# Manufacturing operation transfer from USA to Mexico Case study

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Received date: 14 June 14, 2017 / Accepted date: 5 July 5, 2017

Abstract: Companies are continuously looking for resources and skills which lead them to a higher performance. Companies should manage not only the resource access, but a collaborative strategy as well, which maximizes the benefits of a healthy and constructive interaction expected between customer and provider. This paper analyzes the case of a company accustomed to operate with a traditional business model, and the paradigm shift that was necessary as a result of its exposure to the new customer's requirements and demands for total openness, cooperation and transparency.

*Keywords: resources / knowledge / cooperation / business model / industrial efficiency / customer relationships*

## Transferencia de operación de manufactura de EE. UU. a México. Estudio de caso

Resumen: Las empresas están permanentemente en búsqueda de recursos y capacidades que las habiliten hacia un nivel superior de desempeño. Es necesario que la empresa administre la estrategia colaborativa que maximice los beneficios de esa interacción sana y constructiva que se espera entre cliente y proveedor. En este documento se analiza el caso de una empresa acostumbrada a operar con un modelo de negocios tradicional, y el cambio de paradigma que fue necesario adoptar, como resultado de su exposición a los nuevos requerimientos y exigencias del cliente, que demanda apertura, colaboración, y transparencia.

*Palabras clave: recursos / conocimiento / colaboración / modelo de negocios / rendimiento industrial / relaciones con el cliente*

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## 1. INTRODUCTION

The case study presented took place in Mexico at the end of 2001 and part of 2002 in one of the maquiladora companies of the electronics industry. This industry had a great competition in the pursuit of not only cost reduction, but also skilled labor. In this context, many companies decided to move their manufacturing operations outside the United States. The company analyzed is a maquiladora with a global presence, suppliers and clients whose corporate has negotiated with clients to transfer operations from the United States to Mexico, along with the commitment to maintain a good level of service, quality, and reduced costs.

When the Organisation for Economic Co-operation and Development [OECD] (2017) refers to global value chains, it states that flows between complex global value networks are multidirectional and include material inputs, services, employees, ownership of assets through foreign direct investment (FDI) in a cross-border context, contract execution and standards, covering technology transfer and intellectual property protection (IPP).

In these global organizations where interaction with different cultures, thus with different forms of doing business, is usual, a certain level of conflict is also common and expected. At the same time, it is also usual experience a natural knowledge enrichment, as a result of the relationship between not only sister's offices, but also between client-provider (inter-firm), as mentioned by Barnett & Hansen (1996). These small adjustments to daily routines, over time, act in the reconfiguration of formal strategic plans which are expressed at the level of capacities that impact through innovations, whether in the area of technology or knowledge management (Dyer & Singh, 1998).

In this regard, Barney (1991) identifies that the resource-based approach to competitiveness theory considers performance within a relatively stable and predictable environment. However, in a dynamic environment, when any economic change or other drastic changes occur, such disruptions or alterations would likely render irrelevant or obsolete the resource currently represented by competitive advantage.

In a dynamic environment, changes and challenges are constant. Teece, Pisano and Shuen (1997) point out that it is right here when the perspective of dynamic capacities is relevant, as it allows the company

to focus on its capacity to create new resources, renew them, or modify their mix. Thus, the participation of the senior management team, its beliefs about organizational evolution and its role in the development of new dynamic capacities, become crucial (Rindova and Kotha, 2001).

According to Barney (1991), organizational capabilities can generate sustainable competitive advantage by considering the following characteristics: (1) they are not marketable in strategic factor markets, (2) based on history, it takes a long time to develop them, and they depend on their origin, (3) they involve socially complex relationships with other organizational resources.

## 2. *PROBLEM AND RESEARCH QUESTION*

For transfer purposes, the leaders of each area who would be in charge of the operation transfer from the United States to Mexico (except the ones for the materials area of Mexico) were designated since the beginning of August 2001, four months prior to the planned transfer date. The designation for this area occurred when the customer started asking about this void in the assignments and the corresponding null advance. It was then that the name of a person was introduced as contact, to start making the first approaches in this respect at the end of September 2001. Nevertheless, this person continued being assigned de facto and occupied with the operational functions corresponding to his previous position without being able to get involved in the "new" responsibilities.

