MLS EDUCATIONAL RESEARCH
http://mlsjournals.com/Educational-Research-Journal
ISSN: 2603-5820

How to cite this article:

Mendoza Betin, J. A. (2017). Dynamic capabilities: an empirical analysis of its nature. *MLS-Educational Research, 2* (2), 193-210. Doi: 10.29314/mlser.v2i2.80

DYNAMIC CAPABILITIES: AN EMPIRICAL ANALYSIS OF ITS NATURE

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Abstract. The article is part of the doctoral dissertation called "Dynamic Capabilities and Financial Profitability: A Study Proposal for the Analysis of Basic Sanitation Companies of Cartagena, Colombia". It explores and explains the nature of the dynamic capabilities and their relationship with Financial Profitability in 96 firms that are composed of 304 members of the management team. An exploratory and transversal methodological strategy is presented, based on the data collection instruments of the researcher, those that were validated by experts to answer the central question: What and how is the ecosystem of the dynamic capacities of absorption, learning, innovation, adaptation and business resilience, in reciprocity to financial profitability? In another aspect, the scientific, theoretical and empirical literary body related to research in the last 5 years has been examined, based on which the current perspectives of the biosphere of competences, procedural and eclectic and integrated of the construct and the knowledge vacuum are exposed. Finally, it is concluded that the idiosyncrasy of the dynamic capacities is eclectic and integrated, and that the dynamic capacities of innovation and resilience increase the economic performance of the organizations, the foregoing as a result of the contrast of the hypotheses by means of structural equations.

Keywords: dynamic capabilities, nature, structural equations

CAPACIDADES DINAMICAS: UN ANALISIS EMPIRICO DE SU NATURALEZA

Resumen. El artículo hace parte de la disertación doctoral denominada “Capacidades Dinámicas y Rentabilidad Financiera: Una Propuesta de Estudio para el Análisis de las Empresas de Saneamiento Básico de Cartagena, Colombia”. Explora determinar y explicar la naturaleza de las capacidades dinámicas y su relación con la rentabilidad financiera en 96 firmas que se componen de 304 miembros del equipo gerencial, se presenta una estrategia metodológica exploratoria y transversal, basada en instrumentos de recogida de

datos propios del investigador, los que fueron validados por expertos para responder la pregunta central: ¿Cuál y como es el ecosistema de las capacidades dinámicas de absorción, aprendizaje, innovación, adaptación y resiliencia empresarial, en reciprocidad a la rentabilidad financiera? En otra vertiente, se ha examinado el cuerpo literario científico, teórico y empírico relativo a investigaciones en los últimos 5 años; con base en lo cual se exponen las perspectivas actuales de la biosfera de competencias, procesal y ecléctica e integrada del constructo y el vacío de conocimiento. Finalmente, se concluye que el carácter de las capacidades dinámicas es ecléctica e integrada, y que las capacidades dinámicas de innovación y resiliencia acrecientan el rendimiento económico de las organizaciones, lo anterior como resultado del contraste de las hipótesis mediante ecuaciones estructurales.

Palabras clave: capacidades dinámicas, naturalezas, ecuaciones estructurales

Introduction

The nature of dynamic capabilities (DC) is a topic of great controversy in the field of business strategy. This controversy comes from the difficulty of reaching an agreement on the correct way of conceptualizing them, either as competencies or as processes. However, as a result of the research carried out, the author adds a new element to this dispute by introducing a third category that he calls eclectic. DC have common characteristics, but they also show the divergences that arise from the idiosyncrasies of different organizations. This entails the need to develop a positive analysis that enables the analytical generalization of its findings in the theory of dynamic capabilities.

