



Learning Dynamic Capabilities in healthcare organizations – a qualitative research

Capacidades Dinâmicas de Aprendizagem nas Organizações de Saúde – estudo qualitativo

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Abstract

Dynamic Learning Capabilities (DLC) are the main generator of competitive advantage influencing the dynamics of organizations. The main objective of the study is to understand, based on the logistics managers of health organizations, how the DLC add efficiency to health organizations, seeking organizational improvement. A qualitative approach was chosen, using interview and documentary analysis, based on four studies of public and private health organizations. The results suggest that in the different organizations (public, social, private) CDA add efficiency to health organizations in a very dispar way. The study intends to understand how the DLC add efficiency to health organizations. The results contribute to the current literature on the subject, as well as a practical contribution to health organizations.

Keywords: Dynamic Learning Capabilities; Dynamic Capabilities; Health Organizations; Qualitative Research.

Resumo

As Capacidades Dinâmicas de Aprendizagem (CDA) assumem-se como principal gerador de vantagem competitiva influenciando a dinâmica das organizações. O principal objetivo do trabalho é compreender, com base nos gestores logísticos das organizações de saúde, de que forma as CDA acrescentam eficiência às organizações de saúde, procurando a melhoria organizacional. Foi escolhida uma abordagem qualitativa, com recurso à entrevista e análise documental, baseada em quatro estudos de organizações de saúde do setor público e privado. Os resultados sugerem que nas diferentes organizações (público, social, privado) as CDA acrescentam eficiência às organizações de saúde de forma muito dispare. As organizações do setor público não procuram melhoria organizacional através das CDA contrariamente às organizações do setor privado. O estudo pretende compreender de que forma as CDA acrescentam eficiência às organizações de saúde. Os resultados contribuem para a literatura atual sobre o tema, assim como um contributo prático às organizações de saúde.

Palavras-chave: Capacidades Dinâmicas de Aprendizagem; Capacidades Dinâmicas; Organizações de Saúde; Investigação qualitativa.

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1 Introduction

The organizational paradigm is constantly changing and competitive advantage is becoming more and more an intellectual capacity, becoming closer to knowledge and information management (DeNisi, Hitt & Jackson 2003, Halawi, Aronson & McCarthy, Seubert, Balaji & Makhija, 2001, Stewart, 1997). Currently, it is accepted by the scientific community that knowledge is one of the most important strategic resources in a company (Bontis & Fitz-enz, 2002, Curado & Bontis, 2006, Grant, 1996).

Thus, intangible fixed assets are highly valued and considered highly critical intellectual capital assets (Barney, 2001; Bontis & Fitz-enz, 2002; Bontis, 2004; Eustace, 2000 & Grant, 2002; Mathews, 2003; Petrick et al., 1999 Schilke, Hu, & Helfat, 2018). In this sense, learning improves the dynamic capacities (DC) of an organization by increasing the accumulated experience (Eisenhardt & Martin, 2000; Zott, 2003). Zollo and Winter (2002) describe DC as a stable learning pattern of a collective activity, through which the company systematically generates and modifies its operational routines, looking for improvements in its effectiveness. Eisenhardt and Martin (2000) find that repeated practices, errors, and experience improve DC through Learning.

Mu (2017) concludes that marketing and operations capabilities influences the positive outcome between DC and company performance. The evolution of the DCs is related to the knowledge management that, according to Sher and Lee (2004), companies should give special attention to knowledge management in order to improve DCs in a turbulent environment. Managers need to understand the importance of interdependencies and interrelated processes that result from the absorption of knowledge in combination with capacity-building, thus focusing management on the ability to develop human capital (Agarwal & Selen, 2013). The studies on DC in the areas of operations and in relation to learning are themes long pointed out by researchers (Falasca et al., 2016, Li & Liu, 2014, Lin & Wu, 2014, Mu, 2017, Rodenbach and Brettel, 2012, Teece, 2018). Organizations in the public sector are subject to greater pressure from the private sector due, for example, to political pressures (Rashman, Withers & Hartley, 2009), which may lead to a different use of DC and, in turn, Dynamics of Learning (DLC).

Although there is no formal dependence on production (medical and surgical) with logistics in health organizations, the reality is that these departments are interconnected and are processes that are closely dependent on health organizations. In this sense, the present study seeks to contribute to a broader understanding of the DLC phenomenon in health organizations and to a focus on logistics managers, which is a recent area of study that has not yet been explored. Thus, the study aims to answer the following research question: *In what ways do dynamic learning capabilities add efficiency to health organizations, looking for organizational improvement?*

The paper is structured as follows. After the present introduction, a state-of-the-art DLC will be performed, after which the methodology adopted in the study will be explained. The results of the DLC will then be analyzed in the logistical managers of the health organizations and finally the conclusions, with recommendations of future investigations.

2 Literature review

2.1 Dynamic Learning Capabilities (DLC)

Knowledge, derived from learning, is the resource with the capacity to become the main source that sustains a competitive advantage (Barney, 1991; Daft & Weiick, 1984; Zahra & George, 2002). Slater and Narver (1995) define learning as the capacity that enables organizations and their employees to acquire, create, disseminate and use knowledge more efficiently. The acquired experiences and the codification of these in routines that guide the behaviors of the collaborators and the organizations are considered of learning (Slater and Narver, 1995). The accumulation of knowledge through organizational learning is an important source for sustaining the competitive advantage of an organization because it is not negotiable and is difficult to imitate (Grant, 1998 and Nonaka et al., 2001). Learning refers to the acquisition of external knowledge and its application of acquired knowledge, corresponding to the absorption capacity (Zahra & George, 2002).

According to Probst and Büchel (1996), the leverage of organizations through problem solving skills and the capacity for action of environmental change is a process



of changes of values and knowledge defined through learning. The growth of organizations is dependent on the personal growth of their employees by improving the quality associated with the orientation of learning.