It was not until the beginning of November that Mexico's materials supervisor was appointed to be in charge of the transfer, along with three buyers, including the first person previously designated as initial contact. They traveled to the United States in the second week of November in order to start the transfer process.

During the first week of the stay, the US team provided all kinds of information requested, in a very collaborative and willing manner without any resentment or lack of interest, even though they lost the business and their jobs. They emphasized two main aspects: A) the purchasing team consisted of 8 buyers, 01 materials supervisor, and 01 new product introduction specialist. Therefore, it was recommended that the Mexican team ask for additional buyers over that number, at least until reaching the take-off curve, and then maybe adjust to: 8 + 1 + 1 as they used to work. B) the area of new product introduction was

of critical importance to the client, and required a full-time dedicated specialist.

After the first week of stay in the United States, it was concluded that five additional buyers at least were immediately necessary to complete the transfer within the dates scheduled with the client, considering the US plant's closure programed, and the beginning of production in Mexico, in order to avoid gaps in the supply of finished products. These five additional buyers requested were not authorized, and they continued working with only one materials supervisor and three buyers. As a consequence, several steps and detailed analyzes were not carried out, the staff worked only with assumptions subject to further verification, including a very superficial involvement in the area of new products introduction. This all happened even though there was a notice from the US counterpart about how important it was for the client.

The Mexican organization did not understand the importance of the new products introduction (NPI) for the client despite the fact that its sister division in the United States was making efforts to point out the reasons for which it was a critical area for the corporate itself and for the client. The NPI of the US division had developed closeness and trust with the client that allowed a flow of information in both directions almost instantly, in a complete and transparent manner, which also allowed participation from the earliest stages of design, first level productions prototype, and pilots of the new products, in order to have both parties aligned in terms of evolution and modifications, not only of the product, but also of the processes and equipment involved, so that the customer had very reliable elements to plan and announce the new products launch dates.

In the US unit there was a team exclusively dedicated to NPI, which visited the different design and engineering centers of the client frequently in order to observe the production running in beta phase, test it completely, and participate with them providing ideas and suggestions to produce the most manufactured and massive products as possible

In turn, the client's NPI team visited the US factory to observe the production start in each of its prototype, pre-pilot, pilot, and mass production phases, sharing information regarding the state of administration, availability and arrival of materials, engaging directly in problem-solving and talking directly with material manufacturers in

cases that seemed not viable, generating direct solutions or in extreme cases approving alternative sources of materials, not initially considered in the design, in order to succeed and meet the dates they promised to their final client.

It is worth mentioning that it was the first time that the division of Mexico received a business project of this kind. Business units operating in this area shared a common characteristic related to the type of products and their production model. They were handled under the scheme of low mix / high volume, which means that there is little variety of products, and each product is manufactured in large quantities; therefore, equipment and processes are standardized for almost all products manufactured, few product / process changes are required during the production week, and staff at all levels also undergo few changes in their activities.

These products weighed between 200 grams and 1000 grams. However, this new customer had products of variable sizes with different processes, and with a high level of "custom design", low automation, high requirement of specialized labor, and some of them require up to two people for handling during the production process.

This new business model breaks the administration paradigm known by the Mexican team and produces a scenario of "cultural" and polarized shock between the customer demanding a better level of response or similar to what he is accustomed, against the poor and slow response of the local team, who is not ready for that level of complexity, not even ready to live in such a close level of intimacy where they feel their privacy invaded and exposed to observation and criticism.

First, a brilliant materials manager was brought in, he had full motivation and expertise in the area of materials management systems, but he lacked experienced in the operation of materials and personnel management; he had an "X" manager profile, and very limited human relations. An ideal combination for the perfect storm.

Disagreements and open frustration expressions made by the client and local material manager became routine. The new manager switched the materials supervisor who initially participated in the operation transfer, and forbade the local team to communicate with the client's team trying to centralize the information through only two or three people. The customer escalated his disagreement to both corporate teams in the United States, and threatened to cancel the global business.

There were two weeks of daily meetings, up to twice a day, between the client and senior managers in Mexico and the United States with high levels of tension and limits of communication.

