take advantage of the differences in costs between the countries (Gomes & Ramaswamy, 1999).



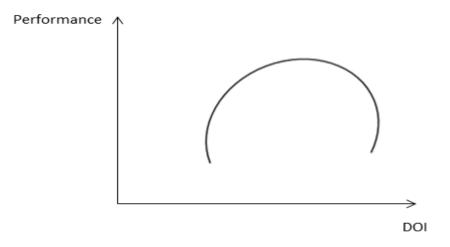


Figure 4. Inverted-U Relationship.

Source: Own ellaboration based in Contractor, Kundu & Hsu (2003).

v. Sigmoid Relationship: The most recent findings suggest "S" shaped relationship. Contractor, Kundu and Hsu (2003) propose that the relationship between the DOI and performance is composed of three stages, which take a form of "S". These stages are:

Stage 1. Negative Slope: This stage is supported by the Uppsala model (Johansson & Valhne, 1977), at this stage the firm seeks expand abroad in markets that are familiar (i.e. Mexico and USA). Also, the firms that started its internationalization process presents large costs of learning due to the lack of knowledge of the overseas market, especially the culture and the political environment (Contractor, Kundu & Hsu, 2003). The costs of the initial internationalization are not taken as onerous, this generates some motivation to expand internationally for some firms, and therefore the stage 1 is presented with a negative slope (Figure 1).

Stage 2. Positive Slope: In this stage, a larger geographic scale of operations makes possible the efficiency that improves the performance indicators such as the gain on sales or the overhead costs per country. Fixed costs and other costs of the operations, the expenditure in R & D can be distributed in more countries (Kogut, 1985; Porter, 1985).

Therefore, the firms in this stage have greater access to lower costs in raw materials and are capable of identifying best opportunities for market. Hence, at this stage the relationship between DOI and performance presents a positive relationship. This reflects consistency with the interests of the firms, obtain financial benefits.

Stage 3. Negative Slope: what are the benefits of the stage two indefinite? the relationship in the form of inverted "U" suggests that some firms in the sector, are "over-expanded" internationally beyond the optimal level. For such firms, the incremental costs of further

expansion within peripheral nations are greater than the incremental benefits, and this affects the total benefits of performance.

By that the relationship in this stage turns negative?, first, beyond a certain point, having been expanded within more lucrative markets, the firms is left with the countries with the least potential for profit; second beyond an optimal number of countries, the growth of the costs of coordination outweigh the benefits of the expansion in the international activity, due to the complexity of managing operations in different countries. Therefore, again the relationship between DOI and performance is negative, however unlike the stage 2, this negative relationship will be much shorter than in the stage 3 (Contractor, Kundu & Hsu, 2003).

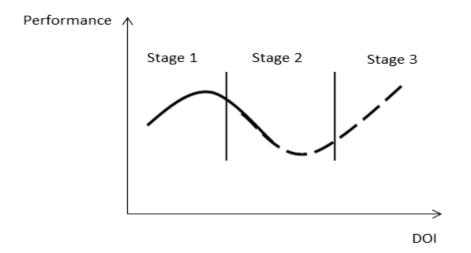


Figure 5. Sigmoid Relationship.

Source: Own elaboration, based in Contractor, Kundu & Hsu (2003).

It is important to point out that DOI and performance could be studied by separate or related to another construct. However, the DOI-performance relationship is an important phenomenon in business literature due to the internationalization is considered a factor of success for the firms (Contractor, 2012; Li, 2007). In addition, the study of the DOI-performance relationship can illustrate how the firms take advantage in the medium or long term the expansion abroad.

The five previous models are an attempt by the researchers in order to understand the behavior of the relationship between the DOI and the performance. However, despite the numerous studies on the subject, has not been possible yet pose a theory to explain the effects of this relationship in the companies. In other words these models do not represent a full explanation of this phenomenon.



3. Empirical Approach

The literature in recent years has focused on studying the degree to which the DOI influences the performance of the firms. There are several studies that have focused on thoroughly to research this relationship (Li, 2007; Hennart, 2007). This literature presents various issues related to the DOI. Some studies suggest that firms can transfer resources to achieve economies of scale (Tallman & Li, 1996). In addition to utilizing the imperfections of the markets (Dunning, 1988) and expand business chances (Kogut, 1985). All of this creates an impact of countless consequences in the performance.