The role of market knowledge and company size translates into an effort to innovate over time (Weigelt, 2009).

Baker and Sinkula (2005) suggest that learning is an important complex resource of the organization, which can create a competitive advantage but do not consider it the only resource. Learning is a process through which the organization acquires new knowledge and adapts to the internal and external changes of the environment to remain sustainable and developing (Chen, 2005).

Also, the challenges of knowledge transfer between organizations (Cohen and Levinthal, 1990) have become an important source of competitive advantage (Cegarra-Sanchez et al., 2017, Oborn, Barrett & Racko, 2013, Tsai, 2001). Panayides (2007) found that organizational learning positively influenced the improvement of logistics service effectiveness and company performance of logistics service providers.

Eisenhardt and Martin (2000) define dynamics capacities (DC) as processes of cooperation and acquisition of routines that acquire new resources through external sources. Strategic decision making through the personal experience of managers and the reconfiguration of resources within organizations, including transformation routines. That is, corrections used by managers to transfer, copy and recombine resources, based especially on knowledge (within the organization), lead to the existence of DC (Eisenhardt & Martin, 2000; Zahra & George, 2002).

For Zollo and Winter (2002), the DCs are related to the activities that the organization develops and adapts its routines in a systematic and relatively predictable way. Nelson and Winter (1982) call all considerations about the nature and mechanisms of learning and their function in economic processes and behavior, which are the basis of the idea, according to which there are entities or elements endowed with information that circulate among economic agents and are replicated continuously. Routines can be distinguished as: operational routines (employed in company activity) and DC (those that are dedicated to changing operating routines) (Zollo & Winter, 2002). Thus, if capacities are routines, DCs are routines that lead to changes (Seyayi, 2015; Shanshan et al., 2017; Winter, 2003).

In a rapidly changing environment, knowledge management can reduce response time for implementation and new techniques, and knowledge creation can improve dynamic capabilities, making organizations more prepared and flexible in a dynamic environment (Lesser & Prusak 2001, Sher & Lee, 2004). The absorptive capacity, as defined by Zahra and George (2002) in learning, is defined by Lichtenthaler (2009) as the ability of an organization to use external knowledge through exploratory and routine learning processes.

The definition of absorptive capacity was introduced by Cohen and Levinha in their article of 1989, where absorption capacity is one of the fundamental learning processes in the organization and it is of great importance to identify; assimilate and explore the knowledge of the environment (Lane, Koka, Pathak, 2006). Absorption capacity is identified by Wang and Ahmed (2007) as one of the three main factors of DC (adaptability, capacity for innovation and absorptive capacity). Calderon et al. (2018) reports that dynamic learning capabilities (DLC) are embedded in three skills: knowledge acquisition, knowledge transformation and knowledge exploration (Cegarra-Sanchez et al., 2017; Venkitachalam & Willmott, 2017; George, 2002).

Organizations should pay special attention to knowledge management in order to improve DC in turbulent environments (Sher & Lee, 2004). Knowledge articulation is a fundamental path for the evolution of the dynamic competitiveness of a company. Teece et al. (1997) also argue that DC should be developed based on the articulation of knowledge and the learning process, and the articulation of knowledge has been increasingly recognized as an important mechanism for DC development in organizational routines (Teece, 2016, Zollo & Winter, 2002), and can promote competitive capacities that can evolve to unique advantages (Eisenhardt & Martin, 2000).

2.2 Logistic Sector and Dynamic Learning Capabilities

In a study by Hult, Ketchen, and Slater (2004) in the Logistics sector, the authors concluded that there are many organizations absorbing important customer information, experience and working methods. Learning activ-





ities have been shown to reduce (directly and indirectly) logistics cycle times and learning has a positive impact on logistics performance (Ellinger, Ellinger and Keller, 2002). Learning combined with traditional logistics operations can be effective for logistics management and logistical managers, since according to Esper, Fugate and Davis-Sramek (2007), they interact constantly with the external environment. As logistics is an important source of competition, learning operations and operational and tactical strategies can help companies to improve their performance (Esper, Fugate & Davis-Sramek, 2007; Gutierrez-Gutierrez, Barrales-Molina & Kaynak, 2018).

The supply chain is a set of organizations, directly linked to each other by one or more flows (of material, information and services), adding value to the final product (Ellinger, Ellinger & Keller, 2002). In a logistic cooperation environment, the synergistic effects lead to a larger share of the gain that will not be expected individually (Cao & Zhang, 2010). It is the skills and the competencies of each organization that perform best, and the performance of the logistics chain depends not only on the organizations' cooperation, but also on internal (departmental) cooperation and the ability to synchronize the organization's work leads to greater efficiency (Simatupang & Sridharan, 2008). In order to have a good logistics coordination, it is important to have good communication between suppliers and customers, through information sharing and effective communication (Simatupang & Sridharan, 2008).

The knowledge that every organization has of the chain to which it belongs presents opportunities and generates competitive advantages with regards to the reduction of logistics costs (Porter, 1985). The lack of use of the creativity of the collaborators, that is, the loss of time, ideas, skills, improvements and learning opportunities for not getting involved or hearing employees, is also considered a form of waste (Liker, 2004). With the sharing of all available knowledge about suppliers, new technologies and the surrounding environment, information and learning economies can be obtained (Faes et al., 2000), and synergies between organizations also develop through resource sharing (knowledge and information) (Rozemeijer, 2000).

In the area of health logistics, there are still many issues related to the use and optimization of resources (Vries & Huijsman, 2011), there is a strong need to

improve the performance of health supply chains and to make them more integrated not only at the level resources and capacities.