Due to the aforementioned, it is appropriate to determine and study (based on empirical data) the different ecosystems in which such capabilities are developed, as well as the dynamics of their formation within companies, in order to later analyze their consequences. However, given the abstract nature of the construct, it was decided to examine the competences and processes of absorption, learning, innovation, adaptation, entrepreneurial resilience and financial profitability under a yardstick. The question that sustained this research emerges from this, formulated in the following terms: What and how is the nature of the previously mentioned dynamic capabilities, in reciprocity to financial profitability, in the context of the basic sanitation companies of the city of Cartagena, Colombia?

In order to answer this question, the theoretical model shown in Figure 1 will be compared using the structural equations technique. This technique will be used to observe, highlight and contrast the ecosystem of the designated DC, including the recognition of other types of dynamic capabilities.

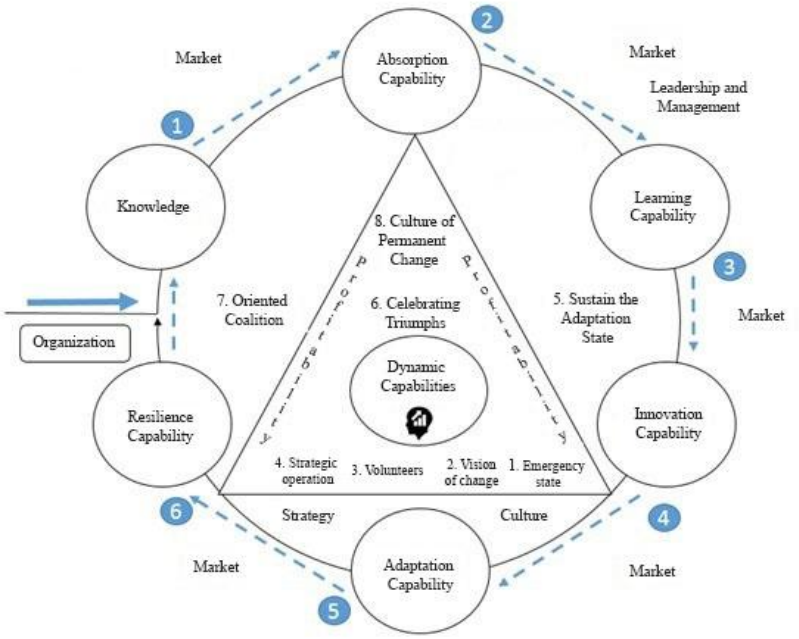

Figure 1. Approximation of the proposed Theoretical Model

Note: Taken from Cepeda-Carrion et al., (2015), Garzón et al., (2012), Garzón (2015), Kotter (2015) and Prezelj & Doerfel (2017)

The theoretical discussion will be divided into a series of sections, beginning with the existing separation that the DC habitats address: Competencies and Processes, as still supported by Carattoli (2013), Salvato & Rerup (2017) and Teece (2018), and a third stance that will be proposed and explained called Eclectic and Integrated, which corresponds with the author's cognoscente approach. Despite the theoretical scope around DC habitats, little has been researched about the effects of dynamic capabilities of absorption, learning, innovation, adaptation and entrepreneurial resilience, analyzed as a unified and holistic body of transformation on financial profitability. On the contrary, there are examinations disjointed from the relationship with the variables, especially as the dynamic capabilities of absorption, learning and innovation increase the value of the firm and, in consequence, the company's financial profitability (Cepeda-Carrion et al., 2015; Diaz-Delgado et al., 2016; Pérez de Armas et al., 2016). Hence the novelty, convenience and relevance of filling the knowledge gap on the nature of the dynamic capacities, adopted in these six variables.

Perspectives on the Nature of Dynamic Capabilities

The revision of the literary corpus and previous relevant researches linked to DC enabled formulating the problem of establishing their environment, which is still widely studied but in a separate way. On the one hand, Flatten, Adams & Brettel (2015), Helfat and Martin (2014), Helfat & Martin (2015), Helfat and Peteraf (2014), Teece (2014; 2018), and Trehan and Easterby-Smith (2017) stand out for considering them as competences. On the other hand, Delgado et al., (2016), Felin et al., (2015), Perez de Armas et al., (2016), Salvato & Rerup (2017), Swoboda and Olejnik (2016) and Winter (2013) identify them as routines. Lastly, Garzón (2015), Mendoza (2013) and Salvato & Vassolo (2017) consider them a theoretical eclectic combination of abilities and processes.