On the contrary, operate in different markets brings an increase in costs in the firms's operations. Would those that operate in markets where there is a higher cultural heterogeneity (Gomes & Ramaswamy, 1999). This means that a greater cultural diversity will be higher costs (i.e. Latin America firms in China).

The theory also notes that the firms do not become multinational if you do not observe any chance of benefits. Therefore the expansion abroad must have a positive impact on performance. However, is important to point out that this behavior is not a general pattern in firms owned by governments (i.e. Pemex, Statoil, Pdvsa), since these firms generally are pursuing non-economic goals such as: fulfill social goals and contribute the national budget.

However, this provision has not been complied with in all cases, since despite not reaching benefits in the performance these firms expand internationally (Gomes & Ramaswamy, 1999; Thomas & Eden, 2004). The above approaches suggest that there is no consensus about the effects of the DOI and the performance in companies (Elango & Prakash - Sethi, 2007). Therefore the importance to make contributions to the body of existing knowledge.

Below is shown a list of studies that have examined from different perspectives the relationship DOI- performance during the past 20 years.

Table 1

Author	Sample	Results
Tallman & Li (1996)	192 U.S. multinational manufacturing firms.	Country Scope: has a positive but weaker effect on multinational performance.
		Multinationality: not show a significant main effect on firm performance.
Riahi-Belkaoui	100 U.S.	S-shaped relationship between DOI and
(1998)	manufacturing and	firm performance.
	service firms.	
Capar & Kotabe	81 German service	DOI- perfomance relationship "U"shaped.

Literature Review about DOI- Performance Relationship.



(2003)	firms.	
Thomas & Eden (2004)	151 USA firms.	Multinationality indicators that comprise the breadth and depth of DOI.
		Findings suggest that the DOI-performance relationship presents a different behavior in the medium and short term.
		DOI-performance relationship is no lineal in the long term.
Rieck, Cheah, Lau & Lee (2004)	51 firm of telecommunication sector in USA.	DOI- performance relationship inverted "U" shaped.
Lu & Beamish (2004)	1489 Japanese firms.	DOI- performance relationship "S" shaped.
Chiang & Yu (2005)	119 no- financial firms in Taiwan.	DOI- performance relationship inverted "S" shaped.
Contractor, Kumar & Kundu (2007)	142manufacturingfirmsand127servicefirmsfromIndia.	DOI- performance relationship "U" shaped. The service firms have positive benefits before the manufacturing firms.
Elango & Prakash- Sethi (2007)	1721 technology firms and from 16 different countries.	DOI- performance relationship inverted "U" shaped
		The origin country conditions have an impact in the DOI- performance relationship.
		DOI- performance relationship is lineal positive in small size countries and commercial oppeness.
Ruigrok, Amann & Wagner (2007)	87 manufacturing firms from Switzerland	DOI- performance relationship inverted "S" shaped.
		The firms that operates with high levels of DOI presents a low performance and high averages of variation in the performance.
Pan & Chao (2010)	248 firms from Taiwan	Low positive relationship in high levels of regional diversification and for countries.
		After of certain degree of expansion, the



		performance of the firm reaches decreasing due to the increase of the transaction and administration costs.
Loncan & Nique (2010)	Five firms from Brazil.	Positive influence of the DOI in the performance.
Bobillo, López- Iturriaga & Tejerina- Gaite (2012)	1721 firms from twelve European countries.	The industrial firms have more difficulties that the service firms in reach a positive relationship in the DOI- performance relationship.
Lee, Chan, Yeh & Chan (2010)	4667 firms from Taiwan.	Breadth (measured by the number of foreign countries where a firm has direct investments) has positive effects on firm performance (measured byTobin's Q).
		Depth (measured by the number of foreign investment sites in top two countriesdivided by total number of foreign investment sites) is negatively correlated with firm performance.
Bolaji & Chris (2014)	Five Banks from Nigeria.	DOI influence positively in performance. International expansion can bring better economic performance to firms from developing economies.

Source: Own elaboration.

Table 1 shows a review of different studies carried out in the past years. These studies show a great difference between the results. These differences could be due to the different contexts of countries, the different sectors of economic activity and the size of the samples that are used for the studies. As can be seen there is difficulty in being able to identify a uniform pattern of the relationship DOI - performance.

Also, the general belief that the foray into international markets generates benefits for the performance is questionable. Some studies have shown that operate and enter international markets represent an important risk that adversely affects the performance. Therefore, the firms that will operate abroad must properly analyze the different scenarios.