3 Methodology

3.1 Characterization of the Logistic Sector in Health

When we look at health institutions we have to have a different understanding of the logistics area, because the real repercussions of poor performance in this area are quite different and of graveness far greater than in any other business sector. Several studies report that significant costs associated with supply chains in the health sector can be reduced with the implementation of current and dynamic logistics systems (Burns 2000, Miller-Day et al., 2017).

Ballou (2006) refers to logistics not only as an area that deals with all storage activities that facilitate the flow of products, such as the management of information flows that put products in motion at a reasonable cost.

In recent years, different notions in supply chain management have been considered, but there are still limitations to their evolution because the specificities of the different industries and the various sectors are not yet taken into account (Mustaffa & Potter, 2009). In the specific case of the health industry, supply chain management is much more complex and sensitive, considering the need for specific suppliers, at the right time, according to their needs (Mustaffa & Potter, 2009). The reorganization of the supply chain in the health industry is an advantage by differentiating it from the other sectors (Jarrett, 2006) and by the positive impact on the process (Toba, Tomasini & Yang, 2008).

Logistic health practices do not refer only to supply chain management (materials and medicines), but also to the flow of patients (Beier, 1995), and the patient is now a dependent element of all logistical decisions and planning (Vries et al. Huijsman, 2011), passing supply chain management and logistics to be responsible for the success of the patient in the health system.

Dejohn (1999) reports that all hospital logistics management is faced with a difficulty: the excess of



articles to be managed - influencing not only the heavy administrative work, but the control and the needs for knowledge that employees must have in certain areas, looking for permanent update capable of following fast transformations that occurs at the most diverse levels. The decision to keep stock, incurs costs (Jennings & Plank, 1995; Jarret, 2006), which not only includes the acquisition value, but also the realization of the order, cost possession stock, and several other costs such as knowledge and learning (Poulin, 2003).

Law (2016) and Schneller and Smeltzer (2006) point out that optimization and efficiency of logistics management are essential topics in health care, with internal performance and human factors crucial to the success of organizations.

3.2 Context and Case Study

Using learning in health organizations as a case study, we opted for a qualitative research approach, with research strategy being the case study. This research strategy allows preserving processes and organizational changes, preserving the factors of each situation (Yin, 2014), and the case study verifies a phenomenon through a holistic approach in its natural context, using various methods of information collection, such as documentation, archives, interviews and observation.

The data were collected through a semi-structured interview, which presents a structuring guide and the questions are ordered and related to each other (table 1). The main objective of the study is to understand how dynamic learning capacities (DLC) add efficiency to Health Organizations, seeking organizational improvement.

In order to select the organizations under study, the following criteria were considered (Yin, 2014): i) prior knowledge of informal cooperation among organizations; (ii) the organizations under study were chosen because of the ease of access to information; iii) collection of information in real context; and iv)

integrated organization in sectors in constant change, in which the difficulties of management resources are based on the main strategic axis and where knowledge and experience have an important role.

The interviews were conducted from April 10 to 18, 2018 and lasted, on average, between 29-45 minutes. Several internal documents have been analyzed, but for reasons of data restriction, they are not disclosed here. The interviews were carried out with four logistics managers from Portuguese health organizations in the Lisbon and Tagus Valley regions, in the various sectors: Public, Private and Social (Table 2).

Table 1: Interview Questions

Dimensions of analysis	Questions
Skills for future tasks	<p>1) In your organization, do employees identify the skills they need in future tasks?</p> <p>a. Are you rewarded for learning?</p> <p>b. Do they express freely and honestly about the organization, learning and problems identified?</p> <p>b. Do they get opinions from other professionals and build trust between them?</p>
Absorption on suppliers (external partners)	<p>2) When suppliers change, what is the company's ability to integrate knowledge about suppliers?</p>
Absorption on internal organization	<p>3) Are there meetings to discuss problems and difficulties?</p> <p>a. Is there documentation sharing for learning?</p> <p>b. Are new ways of working identified?</p> <p>i. New routines to deal with problems?</p> <p>c. Is there improvement in the processing after detecting the previous errors? (use of errors to improve processes)</p>
Routines about internal organization	<p>4) Are there formal routines to discuss wrong procedures about the organization?</p>
Learning Sharing	<p>5) Are internal networks expanded to share what the organization has learned?</p> <p>a. And inter-organizational networks?</p> <p>b. Is there knowledge sharing with other organizations?</p> <p>c. Are there specific mechanisms for sharing learning?</p>
Learning for continuous improvement	<p>6) Are Learning Capabilities a key factor for organizational improvement?</p> <p>a. Is training a key factor for performance?</p> <p>b. Is training (of employees) an investment and not a cost?</p>

Source: The author.

**Table 2: Characterization of organizations and interviewees**

Institution	Hospital Health Organization, EPE (OSEPE)	Organization of Health of the Social Sector (Santa Casa da Misericórdia) (OSSS)	Organization of Hospital Health of the Social Sector (OSSH)	Private Health Organization (Health Clinic) (OSP)
Sector	Public	Social	Social	Private
Nº Collaborators	18	3	10	2
Interviewee Qualifications	graduate	Master	Master	graduate
Local interview	Médio Tejo (Tomar)	Médio Tejo (Golegã)	Médio Tejo (Entroncamento)	Médio Tejo (Torres Novas)
Date Interview	10 april	16 april	18 april	17 april
Age of interviewee	29 years	30 years	32 years	35 years
Years experience	6	6	7	10

Source: The author.

The Hospital Health Organization, EPE (OSEPE) is a Hospital Unit (Business Public Entity, EPE) associated to a Hospital Center in the central zone of the country, relatively recent physical structures between the ages of 15 and 30 years, directly covering 15 municipalities and 266 thousand inhabitants (Canha, Marques & Loureiro, 2018).

The Social Sector Health Organization (OSSS) has approximately four hundred users and has 8 units dispersed throughout the village, in a municipality with approximately 6000 inhabitants; in the same sector but with a hospital response.