Consequently, and with the aim of contributing to the hypothetical generality of dynamic capabilities, the adoption of the eclectic-integrated trend justifies the execution of this numeric exploration, adapted to the Atlantic Colombian region, specifically in the area of basic sanitation in the city of Cartagena. This circumstance explains the innovative spirit and pertinence of this research, which compares the dissimilar perspectives originated from commendable studies - yet carried out individually and not in an aggregate manner - about absorption, learning and innovation dynamic capabilities, in addition to the economic performance of resources, thus verifying a model composed by the six noted variables.

Method

Accordingly, the aim is to explore the habitat of absorption, learning, innovation, adaptation and resilience dynamic capabilities as a whole, depending on financial profitability under a methodical, cross-sectional design. Generally speaking, and according to literary scrutiny, the link between absorption, learning and innovation capabilities, as well as financial performance, is positive and pertinent (Diaz-Delgado et al., 2016). Although this link does exist, it is not clear how the five capabilities will work together in order to achieve the desired financial performance, or how their conjoint analysis will enable determining the ecosystem of DC. In other words: How are the mentioned capabilities organized inside companies in order to increase financial profitability? Considering the preceding literature and the lack of agreement, the following hypotheses are proposed:

H1 hypothesis: The dynamic capabilities of absorption, learning, innovation, adaptation and company resilience, concerning financial profitability, are eclectic and comprehensive.

Ha1 hypothesis: The dynamic capabilities of absorption, learning, innovation, adaptation and company resilience, concerning financial profitability, are competence-related.

Ha2 hypothesis: The dynamic capabilities of absorption, learning, innovation, adaptation and company resilience, concerning financial profitability, are process-related.

From another angle, the design of the data collection instruments and the selection of the sample were made according to the following cycles: the elements and constructs were reviewed by three experts during the pilot stage. Each one was asked to review the reagents and confirm that the items were appropriate and adequate for the analysis units of Cartagena's basic sanitation sector, organizations mainly oriented at providing services. But even so, they would evaluate if the three designed surveys would answer the central question of the empirical work. In the second phase, the instrument was tested using a non-probabilistic sample of 29 members of the management team from 10 companies in the aforementioned sector. The collected data was evaluated, with some adjustments made to the mechanisms.

After the pilot study, the instruments for collecting information were personally administered to the subjects of the management team from the productive chains. The data collection procedure was based on Dillman's Total Design Method (1978,2007), who recommends making four contacts with the participants from the fieldwork through: (A) a

brief letter explaining the study, (b) an email attaching the survey, (c) a thank-you note, and (d) the survey application itself. Dillman also agrees that an additional special contact with the participants must be established after the final approach so as to improve the response rate. As a result, each respondent was sent a Thank You email.

The initial sample included 304 analysis units from 96 companies that according to the Chamber of Commerce of Cartagena (2017) comprise this industry. As 18 respondents were on vacation or with work permits, a total of 286 respondents were included in the practical exam. 40 instruments were eliminated in total, because they were incomplete in their processing; that is, responses with more than 50 percent of lost data were excluded. The final sample was made of 249 members from the management team that, based on Lloret-Segura et al., (2014), MacCallum (2003), is considered appropriate in the application of the structural equation technique.

Observations

Without prejudice to the use of the surveys, the observations were also used, which accessed the direct information of the study, in which the interactions and decisions of the companies' executives related to the research also took place, which in the end will facilitate access to the groups' cultural knowledge (Bonilla-Castro and Rodríguez-Sehk, 2005), and ultimately strengthen the research conclusions. Regarding the distinction of the businesses and their management groups, the author visited the physical places, offices, and meeting places.