## 3. RESEARCH QUESTION

What strategy is recommended to use for business transfer, and specifically for New Business Models?

## 4. REVIEW OF LITERATURE

### A. Dynamic capabilities

According to Teece et al. (1997), dynamic capabilities are the company's abilities to integrate, construct, and reconfigure competencies to manage highly dynamic environments, and thus not only adapt, but as Eisenhardt & Martin (2000); Teece (2007), also configure the same markets change with innovations in products, processes, customers, suppliers, distribution channels, etc. According to Blome, Schoenherr & Rexhausen (2013) competencies differ from capabilities as competencies have an internal strategic focus, and are described as being skilled in some internal knowledge or process within the value chain, while capabilities evolved from competencies, and focus on the external environment.

For Teece et al. (1997), these dynamic capacities are grouped into three concepts: detection, integration, and reconfiguration.

1) Detection: consists of scanning, searching and exploring market opportunities and technologies internally, as well as current and potential customers, competitors and suppliers, observing their innovation activities, updating at the frontiers of knowledge, identifying trends and mechanisms of the industrial development (Teece, 2000; Teece, 2007; O'Reilly and Tushman, 2008). As mentioned by S. S. Zhou, A. J. Zhou, Feng, & Jiang (2017), companies able to develop this capability will have a better understanding of customer needs, and respond to them through innovation channels in distribution, marketing, prices, etc.
2) Integration: It is related to the efficient and effective transfer of technology and information between the different areas of the company; opening roads to learning, sharing and transferring knowledge and

technology, and market information, internally (Teece, 2007; Teece, 2014; Cepeda & Vera, 2007; Wang & Ahmed, 2007).

3) Reconfiguration: according to Prieto, Revilla & Rodríguez-Prado (2009) and Teece (2007), it refers to the flexibility to reconfigure organizational structures, decision-making in each department, redesign of processes and procedures, redesign of mechanisms and internal and external communication networks, as well as the provision of knowledge or obsolete resources.

### B. *Supply chain agility*

According to the Council of Supply Chain Management Professionals (CSCMP), an integrated definition of supply chain is as follows.

> SCM encompasses the planning and management of all activities involved in locating, procuring, converting and all logistics management activities. Very important, it also includes coordination and collaboration with channel partners, intermediaries, tertiary providers, and clients. In essence, supply chain management integrates supply management and internal and inter-company demand. It is an integrative function whose primary responsibility is to link the main functions and business processes within and between the companies towards a coherent and high-performance business model. It includes all the logistics management activities outlined above, as well as manufacturing operations, and directs the coordination of processes and activities in and between marketing, sales, product design, finance, and information technology.

On the one hand Lee (2004) and Blome et al. (2013) indicate that agility is the ability to respond quickly to sudden changes in demand and supply, and handle disruptions easily. On the other hand, Swafford, Ghosh & Murthy (2006) state that it is dynamic because the way they manage changes tomorrow will be different from how they are managed today due to variations in the dynamic environment. This is considered as capacity because it focuses on a broad external environment, while relying on internal competencies such as flexibility, is one level down at the operational level.

On the other hand, Li, Goldsby, & Holsapple (2009), Gligor and Holcomb (2014) point out that among the capabilities required by the company, agility is a valuable strategy for companies seeking superior performance and sustainable competitive advantage. As pointed out by

these authors, and Lee (2004), the basic features of agility focus on the ability to detect changes and provide quick and flexible responses to those changes.

These characteristics are highly desirable and necessary in order to be successful today. According to Wen, Li, & Bai (2007), competition in business has changed from competition between individual companies, to competition between chains of companies. Performance is determined not only by decisions and actions that take place in a firm, but also by all members involved who contribute to the supply chain overall results (Naslund and Williamson, 2010).

Similarly, Christopher & Towill (2001), Ketchen and Hult (2007) and Alfalla-Luque & Medina-López, (2009) mention that in order to achieve competitive advantages that allow the firm to quickly position itself in the consumers preference and be more profitable, it should move from a competitive framework between companies, to another, where the supply chains compete with each other.