The Organization of Hospital Health of the Social Sector (OSSH) is a Social Sector organization with several units: Homes, Day Centers and Integrated Continuing Care Units and also Hospital.

The Organization of Hospital Health of the Social Sector (OSSH) has dozens of specialties and is associated to an extensive network of private organizations. Thus, we can consider that the Hospital is inserted in the social sector, but it has a great incidence in the area of the Private Health Organizations.

Finally, the Private Health Organization (OSP) is a Private Health Clinic, with a response in the various medical specialties (approximately 20). After the interviews were concluded, they were treated and analyzed, based on what was described by the interviewees. The analysis of content was the technique of analysis adopted.

4 Analysis and Discussion of Results

4.1 Skills for future tasks

Problem solving skills are a process of change through learning (Probst & Buchel, 1996). Regarding the skills for future tasks needed to solve problems and improve procedures, according to the interviewee at OSEPE:

there is no analysis of skills needed for future tasks, and group comments and difficulties about learning are very limited.

Already, at the level of the OSSH:

there is an exchange of knowledge between departments and teams, but the interviewee states that there is no reward for learning and there is a lot of limitation in sharing feedback about learning and problems identified.

On the contrary, there are reports from the OSP in which there is an ability to list problems freely, presenting the results to top management through monthly meetings between departments. On the other hand, in the OSSS there is also no analysis of the skills needed for future tasks.



Thus, it can be stated that in OSEPE the process of knowledge change defined through learning does not exist, and the absence of these skills to solve problems and intervene in future tasks may limit the creation of a competitive advantage (Probst & Büchel, 1996, Baker & Sinkula, 2005, Chen, 2005, Schilke, Hu, & Helfat, 2018).

4.2 Absorption on suppliers (external partners)

Absorption is an ability to acquire knowledge and apply this acquired knowledge (Lane, Koka & Pathak, 2006). Absorption capacity is identified by Wang and Ahmed (2007) as one of the three major DC factors (adaptability, capacity for innovation and absorptive capacity). Regarding the type of knowledge acquired in the relationship with the supplier, for example in the change of the supplier and in the way in which the health organizations can absorb the way of working of the new supplier, it can be assimilated through the interviewees that in OSEPE:

there is an informal relationship, that is, the time is verified and assimilated, for example, response to requests for information or delivery of material, however there is no formal process.

On the other hand, in OSP it is:

conducted a questionnaire in which they know the supplier and their conduct in the market, thus ensuring the supplier's assessment.

Finally, all changes are checked in the OSSH and there is an initial assessment of the supplier as there is always a limit to the quality assurances that must be provided in the OPS. This way of verifying and evaluating the supplier, corroborates with the theory presented about the absorption capacity, where there is valorization of the information; and the use of this information / knowledge to improve processes (Lane &

Lubatkin, 1998, Lane, Zahra & George, 2002, Koka & Pathak, 2006, Lichtenthaler, 2009, Calderon et al, 2018). Finally, the OSSS states that the organization seeks to adapt to the supplier.

4.3 Absorption on internal organization

Absorption over internal organizational forms is one of the fundamental learning processes, and it is very important to identify, assimilate and explore knowledge about the environment (Lane, Koka & Pathak, 2006).

In the OSP:

there is an ability to list problems freely, while there are results presented to top management through sharing in monthly departmental meetings.

The internal share referred to in the OSP is according to the interviewee:

an important process for the common link between departments: quality.

Also in the OSSS there are some working meetings between departments, and in OSEPE and OSSH there is no routine to discuss procedures and there are great difficulties regarding the group's learning.

Thus, OSP identifies, assimilates and exploits various knowledge through periodic meetings seeking the quality of processes.

4.4 Routines about internal organization

After internal absorption, it is necessary to create and modify routines, seeking improvements in effectiveness, this process being described by Zollo and Winter (2002) as dynamic capacities.

Thus, in the OSSS the interviewee states:

There are working meetings to discuss problems and resolve them (and also inter-department).





In the case of OSP, there is also document sharing and sharing between departments and departments to improve procedures and working methods. Also in this follow-up, the OSP interviewee says:

there is a use of the error in order to guarantee continuous improvement, that is, take advantage of the errors to improve processes and ensure that the previous error is not repeated.

And at OSSH:

although there is no formal routine to discuss wrong procedures about the organization, there is an ability to use errors to improve future processes.

Finally, in OSEPE:

there is no learning from mistakes, nor does it share these mistakes as a group, even though there is individual willingness to improve procedures.

Again, it can be verified that the OSEPE do not modify the routines in order to improve the processes, looking for effectiveness. On the OSP side there is an opposite scenario, that is, there is a use of the error looking for continuous improvement through the correction/change of routines. Thus, it can be stated that the corrections used by managers to recombine resources, based especially on knowledge (within the organization), lead to the existence of DC (Eisenhardt & Martin, 2000; Zahra & George, 2002).

4.5 Learning Sharing

Information sharing may not only be internal, but also through vendors and the surrounding environment, and information and learning economies can be achieved, and synergies between organizations also develop through the sharing of intangible resources (knowledge and infor-

mation) (Lane & Lubatkin, 1998, Schilke, Hu & Helfat, 2018, Zahra & George, 2002).

Thus, in OSEPE according to the interviewee:

there is no knowledge sharing (inside or outside organizations) nor leadership conditions to learn from mistakes and share those mistakes and group improvement proposal.

Finally, we can also affirm that there is clear evidence of learning sharing between organizations, since the OSP interviewee:

refers to the existence of a moment with an annual periodicity in which there is sharing of learning with external elements to the organization and also absorption of the shares of these elements.

Panayides (2007) found that organizational learning positively influenced the improvement of the efficiency of the logistics service and the company performance of the logistics service providers. In this case, we can verify, according to the interviewees, that learning improves logistic procedures and reduces failures in Health Organizations.