Common Method Variance

To minimize the potential effects of common method variance, Podsakoff et al. (2003) recommends including procedural controls in instrument design. Therefore, before administrating the surveys, form controls were instituted to decrease the probability of the common method variance. In addition, after data collection, statistical control was used to assess the presence of the common method variance. In fact, Harman's single factor test was carried out and the results indicated that no single constituent represented the majority of the variance (the largest factor represented 34% of the variance).

Independent Variables

Absorption Capability

The dynamic absorption capability was evaluated using an *ad hoc* scale created under the following hypothetical dimensions, harmonizing with Arbussa and Coenders (2007) and Cepeda-Carrion et al., (2015): 1. Integrated and adaptive competencies and processes for the identification, capture and appropriation of external but relevant information located in the market. 2. Interaction with the environment based on practices and qualities to proceed in the search for critical data associated with alliances and R&D networks. 3. Skills and instructions for acquiring knowledge similar to cooperation and relations with other companies. 4. Methods and experiences in renewing resources and capabilities through strategic relationships with independent or complementary firms. A total of twenty factors measured absorption capability.

Learning Capability

The dynamic learning capability was measured by scrutinizing a scale established by the researcher based on the theoretical extensions suggested by Garzón et al., (2012). This metric contains three dimensions appropriate for the current study: 1. Exploitation and generation of knowledge through the subjects of the business; individual, group, organizational and inter-organizational. 2. Share discernment through competencies, processes, formal and informal structure, communities of practice, lessons learned, organizational memory and tolerance of error. 3. Corporate culture as a consequence of the system, organizational climate and communications. A total of thirteen items evaluated the learning capability.

Innovation Capability

The dynamic innovation capability was tested using four hypothetical dimensions proposed by Garzón and Ibarra (2013a,b); Garzón (2015) and Molina and Munuera (2008): The first one was designated; Radical innovations to reach new businesses and new markets. The following; Gradual, evolutionary or incremental innovations, similar to product innovations. The third one was named as; Architectural innovations, linking process innovations, organizational and marketing changes. And fourth; Conceptual innovation, with which all the above could be reinvented. A total of ten observable variables were created to measure the innovation capability.

Adaptation Capability

The dynamic adaptation capability was measured using four theoretical lengths proposed by Kotter (2015) and Ohmae (2012): 1. Adaptive processes and competences to adjust the structure and hierarchy of the company. 2. Routines and attributes to change the agency structure and the company's corporate management. 3. Dual strategic-operational adaptation capability; an organic and structural environment and a dynamic network designed to compete. 4. Practices and experiences for the company to evolve into other markets and businesses. Six elements were organized in order to assess the adaptation capability.

Entrepreneurial Resilience Capability

The dynamic resilience capability was calculated by examining a scale established by the researcher based on the theoretical extensions suggested by García-Merino et al., (2015), Mendoza (2013), Prezelj & Doerfel (2017) and Somsing & Belbaly (2017). It was measured by five dimensions suitable for the study: 1. Competencies and processes to be flexible and continuously adapt to new unexpected situations in the short term. 2. Activities and skills to productively and meaningfully respond to unexpected changes in the short and medium term. 3. Skills and routines to recover from adverse events in the short and medium term. 4. Experiments and experiences to maintain the functions and results under tension in the medium term. 5. Creative risk management, crisis and business continuity. A total of ten factors measured the resilience capability.

Dependent Variable

Financial Profitability

Performance was first thought to be measured using the ratios of profitability on assets and patrimony proposed by Tham and Vélez-Pareja (2004) and Tham et al., (2010). However, since most of the organizations in the study are private, data could not be collected directly from participants, and as a result, relative elements were designed in response to the refusal of managers to disclose detailed performance data. Respondents were then asked whether each of the analysis capabilities increased financial profitability over the past 3 years.