### C. *Intellectual capital*

On the one hand, most of the labor force, at least in the United States, are "knowledge workers" better known as those who manipulate symbols rather than machinery (Vargas-Hernández and Noruzi, 2010). On the other hand, it is valid to mention that it is not enough to accumulate information or knowledge butthe most important characteristic is the way in which this information is used, which depends on the managerial capacity or the worker's capacity of knowledge. In connection with this, Schiuma, Lerro, & Sanitate (2008) define IC as "the group of knowledge assets that are attributed to an organization and most significantly drive organizational innovation and value creation mechanisms for targeted key stakeholders".

In this regard, Sanchez-Gutierrez, Mejia-Trejo & Vazquez-Avila (2016) proposes a model of intellectual capital that includes three elements as dimensions: a) search for information: related to knowledge of the workforce, skills and motivations; b) knowledge development: "knowledge is the most important intangible component, and the main source of resource innovation systems in the process of creating value for organizations and obtaining competitive advantages", Zea & Martinez (2011); c) learning and feedback: refers to how the company acquires or creates, and reuses the knowledge produced.

### D. Customer Knowledge Management

Customer Knowledge Management (CKM) enables organizations to learn, meet customer requirements, and improve their own performance, Fidel, Schlesinger, & Cervera (2015) believe that the CKM is influenced by two aspects: orientation towards innovation, and the level of customer collaboration in the innovation process. Mejía-Trejo, Sanchez-Gutiérrez, & Haro-Beas (2014) propose a CKM model composed by the following elements: a) CKMSEP: based on experience, satisfaction and performance; b) CKMADI: where it considers the CKM as determinant of the innovation; c) CKMS: considers the influence of internal administration and human resources in CKM; d) CKMOSK: the influence that internal and external sources have on the CKM.

### E. Innovation

According to the Oslo Handbook (2005), innovation is the introduction of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.

In this sense, clients have valuable information and knowledge that companies are usually searching to identify how to innovate, how to create value, and how to generate competitive advantages with that particular customer or related markets (Taherparvar, 2006), and the approach to managing customer knowledge converts both, client-provider actors, into co-creators of innovation and value (Mejía-Trejo et al., 2014) since the role of the client is no longer limited to be a passive receiver of goods or services.

Most of the models propose an approach to innovation in processes, products, services, speed, and quality (Chong, Chan, Ooi and Sim, 2011; Z. Wang and N. Wang, 2012; Mejía-Trejo et al., 2015, and Ju, Park & Kim, 2016), and analyze them according to the company's performance.

The moment of truth during the contact and interaction with the client, is really an event and a learning process, where both parties share experience and knowledge, learn from each other, and it is a great opportunity for the supplier to develop that special capacity, called absorption capacity, to obtain and absorb external knowledge, to manage and develop it internally (Du Plessis, 2007; Taherparvar, Esmaeilpour and Dostar, 2014).

On the one hand, most successful companies promote customer feedback, and design tools to facilitate customer feedback and customer performance assessment to identify those valuable opportunities for improvement that are a source of innovation. On the other hand, the fact of being constantly alert to changes in customer needs, and keep aligned to those changes, becomes increasingly critical, due to the short life cycle of products (Löfsten & Lindelöf, 2005). Increased also by customers' demands for new products launch.

Innovation seems to be the best option to maintain competitiveness; therefore, many companies have already assigned priority to the C & D concept (Contact and Development) instead of the traditional Research and Development concept (Sakkab, 2002; Magnusson, 2003), thus giving greater importance to external knowledge rather than to the knowledge produced within the company (Belkahla and Triki, 2011; Z. Wang and N. Wang, 2012). It confirms that customer's ideas and needs have a strong impact on the company's innovation future when properly managed (Rollins and Halinen, 2005; Zhang, Hoenig, Benedetto, Lancioni, Phatak, 2009), especially in two main indicators such as the speed of innovation and the quality of innovation (Liao, Wang, Chuang, and Shih, 2010; Lahiri, 2010).