4.6 Learning for continuous improvement

It is necessary to have effective information and communication sharing so that there is good logistical coordination, and learning is crucial for continuous improvement, since knowledge transfer has become an important source of competitive advantage (Barney, 1991; Daft & Weiick, 1984). On an individual basis and according to the interviews, we can say that the OSP is a 'learning organization', unlike OSEPE, which still points out many difficulties in the learning capacity.

The health organizations studied refer to the absorption of important information, but only organizations that report formalized external cooperation are able to obtain good results in absorbing information from external suppliers. Already, for the OSSH interviewee:



the improvements at the logistic level and essentially the decrease costs and failures arise through learning.

As shown by the literature, learning activities have been shown to reduce (directly and indirectly) logistic cycle times (Hult, Ketchen & Slater 2004) and learning

has a positive impact on logistic performance (Ellinger, Ellinger & Keller, 2002).

The main results of the way learning capacities are considered in the Logistics Services in Health Organizations is presented in table 3.

Not only is OSP's prominence in the use of learning capacities, unlike OSEPE, but also in the sharing of

Table 3: Synthesis of Interviews

Dimension	OSEPE	OSSS	OSSH	OSP
Skills for future tasks	There is no analysis of skills needed for future tasks	There is no analysis of skills needed for future tasks	There is no reward for learning	Ability to list problems freely while there are results presented to top management through sharing in monthly meetings between departments
Absorption on suppliers (external partners)	There is an informal relationship with external partners - time is verified and assimilated, for example, response to requests for information or delivery of material, however there is no formal process.	The organization seeks to adapt to the reality of the supplier.	There is an exchange of knowledge between departments and teams, but still with much limitation in the sharing of comments on identified problems	Conducted a questionnaire in which they know the supplier and their conduct in the market, thus guaranteeing the evaluation of the supplier An initial evaluation of the supplier always with a limit of quality guarantees that must be provided.
Absorption on internal organization	Very limited group comments and difficulties regarding learning	There are working meetings to discuss problems and resolve them (and also interdepartmental)	There is no formal routine to discuss wrong procedures about the organization	There is also document sharing and sharing between service and departments to improve procedures and working methods.
Routines about internal organization	There is no learning from mistakes, nor does it share these mistakes as a group, even though there is individual willingness to improve the procedures	There are work meetings to discuss problems	Although there is no formal routine to discuss the wrong procedures about the organization, there is an ability to use errors to improve future processes.	There is a use of the error in order to ensure continuous improvement, ie take advantage of the errors to improve processes and ensure that the previous error is not repeated
Learning Sharing	There is no sharing of learning / knowledge (inside or outside organizations)	There are work meetings to discuss mistakes and sharing of learning, very punctually	Too much limitation in sharing comments about learning	Existence of a moment with annual periodicity in which there is sharing of learning with elements external to the organization and also absorption of the shares of these elements.
Learning for continuous improvement	The organization still points out many difficulties in the capacity of learning; Urgent to create mechanisms and tools for sharing and learning in the public sector.	Need to improve procedures for using learning for continuous improvement	Improvements at the logistic level and essentially the decrease costs and failures arise through learning.	It is considered a 'learning organization'; Seeks solutions and shares new work tools

Source: The author.



learning (group meetings for example) and continuous improvement, highlighting the significant asymmetries between the private sector and the public sector.

In the health organizations studied there is no uniform position regarding the issue of learning (whether in the sector: public / EPE, private or social), and it is still preliminary to qualify the DLC in health organizations, mainly due to the difference in responses in the public sector.

Logistics managers, according to Esper, Fugate and Davis-Sramek (2007), are constantly interacting with the external environment. Because logistics is an important source of competition, learning operations and operational and tactical strategies can help companies improve their performance.

The learning produced is the result of access to knowledge and the ability to manage such knowledge, and it is understandable that in all the situations studied in health organizations (except in the EPE Hospital Unit) there is evidence of Dynamic Learning Capabilities in Public Organizations. It is important to note that, public sector organizations are subject to greater political pressure (relative to other organizations) which may influence the difficulties presented (Rashman, Withers & Hartley, 2009).

4.7 Implications of the Study

With some of the examples presented in the literature, it is suggested that 'learning organizations' need a culture where all employees, satisfied and committed to the future of the organization, share cultural values, but also abandon systems that delay learning with a goal to innovate and create systems that promote the learning capacity of employees and organizations (Franco, 2011).

We can corroborate with Teece (1998) when he states that organizations must know the assets to be developed and which ones to abandon, being a decisive element in the success of the organizational equation. Thus, *we can say that dynamic learning capacities add efficiency to health organizations when:* i) there is capacity to enumerate problems; ii) there are meetings for analysis and discussion of results; iii) there is sharing of knowledge / information and learning between departments (example: documents, procedures and working methods)

and absorption of such sharing with reconfiguration for new responses; and (iv) taking advantage of the error in order to ensure continuous improvement (take advantage of the errors to improve processes and ensure that the previous error does not repeat).

In this sense, public organizations must identify the capacities and resources they need to improve performance while this work in the private organizations studied presents reports of having already been carried out in a timely manner. Pablo et al. (2007) have already identified that managers use their leadership skills to design and expand strong trust relationships and ultimately use those skills to manage organizational needs based on dynamic capabilities. Thus, one can also argue the existence of gaps in leadership skills and confidence in the management of OSEPEs. Another vector is the learning with the suppliers, where the absorption of knowledge, provides a better management practice and a more efficient response to logistical problems.

It is crucial to mention that the data collected in OSEPE can be influenced by the complexity of these organizations, their dependence on the state and political pressure, the different ways of managing in relation or private and thus, it needs a future analysis, certainly initiated by the DC and later tapered to DLC.