Variables Control

The size of the firm can have an important influence on the development of dynamic capabilities, and these in the increase of profitability, since larger companies have more resources and could have more configured skills and routines (Gulati, 1999). In such a case, the examination was controlled by surveying the number of employees prior to the practical scrutiny.

Results

It was stipulated that the best and most convenient methodological technique were those of structural equations, given its capacity to estimate and simultaneously adjust multiple relationships and associations, incorporate latent and observable variables, and explain the random measurement error of latent variants (Medsker et al., 1994). A two-step strategy was used to study the data, including validation of measurement scales and confirmatory factor analysis in the first part. In the second part, the model and the estimation of parameters for the final pattern according to the natures of DC were identified, evaluated and adjusted. The results of both cycles are presented below.

Measurement model

The different scales of the principles in the instruments defined of the Linkert type, were admitted in the following assumptions: uni-dimensionality with the SPSS, compound reability, AVG, discriminant validity by means of Gaskin plugin (2017), which were inserted to the program AMOS version 23. In addition, the Confirmatory Factorial Analysis (CFA) was also carried out with the same computer development, while some adjusted goodness-of-fit indicators were calculated for the first reflective model as proposed (Gaskin & Lim, 2016 and Marsh et al, 2014). Among those that stand out is the Root Mean Square Residual (RMR), an index that must be less than 0.08, and other indicators such as AGFI, NFI and RFI found as well, which reinforce being greater than 0.9 (Cupani, 2012).

It was then decided to create a database with all the items of the three surveys, which yielded 747 records and were differentiated by an identification variable with three options for each, which represent a DC. The following procedures were then taken into account in order to develop the initial SEM: Unweighted least squares solution (ULS); however, the Maximum Verisimilitude (ML) process was circumscribed in order to take

advantage of the index modifications (IM) that could not be obtained with the ULS method, coinciding with Holgado-Tello, et al., (2010) and Ximénez & García (2005).

For the above, the measurement pilot was constructed for the exogenous variables corresponding to the dynamic capacities of absorption, learning, innovation, adaptation and entrepreneurial resilience. Later, they were related to the financial profitability in an inaugural SEM model using the Path graph or of paths technique, one for each of the previously mentioned tactics. In addition, standardized estimators were also deduced, suggesting that they should be around 0.7 (Escobedo et al., 2016). However, at this point in the process, the lowest appraisers were identified in order to eliminate some observable variables and improve the SEM model. Likewise, modification metrics (MI) were applied to decrease the chi-square value. Therefore, the substantial criterion was to exclude items with high MI values (Morin et al., 2013). This process was carried out so as to regenerate the reliability and validity objectives in the AFC, and the goodness-of-fit goals (Marsh et *al.*, 2014).

As a strategy, the previously defined model was assumed, based on the theory and taking into account that the archetype were identified; this is to say, that the degrees of freedom were larger than the unity. After adjusting the first prototype, it was re-specified towards two new patterns, considering the modification indexes and supported by the literary corpus. Another thing which was added to the joint procedures was the construction of standardized tables, non-normalized coefficients tables and the goodness-of-fit indexes tables. Lastly, the hypotheses association was verified by considering the P values of the non-adjusted coefficients. The derivations of the nascent archetypes showed that a six-factor latent guide gave an approximated adjustment of the data in Figure 2.

([747, n = 249]; CFI = 0.558; RMSEA = 0.168; TLI = 0.539) and in Figure 3 3 ([747, n = 249]; AGFI = 0.983; RMR = 0.121; NFI = 0.984).