Moreover, it would seem that some companies are trapped in "the competition trap" (p. 142, para. 6) mentioned by Barnett & Hansen (1996) when he introduces the concept of Red Queen: Organizations are constrained by lessons learned in the past. Organizations under this situation respond to new developments using routines that were learned in past times, impairing performance by doing precisely what worked well under different circumstances (Barnett & Hansen, 1996)

The new business model, in terms of manufacturing operation and opening up to join trust and collaboration with the customer, called for innovation from the Mexico team. Barney (1991) mentions that companies that intend to achieve competitive advantages on their competitors need to accumulate resources and capabilities that are rare, valuable, irreplaceable, and difficult to imitate. Then, it was necessary for this unit to identify the new business model as quickly as possible, to identify competitive resources or relevant capabilities, and then analyze whether they are already available, or need to be acquired or developed.

## 5. RELATED EMPIRICAL STUDIES

In 2014, Mejía-Trejo et al., found empirical evidence of the positive impact of customer knowledge management on company's innovation, and performance, through a study performed in software companies in the City of Guadalajara, Jal.,. Likewise, in Spain, Fidel et al. (2015) found empirical evidence about the direct relationship between the company's innovative orientation and how to manage customer knowledge, as well as the positive impact of customer collaboration and customer knowledge management on the company's marketing results.

Also, Taherparvar et al. (2014) in his investigation related to the relationship of CKM with several company factors, found a positive direct impact on the business performance, while also showed indirect positive impact on business performance when increasing the capacity of innovation, and positive and direct impact on innovation capacity. Additionally, it reports positive and direct impact of innovation capacity in business' performance.

## 6. RESULTS

The analysis of this case draws attention to the importance of managing innovation and customer knowledge, as well as dynamic capabilities, which help detect customers' specific needs, and select the ideal staff to enhance the interaction in both directions, with high interpersonal skills, and a relevant profile in leadership.

A leader with adequate capacity and empowerment is able to dissent and review concepts related to the task (Staw & Boettger, 1990). In this particular case it was desirable that the material leader refuse answering "no" and he should have been able to socialize and communicate the requirements to the Mexican unit effectively and with enough authority to replace the missing positions and adjust the correct attitudes since the beginning. However, task revision is influenced by several factors such as symbols of authority, system of rewards and promotions, and the establishment of goals, social expectations, obedience, etc., which at the time discouraged the leader from going beyond the mere exposure of his requirements.

The company should recognize and understand the nature of its intangible assets, as well as those missing, and identify the best time to train and develop or hire the most suitable staff. (Vargas-Hernández

and Noruzi, 2010). When the company finally realized the role missing in its operation, it started looking for employees with the required profile for this business model, and the local team switched the material manager. A materials manager and operations manager with experience in managing a similar approach to High Mix / Low Volume were brought from another business unit.

At the same time, staff exclusively dedicated to the area of new products introduction were assigned, an area where there is direct interaction with the customer, the unit of Mexico, and the global NPI corporate unit. Likewise, the procedure for introducing new products at the global level was created.

The impact of this experience led to a paradigm shift in the new business model in the entire factory, since the case required the involvement of general and corporate management and placed the factory in a position to bring new customers with products related to this business model.

## 7. CONCLUSIONS

The new business model in terms of manufacturing operation and opening up to join trust and collaboration with the customer, demanded from the Mexico team the following: innovation drive, learning new methods, new ways of doing business and connecting with a transparent and collaborative approach to achieve competitive advantages through creating or obtaining resources and capabilities that are rare, valuable, irreplaceable, and difficult to imitate (Barney, 1991; Teece et al., 1997), and then convert them into a capacity to properly manage customer knowledge, innovation, and the dynamic capabilities generated from it, to impact on the company's performance positively.

Besides, productivity benefits are possible in the value chain, as pointed out by Dyer & Singh (1998), when partners invest in specific relationships and combine resources in unique ways, with important information, sharing combined products or services, and above all, within the specific assets inter-firm concept called: specificity of dedicated human resources, with the leadership and skills profile to handle innovation.

Moreover, Schultz (1961) mentions that just as physical capital is formed by changes in materials to create tools that facilitate production, human capital is also created by changes in the people involved, which

produce skills and abilities that allow them to act in new forms. Finally, in a third phase, social capital is produced through changes in the relationships that facilitate action among the people who are part of these companies.

## REFERENCES

Alfalla-Luque, R., & Medina-Lopez, C. (2009). Supply chain management: Unheard of in the 1970s, core to today's company. *Business History, 51*(2), 201-220.