Eisenhardt and Martin (2000) and Zott (2003) says that learning improves the dynamic capabilities of an organization, and it can be said that organizations with better cooperation and greater learning capacity also have greater dynamic capacities, the ability to generate and systematically modify routines and seek improvements in their effectiveness (Zollo & Winter, 2002).

5 Conclusion

The present study aimed to verify the role of DLC, based on logistic managers in health organizations. With regards to the way DLC is used to improve the efficiency of these organizations, it is verified that there is a dynamic of learning, trying to ensure that teams respond to the daily challenges of health organizations and ensure the maintenance of their activities, acquiring internal knowledge and external and improving their logistics processes.



In a preliminary phase, it is important to explain that not all organizations studied were similar because there are great divergences in the form of relationship and internal and external organization, so there is a great organizational distance between the management of the private and public organization. Thus, the final analysis may need several further validations in future work.

Exceptionally, the learning capacities identified in the logistical managers of health organizations are not reflected in OSEPE, perhaps because of the political pressure to which public sector organizations are subject or the need to create other dynamic capacities to respond to environmental changes before learning capabilities. The study presents evidences that there is still a lot of work to be done in the subjects of learning capacities (as dynamic capacities), essentially in public organizations, being that Dynamic Learning Capability (DLC) is verified in the other organizations studied, which internal and external changes of organizations.

As main lines of future research, there is a need to study which DCs exist in Health Organizations; of the existing DCs in Health Organizations, which influence the performance of Health Organizations, and finally, what are the differences between the public sector DC and the private sector.

References

- Agarwal, R., and Selen, W. (2013). The incremental and cumulative effects of dynamic capability building on service innovation in collaborative service organizations , *Journal of Management & Organization*, Vol. 19 No. 5, pp. 521-543.
- Baker, W., and Sinkula, J. M. (2005). Market Orientation and the New Product Paradox. *Journal of Product Innovation Management*, Vol. 22, No. 6, pp. 483-502.
- Ballou, Ronald H. (2006). Revenue Estimation for Logistics Customer Service Offerings . *The International Journal of Logistics Management*. Vol. 17, No. 1, pp. 21-37.
- Barney, J. (1991) Firm resources and sustained competitive advantage . *Journal of Management*, Vol. 17, No. 1, pp.99-120.
- Barney, J. (2001). Resource-based theories of competitive advantage: a ten-year retrospective on the resource-based view , *Journal of Management*, Vol. 27, pp.643-650.
- Beier, F.J. (1995). The management of the supply chain for hospital pharmacies: a focus on inventory management practices .*Journal of Business Logistics*, Vol. 16 No. 2, pp. 153-73.
- Bontis, N. (2004). National intellectual capital index: a United Nations initiative for the Arab Region . *Journal of Intellectual Capital*, Vol. 5, No. 1, pp.13-39.
- Bontis, N. and Fitz-enz, J. (2002) Intellectual capital ROI: a causal map of human capital antecedents and consequents . *Journal of Intellectual Capital*, Vol. 3, No. 3, pp. 223-247.
- Burns, L.R. (2000). A research agenda for health services management , *Health Care Management Review*, Vol. 25 No. 4, pp. 85-87.
- Calderón, H., Fayos, T., García, J. (2018). SMEs dynamic learning capabilities in international public procurement. *The Journal of Modern Project Management*, Vol. 5, No.3, pp. 14-23.
- Canha, M.; Marques, C. G. and Loureiro, R. (2018). The use of information and communication technologies in the management of clinical products. The Implementation of Advanced Warehouses in a Portuguese hospital center. *Superavit*, Vol. 3, pp. 103-112.
- Cao, M. and Zhang, Q. (2010). Supply chain collaborative advantage: a firm s perspective. *International Journal of Production Economics*, Vol. 128, pp. 358-367.
- Cegarra-Sanchez, J., Cegarra-Navarro, J., Wensley, A. and Manzano, J.D. (2017) Overcoming counter-knowledge through telemedicine communication technologies , *Journal of Health Organization and Management*, Vol. 31, No. 7/8, pp. 730-745.
- Chen, G. (2005). Management Practices and. Tools for Enhancing Organizational Learning. Capability. S.A.M. *Advanced Management*. Journal, Vol. 70, No. 1, pp. 4-35.
- Cohen, W. M and Levinthal, D. A. (1989). Innovation and learning: The two faces of ReD. *Economic Journal*, Vol.99, pp. 569-596.
- Cohen, W. M., and Levinthal, D. A. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, Vol. 35, No. 1, pp. 128-152.
- Curado, C. and Bontis, N. (2006). The knowledge based-view of the firm and its theoretical precursor . *International Journal of Learning and Intellectual Capital*, Vol. 3, No. 4, pp. 367-381.
- Daft, R.L. and Weick, K.E. (1984). Toward a Model of Organizations as Interpretation Systems. *Academy of Management Review*, Vol. 9, pp. 284-295.