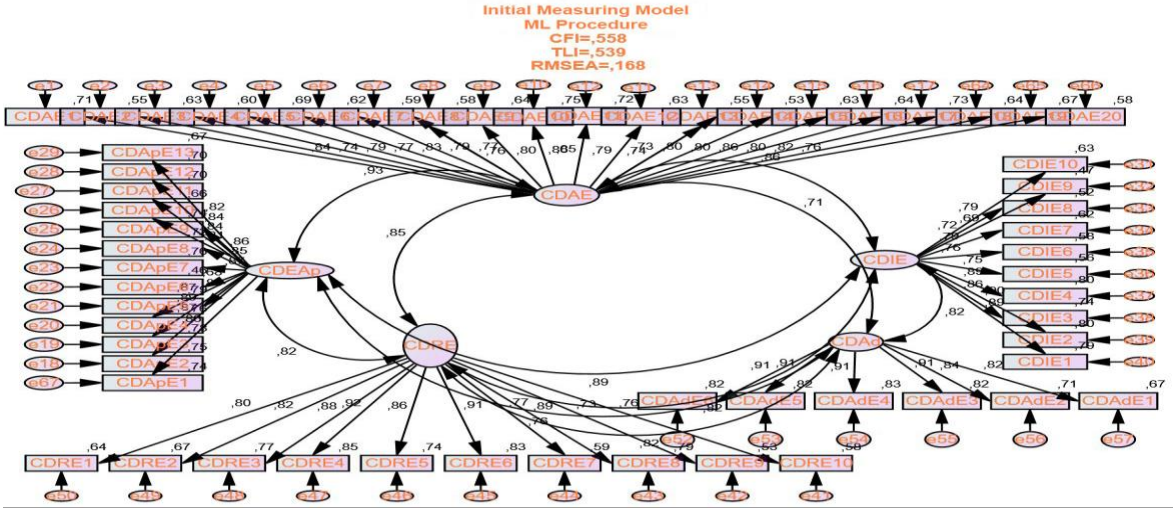

Figure 2. Path Graph model of the Maximum Likelihood (ML) initial dynamic capabilities procedures for general measurement

Note: Taken from our own calculations based on SSPS and AMOS (2018)

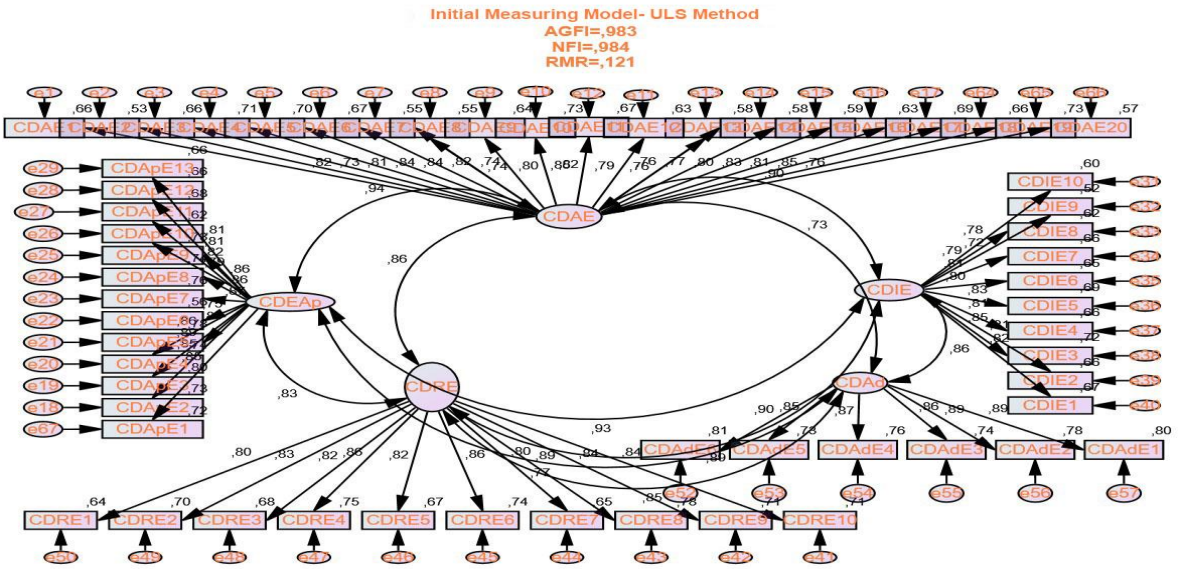

Figure 3. Path Graph model of the Unweighted Least Square Solutions (ULS) initial dynamic capabilities procedures for general measurement