Barnett, W. P., & Hansen, M. T. (1996). The red queen in organizational evolution. *Strategic Management Journal*, *17*(S1), 139-157.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120.

Belkahla, W. & Triki, A. (2011). Customer knowledge enabled innovation capability: proposing measurement scale, *Journal of Knowledge Management, 15*(4), 648-674.

Blome, C., Schoenherr, T., & Rexhausen, D. (2013). Antecedents and enablers of supply chain agility and its effect on performance: a dynamic capabilitiesperspective. *International Journal of Production Research*, *51*(4), 1295-1318.

Cepeda, G., & Vera, D. (2007). Dynamic capabilities and operational capabilities: A knowledge management perspective. *Journal of Business Research*, *60*(5), 426-437.

Chesbrough, H. W. (2006). The era of open innovation. *Managing innovation and change*, *127*(3), 34-41.

Chong, A. Y., Chan, F. T., Ooi, K. B., & Sim, J. J. (2011). Can Malaysian firms improve organizational/innovation performance via SCM? *Industrial Management & Data Systems, 111*(3), 410-431.

Christopher, M., & Towill, D. (2001). An integrated model for the design of agile supply chains. *International Journal of Physical Distribution & Logistic Management*, *31*(4), 235-246.

Du Plessis, M. (2007). The role of knowledge management in innovation. *Journal of knowledge management*, *11*(4), 20-29.

Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of management review*, *23*(4), 660-679.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic management journal, 21*(10-11), 1105-1121.

Fidel, P., Schlesinger, W., & Cervera, A. (2015). Collaborating to innovate: Effects on customer knowledge management and performance. *Journal of business research*, *68*(7), 1426-1428.

Gligor, M. D., & Holcomb, M. (2014). The road to supply chain agility: an RBV perspective on the role of logistics capabilities. *The International Journal of Logistics Management, 25*(1), 160-179

Instituto Nacional de Estadística y Geográfica. (2015). *Censos Económicos 2014 micro, pequeña, mediana, y gran empresa, estratificación de los establecimientos.* Instituto Nacional de Estadística y Geografía. Retrieved from http://www.beta.inegi.org.mx/app/biblioteca/ficha.html?upc=702825077952

Ju, K. J., Park, B., & Kim, T. (2016). Causal Relationship between Supply Chain Dynamic Capabilities, Technological Innovation, and Operational Performance. *Management and Production Engineering Review, 7*(4), 6-15.

Ketchen, D. J., & Hult, G. T. M. (2007). Bridging organization theory and supply chain management: The case of best value supply chains. *Journal of Operations Management,* (25), 573-580. Retrieved from http://dx.doi.org/10.1016/j.jom.2006.05.010

Lahiri, N. (2010). Geographic distribution of R&D activity: How does it affect innovation quality? *The Academy of Management Journal (AMJ), 53*(5), 1194-09.

Lee, H. L. (2004). The triple-A supply chain. *Harvard Business Review*, *82*(10), 102-113.

Li, X., Goldsby, T. J., & Holsapple, C. W. (2009). Supply chain agility: scale development. *The International Journal of Logistics Management*, *20*(3), 408-424.

Liao, C. C., Wang, H. Y., Chuang, S. H., & Shih, M. (2010). Enhancing knowledge management for R&D innovation and firm performance: an integrative view. *African Journal of Business Management, 4*(14), 3026-3038.

Löfsten, H., & Lindelöf, P. (2005). R&D networks and product innovation patterns academic and non-academic new technology-based firms on Science Parks. *Technovation*, *25*(9), 1025-1037.

Magnusson, P. R. (2003). Benefits of involving users in service innovation. *European Journal of Innovation Management, 6*(4), 228-238.

Mejía-Trejo, J., Sanchez-Gutiérrez, J., & Haro-Beas, J. F. (2014). Customer Knowledge to Improve the Innovation: The Relationship in México. In *The 13th International conference of the Society for Global Business & Economic development. Managing the "Intangibles": Business and Entrepreneurship Perspectives in a Global Context*. Universitá Politecnica delle Marche, Ancona, Italy. Facoltá di Economia "Giorgio Fua", Piazzale Martelli, 8.