- Dejohn, P. (1999) Group hunts for weak links in member s supply chains ; *Hospital Materials Management*; Vol. 24, No. 6, pp. 1-8.
- DeNisi, A., Hitt, M. and Jackson, S. (2003). The Knowledge-Based Approach to Sustainable Competitive Advantage . In Jackson, Hitt and DeNisi (Eds.) *Managing Knowledge for Sustained Competitive Advantage*, San Francisco: Jossey-Bass, pp. 3-33.
- Eisenhardt, K. and Martin, J. (2000). Dynamic capabilities: what are they? , *Strategic Management Journal*, Vol. 21, No. 10-11, pp. 1105-1121.
- Ellinger, Alexander E, Andrea D Ellinger, and Scott B Keller (2002). Logistics Managers Learning Environments and Firm Performance. *Journal of Business Logistics*, Vol. 23, No. 1, pp. 19-38.
- Esper, T L, Fugate, B S and Davis-Sramek, B (2007). Logistics learning capability: sustaining the competitive advantage gained through logistics leverage . *Journal of Business Logistics*, Vol. 28, No. 2, pp 57–82.
- Eustace, C. (2000). The intangible economy, impact and policy issues , *Report of the European High Level Expert Group on the Intangible Economy*, European Commission, Luxembourg: Eur-Op, October.
- Faes, W., P. Matthyssens, and K. Vandenbempt, (2000). The pursuit of global purchasing synergy . *Industrial Marketing Management*, Vol. 29, pp. 539-553.
- Falasca, M., Zhang, J., Conchar, M. and Li, L. (2017) The impact of customer knowledge and marketing dynamic capability on innovation performance: an empirical analysis , *Journal of Business & Industrial Marketing*, Vol. 32, No. 7, pp.901-912.
- Franco, M. (2011). Performance in strategic alliances: an analyses of objective and subjective measures , *International Journal Entrepreneurial Venturing*, Vol. 3, No. 1, pp. 123- 137.
- Grant, R.M. (1996). Prospering in dynamically-competitive environments: organizational capability as knowledge integration . *Organization Science*, Vol. 7, No. 4, pp. 375-388.
- Grant, R. M. (1998). Contemporary Strategy Analysis: Concepts, Techniques, Applications, *Blackwell Publishers*, Cambridge, Manchester.
- Grant, R. (2002). The knowledge-based view of the firm , in Choo and Bontis (Eds.) *The Strategic Management of Intellectual Capital and Organizational Knowledge*, New York: Oxford University Press, pp.133–148.
- Gutierrez-Gutierrez, L.J., Barrales-Molina, V., and Kaynak, H. (2018). The role of human resource-related quality management practices in new product development: A dynamic capability perspective , *International Journal of Operations & Production Management*, Vol. 38 No. 1, pp.43-66.
- Hasegan, M.F., Nudurupati, S.S. and Childe, S.J. (2018). Predicting performance – a dynamic capability view , *International Journal of Operations & Production Management*, <https://doi.org/10.1108/IJOPM-10-2016-0601>.
- Halawi L, Aronson J. and McCarthy R (2005). Resource-Based View of Knowledge Management for Competitive Advantage. *Electronic J. Knowledge Management*, Vol. 3, No. 2, pp. 75-86.
- Hitt, M., Bierman, L., Shimizu, K. and Kockhar, R. (2001). Direct and moderate effects of human capital on strategy and performance in professional service firms: a resource-based perspective , *Academy of Management Review*, Vol. 44, No. 1, pp.13–28.
- Hult, G. Tomas M., David J. Ketchen Jr., and Stanley F. Slater (2004). Information Processing, Knowledge Development, and Strategic Supply Chain Performance , *Academy of Management Journal*, Vol. 47, No. 2, pp. 241-253.
- Jarret, P. G. (2006). An analysis of international health care logistics: The benefits and implications of implementing just-in-time systems in the health care industry. *Leadership in Health Services*, Vol. 19, pp. 1-10.
- Jennings, R.G. and Plank, R. E. (1995). When the Purchasing Agent is a Committee: Implications for Industrial Marketing ; *Industrial Marketing Management*; Vol. 24; No. 5; pp. 411 – 419.
- Lane, P. J., Koka, B. R. and Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management*. Vol. 31, No. 4, pp. 833-863
- Lane, P.J. and Lubatkin, M. (1998). Relative absorptive capacity and interorganizational learning . *Strategic Management Journal*, Vol. 19 No. 5, pp. 461-477.
- Law, K. M. Y. (2016). How schedule issues affect drug logistics operations: an empirical study in hospitals in China. *Industrial Management & Data Systems*, Vol. 116, No. 3, pp. 369-387.
- Lesser, E. and Prusak, L. (2001). Preserving knowledge in an uncertain world. *MIT Sloan Management Review*, Vol. 43, pp. 101-102.