Note: Taken from our own data processing based on SSPS and AMOS (2018)

Structural Model

After the confirmatory analysis, the general adjustment indexes of the hypothetic signal were considered, with the measurements showing the adequate adjustment ([747, n = 249] = NFI = 0.967; AGFI = 0,964; RMR = 0,168). Given the adequate appearance, the hypothesis were analyzed.

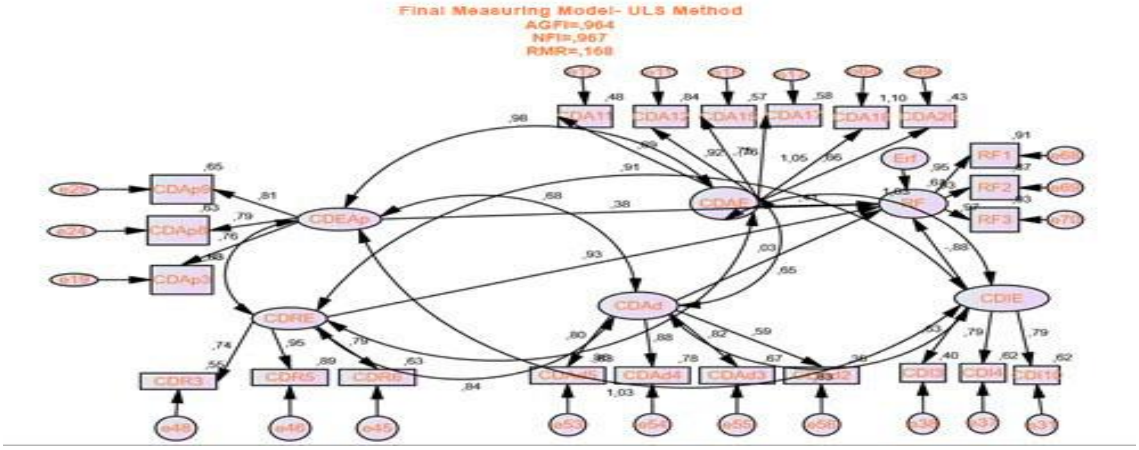

Figure 4. Path Graph model of the SEM final procedure (ULS) by characteristics

Note: Taken from our own calculations based on SSPS and AMOS (2018)

Estimating Parameters in the Final Model Depending on their Characteristics

Keeping the hypothesis in account, the standardized coefficients related to the characteristics of the dynamic capabilities were presented.

Table 1
Factorial loads from the characteristics of dynamic capabilities

Endogenous Variable	Relationship	Exogenous Variables	Eclectic	Processes	Competencies
RF	<---	CDAE	0.137	-0.019	-0121
RF	<---	CDEAp	-0.24	0.877	-0.002
RF	<---	CDRE	0.489	0.579	-0.098
RF	<---	CDAdE	-0.02	0.239	0.013
RF	<---	CDIE	0.659	-0.792	0.081

Note: Taken from our own measurements valued in SSPS and AMOS (2018)

It was discovered that the most influential coefficients in the RF are Eclectic, the CDIE with a value of 0.659 and a CDRE equal to 0.489, the other dynamic capacities did not take part in the RF. On the other hand, the capacities in processes, which were largely between the RF are in the following order; CDEA with a coefficient of 0.877, followed by CDRE equal to 0.579; CDIE showed an opposite but high relation (-0.792). Finally, in terms of competences, no variables with an incidence in the RF was obtained. A key aspect for identifying if the DC values help to explain RF values depending on the environments is by fixing the determining coefficients (R2). The discovered results are presented below..