4. Future Direction of the Research

The DOI- performance relationship is relevant to the field of international business. Its importance is focused on the implications for decision-makers of the firms. Up to now has not



been able to unify a body of knowledge to explain fully if the DOI affects positively or negatively the performance of the firms (Bae, Park & Wang, 2008; Bausch & Krist, 2007). As a result, there are several areas that require more in-depth studies.

For example, Thomas and Eden (2004) point out that it is still not possible to determine what time it takes to the MNC's receive greater benefits from its international expansion. Also make reference to the studies on DOI and performance must be performed in different contexts in the United States. Likewise is important include studies with firms operating in emerging markets. (Chang, 2011; Contractor, Kumar & Kundu, 2007; Li, 2007; Rugman & Sukpanich, 2006).

On the other hand is also necessary to conduct studies with data for long periods of time (Chang, 2011). Also is important analyze the effects of the ownership, such as whether the company is private, public or family (Dau, 2011). In addition, is needed to delve into the studies in service firms because they are scarce and this sector presents an important proportion of economic activity in many countries (Capar & Kotabe, 2003).

Also is relevant conduct researching with larger samples (Loncan & Nique, 2010, Elango & Prakash - Sethi, 2007) in order to get more conclusive results. Also is important to consider the moderating and mediator effects of the new variables that can have an impact on the relationship DOI – performance since some new internal and external factors have affected the firms currently.

Likewise is relevant understand the limitations of the performance indicators. In the literature about DOI-performance relationship the most used indicators are accounting based indicators, such as: ROE, ROA and ROS (Contractor, Kumar & Kundu, 2007; Li; 2007). However is relevant test the model with a new set of indicators that comprise not only the accounting scope, but also individual and market based indicators.

In the same way is important to analyze the effects that have had the economic reforms implemented by the governments during the 90's in many emerging countries in the DOI – performance relationship. On the other hand, it is important take into account the implications of the economic sector where it operates the firms due to the competitors, size and the magnitude of international operations could affect the behavior of DOI- performance relationship.

Likewise, the studies about DOI-performance in the major part generally are carried out with firms in the same economic sectors. So, it is relevant carry out studies comparing the DOI-performance relationship of firms from different economic sectors (i.e. manufacturing and high technology). The above in order to try to get more certain findings about the form of the slope of DOI-performance relationship.

Finally is important to note that the relationship between the DOI and performance should not be only a central theme in the research in international business (Oesterle, Richta & Stratmann, 2008). This phenomenon must be a central theme in the research in administrative sciences,



the lack of a general theory to explain what makes it necessary. According to the points raised above address this phenomenon from a comprehensive, holistic perspective is mandatory.

5. Conclusions

The aim of this paper is present a conceptual and empirical approach about the relationship DOI and performance. According with the review literature we identified five general models of DOI - performance. In addition, there are many definitions of the DOI and the performance, this fact makes difficult the development of a general theory about this phenomenon. In addition there were several areas of study that have not been addressed.

Also the review of the literature shows that there have been various studies that have contributed to the topic, however, there are still gaps in the literature to be analyzed. These studies have been conducted in developed countries (Ruigrok, Amann & Wagner 2007; Thomas & Eden, 2004; Rieck, Cheah, Lau & Lee, 2004; Capar & Kotabe, 2003), emerging markets (Ferreira de Andrade & Ribeiro Galina, 2013; Chang, 2011; Loncan & Nique, 2010; Contractor, Kumar & Kundu, 2007; Chiang & Yu, 2005), cluster and multisector (Bobillo, Lopez- Iturriaga & Tejerina- Gaite, 2012; Elango & Prakash - Sethi, 2007; Rugman & Sukpanich, 2006).

The above reflects a wide variety of studies that have contributed in recent years to the literature about this topic. Likewise is important understand the behavior of the relationship in markets where operates state firms and in markets highly regulated by the governments since the state factor plays an important role in the operations of the firms.

Finally this paper provides several contributions. First, we performed a retrospective review of the latest literature on the relationship DOI - performance. Second, it was found that there is a step forward in the literature on this topic and is beginning to replicate studies in firms in countries that previously have not been taken into account. Third, due to a review of the empirical studies of the last few years has been possible to identify various areas of study that have not been addressed about this phenomenon.

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