- Li, Da-yuan and Liu, Juan, (2014). Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China, *Journal of Business Research*, Vol. 67, No. 1, pp. 2793-2799.
- Lichtenthaler, U. (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of Management Journal*, Vol. 52, No. 4, pp. 822-846.
- Liker, J.K. (2004). *The Toyota Way – 14 Management Principles from the World's Greatest Manufacturer*. NY: The McGraw-Hill Companies.
- Lin, Y., and Wu, L.-Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, Vol. 67, pp. 407-413.
- Mathews, J. (2003). Competitive dynamics and economic learning: an extended resource-based view, *Industrial and Corporate Change*, Vol. 12, No. 1, pp.115-145.
- Miller-Day, M., Applequist, J., Zabokrtsky, K., Dalton, A., Kellom, K., Gabbay, R. and Cronholm, P.F. (2017). A tale of four practices: A comparative analysis of high and low performing patient-centered medical homes, *Journal of Health Organization and Management*, Vol. 31, No. 6, pp. 630-646.
- Mu, J. (2017). Dynamic Capability and Firm Performance: The Role of Marketing Capability and Operations Capability, *IEEE Transactions on Engineering Management*, Vol. 64, No. 4, pp. 554-565.
- Mustaffa, N. H., and A. Potter (2009). Healthcare supply chain management in Malaysia: a case study: *Supply Chain Management-an International Journal*, Vol. 14, pp. 234-243.
- Nelson, R. R., and Winter, S. G. (1982). An evolutionary theory of economic change, Production Sets and Organizational Capabilities, Belknap/Harvard. pp. 59-65.
- Nonaka, I.; Toyama, R. and Byosi re, P. (2001). A theory of organizational knowledge creation: understanding the dynamic process of creating knowledge, In: Dierkes, Meinolf; Berthoin Antal, Ariane; Child, John; Nonaka, Ikujiro (eds), *Handbook of organizational learning e knowledge*, Oxford University Press, New York, pp. 490-517.
- Oborn, E., Barrett, M. and Racko, G. (2013). Knowledge translation in healthcare: Incorporating theories of learning and knowledge from the management literature, *Journal of Health Organization and Management*, Vol. 27 No. 4, pp.412-431.
- Pablo, T.R.; James D., and Ann C. (2007). Identifying, Enabling and Managing Dynamic Capabilities in the Public Sector, *Journal of Management Studies*, Wiley Blackwell, Vol. 44, No.5, pp. 687-708.
- Panayides, P.M. (2007). The impact of organisational learning on relationship orientation, logistics service effectiveness and performance. *Industrial Marketing Management*, Vol. 36, No.1, 68-80.
- Petrick, J., Scherer, R., Brodzinski, J., Quinn, J. and Ainina, M. (1999). Global leadership skills and reputational capital: intangible resources for sustainable competitive advantage, *Academy of Management Executive*, Vol. 13, No. 1, pp.58-69.
- Porter, E., (1985). *Competitive Advantage*, The Free Press: New York
- Poulin,  . (2003). Benchmarking the hospital logistics process: a potential cure for the ailing healthcare sector, *CMA Management*, Vol.77, pp. 20-24.
- Probst, G., and B chel, B. (1996). Organizational Learning: The competitive advantage of the future. London: Prentice-Hall.
- Rashman, L., Withers, E., and Hartley, J. (2009). Organizational learning and knowledge in public service organizations: A systematic review of the literature. *International Journal of Management Reviews*, Vol. 11, No. 4, pp. 463-494.
- Rodenbach, M. and Brettel, M. (2012) CEO experience as micro-level origin of dynamic capabilities, *Management Decision*, Vol. 50, No. 4, pp.611-634.
- Rozemeijer, F., (2000). How to manage corporate purchasing synergy in a decentralised company? Towards design rules for managing and organising purchasing synergy in decentralised companies *European Journal of Purchasing and Supply Management*, Vol. 6, pp. 5-12.
- Schneller, E. S., and Smeltzer, L. R. (2006). Strategic Management of the Healthcare Supply Chain. *Jossey-Bay*
- Seubert E, Balaji Y., and Makhija M (2001). The Knowledge Imperative. *CIO Special Advertising Supplement*.
- Seyayi, S. B. (2015). Dynamic Exportation Capabilities. Oulu: Department of International Business, *Master s Thesis International Business*.
- Schilke, O., Hu, S., and Helfat, C. E. (2018). Quo vadis, dynamic capabilities: Acontent-analytic review of the current state of knowledge and recom-mendations for future research. *Academy of Management Annals*, Vol. 12, No. 1, pp. 390-439.



- Simatupang, T. M. and Sridharan, R. (2008). Design for supply chain collaboration , *Business Process Management Journal*, Vol. 14 No. 3, pp. 401-418.
- Sher, P. J., and Lee, V. C. (2004). Information technology as a facilitator for enhancing dynamic capabilities through knowledge management . *Information and Management*, Vol. 41, No. 8, pp. 933–945.
- Slater, S. F. and Narver, J. (1995). Market Orientation and the Learning Organization. *Journal of Marketing*, Vol. 59, No. 3, pp. 63-74.
- Stewart, T. (1997). *Intellectual Capital: The New Wealth of Organizations*, New York: NY, **Doublebay**
- Shanshan, L., Yong, H., and Lujie, C. (2017). Dynamic strategies for supply disruptions in production-inventory systems. *International Journal of Production Economics*, vol. 194, pp. 88–101.
- Teece, D. J., Pisano, G., and Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, Vol.18, No 7, pp. 509-533.
- Teece, D. (1998). Capturing Value from Knowledge assets: The new Economy, markets for know-how. *California Management Review*, Vol. 40, No. 3, pp. 55–79.
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, Vol. 51, No. 1, pp. 40-49.
- Toba, S., M. Tomasini, and Y. H. Yang, (2008), Supply chain management in hospital: a case study *California Journal of Operations Mangement*, Vol. 6, pp. 49-55.
- Tsai, W. (2001). Knowledge Transfer in Intraorganizational Networks: Effects of Network Position and Absorptive Capacity on Business Unit Innovation and Performance. *Academy of Management Journal*, Vol. 44, No. 5, pp. 996-1004.
- Venkitachalam, K., and Willmott, H. (2017). Strategic knowledge management: Insights and pitfalls. *International Journal of Information Management*, Vol. 37, No. 4, pp. 313–316.
- Vries, J. and Huijsman, R. (2011). Supply chain management in health services: na overview. *Supply Chain Management: an international Journal*, Vol.16, No. 3 pp. 159- 165.
- Wang, C. L. and Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews*, vol. 9, No.1, pp. 31–51 31.
- Weigelt, C. (2009). Learning from Supply - side agents: the impact of technology solution providers Experiential diversity on clients - Innovation Adoption. *Academy of Management Journal*, Vol. 52, No. 1, pp. 37-60.
- Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, Vol. 24, No. 10, pp. 991–995.
- Yin, R.K. (2014). *Case Study Research Design and Methods* (5th ed.). Thousand Oaks, CA: Sage. 282 pages. (ISBN 978-1-4522-4256-9).
- Zahra, S., and George, G. (2002). The Net-Enabled Business Innovation Cycle and the Evolution of Dynamic Capabilities. *Information Systems Research*, Vol. 13, No. 2, pp. 147-150.
- Zollo, M., and Winter, S. (2002). Deliberate learning and the evolution of dynamic capabilities . *Organization Science*, Vol. 13, No. 3, pp. 339-351.
- Zott, C. (2003). Dynamic capabilities and the emergence of intraindustry differential firm performance: insights from a simulation study , *Strategic Management Journal*, Vol. 24, No. 2, pp. 97-125.