Naslund, D., & Williamson, S. (2010). What is Management in Supply Chain Management? – A Critical Review of Definitions, Frameworks and Terminology. *Journal Of Management Policy & Practice, 11*(4), 11-28

Organisation for Economic Co-operation and Development. (2005). *Oslo Manual: guidelines for collecting and interpreting innovation data, 3rd edition*. OECD/ European Communities. Retrieved from http://www.oecd-ilibrary.org/science-and-technology/oslo-manual_9789264013100-en

Organisation for Economic Co-operation and Development. (2017). *Estudios económicos de la OCDE: México 2017*. París: OCDE Publishing. Retrieved from http://dx.doi.org/10.1787/9789264269040-es

O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in organizational behavior, 28*, 185-6.

Prieto, I. M., Revilla, E., & Rodríguez-Prado, B. (2009). Building dynamic capabilities in product development: how do contextual antecedents matter? *Scandinavian Journal of Management*, *25*(3), 313-326.

Rollins, M. & Halinen, A. (2005), Customer knowledge management competence: towards a theoretical framework. In *The 38th Hawaii International Conference on System Sciences*. Hawaii.

Sakkab, N. Y. (2002). Connect & develop complements research & develop at P&G. *Research-Technology Management*, *45*(2), 38-45.

Sanchez-Gutierrez, J., Mejia-Trejo, J., & Vazquez-Avila, G. (2016). Intellectual Capital, Impact Factor in Competitiveness: SMEs Manufacturing Industry in Mexico. *Measuring Business Excellence, 20*(1), 1-11. doi: 10.1108/MBE-12-2015-0059

Schiuma, G., Lerro, A., & Sanitate, D. (2008). The intellectual capital dimensions of Ducati's turnaround: exploring knowledge assets grounding a change management program. *International Journal of Innovation Management, 12*(02), 161-193.

Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, *51*(1), 1-17.

Staw, B. M., & Boettger, R. D. (1990). Task revision: A neglected form of work performance. *Academy of Management Journal*, *33*(3), 534-559.

Swafford, P. M., Ghosh, S., & Murthy, N. N. (2006). A framework for assessing value chain agility. *International Journal of Operations & Production Management*, *26*(2), 118-140.

Taherparvar, N., Esmaeilpour, R., & Dostar, M. (2014). Customer knowledge management, innovation capability and business performance: a case study of the banking industry. *Journal of knowledge management*, *18*(3), 591-610.

Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *The Academy of Management Perspectives, 28*(4), 328-352.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal, 28*(13), 1319-1350

Teece, D. J. (2000). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long range planning, 33*(1), 35-54.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 509-533.

Vargas-Hernández, J. G., Administrativas, C. U. D. C. E., Norte, P., & Noruzi, M. R. (2010). How Intellectual Capital and Learning

Organization Can Foster Organizational Competitiveness? *International Journal of Business and Management*, *5*(4).

Wang, W. Y., & Chang, C. (2005). Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital, 6*(2), 222-236.

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International journal of management reviews*, *9*(1), 31-51

Wang, Z. & Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert Systems with Applications, 39*(10), 8899-8908.

Wen, C., Li, X., & Bai, Y. (2007). Research on Dynamic Supply Chain Integration Network Model Based on Collaboration Theory and Non-Linear Polya Processes. In *2007 International Conference on Wireless Communications Networking and Mobile Computing*, 6091-6094. IEEE.

Zea, G. S., & Martínez, I. R. (2011). Propuesta de un modelo de capital intelectual para medir y gestionar los intangibles de las entidades públicas. In *Proceeding of XVI Conference AECA*, 1-21.

Zhang, J., Hoenig, S., Benedetto, A. D., Lancioni, R. A., & Phatak, A. (2009). What contributes to the enhanced use of customer, competition and technology knowledge for product innovation performance? A survey of multinational industrial companies' subsidiaries operating in China. *Industrial Marketing Management, 38*(3), 207-218.

Zhou, S. S., Zhou, A. J., Feng, J., & Jiang, S. (2017). Dynamic capabilities and organizational performance: The mediating role of innovation. *Journal of Management & Organization*, 1-17.