Table 2
Determination coefficients for the definitive RF endogenous variable model based on the characteristics of the dynamic capabilities

Endogenous Variable	Eclectic	Processes	Competencies
RF	0.753	0.587	0.012
RF3	0.787	0.918	0.948
RF2	0.812	0.87	0.88
RF1	0.932	0.918	0.879

Note: Taken from our own calculations estimated on SSPS and AMOS (2018)

R2 in the Financial Profitability (RF) indicates that the entire model, this is to say, taking into account the dynamic capacities, explains its performance; therefore, the higher it is, the more explanatory it is. The rest of values are what the RF reveals to their respective observable variables. Taking into account the corollaries, all figures are suitable and, as a consequence, we can say that the RF presents changes in its respective items very well.

The contrast of the hypothesis showed how the RF was better explained by the Eclectic environment. R2 revealed that 75.3% of the changes in the RF are declared by the

dynamic capabilities, while the DC of a procedural nature expressed the changes in RF at 58.7%. In both cases they were suitable values, with the Eclectic model being much better. With regards to Competence, the RF was not shown in a good way, with its R2 being almost null.

Given the adequate procedure, ULS, the program does not present the values of P; however, with the previously shown indicators and the above table, we could see how the dynamic capabilities of a competitive nature do not properly contribute at exposing the Financial Profitability (RF). With respect to Processes, only the CDAE capability does not significantly declare the RF. The one with the highest direct participation is CDEAp, with an estimator of 0.877, followed by CDRE with 0.579 and CDAd with a coefficient of 0.239. It is notable that the CDIE dynamic capability presented an inverse relationship with the RF, for which the value was -0.792.

The RF in the Eclectic environment showed that the CDIE is more relevant (0.659), followed by the CDRE (0.489) to a lesser extent, but with the CDAE (0.137) being influential, with the CDEAp having a significant inverse concordance (-0.24), and the CDAd definitely not being statistically revealing in intervening in the RF, because of its minimal coefficient of -0.02. In order to meet some hypothesis about the dynamic but integrated capabilities, i.e., not separately analyzed, the following table was created with the values of P, given that in this case, it could be conducted based on an ML procedure.

Table 3
Non-standardized coefficients for the definitive RF endogenous variable model based on the characteristics of the dynamic capabilities

Endogenous Variable	Relationship	Exogenous Variables	Estimate	S.E.	C.R.	P
RF	<---	CDAE	-0.598	0.893	-0.67	0.503
RF	<---	CDEAp	0.35	0.693	0.506	0.613
RF	<---	CDRE	0.493	0.186	2.648	0.008
RF	<---	CDAd	0.127	0.083	1.522	0.128
RF	<---	CDIE	0.546	0.12	4.538	***

Note: Taken from our metrics determined in SSPS and AMOS (2018)

It was discovered that the P figure is statistically explanatory for the capabilities of resilience (0.008) and innovation (***). This implied that they had a positive RF. The others, in response to the transactions of P, are higher than 0.05. In such a circumstance, they are not responsible for the RF.

Discussion and Conclusions

Positive exploratory research on the nature of the dynamic capabilities showed that it is eclectic, coinciding with the hypothetical positions of Garzón (2015), Mendoza (2013) and Salvato & Vassolo (2017), although only in relation of the variants; dynamic

capabilities of innovation and entrepreneurial resilience regarding Return on Equity. Cepeda-Carrion et al., (2015), Diaz-Delgado et al., (2016) and Perez de Armas et al., (2016) argue that the dynamic capabilities of takeover, learning and innovation as a result of Return on Equity increase the value of large firms, which is contrary to the context of micro and SME corporations where this fieldwork was conducted. Notwithstanding the foregoing, the *ad hoc* findings confirm, in a limited way, that the three-factor relationship of a six-component model concordantly represents the idiosyncrasy of the dynamic capabilities within Cartagena's basic sanitation companies.

However, the findings corroborate Teece's thesis (2014), in which it is stated that "when the company's production conforms to what the market wants, the skills of the personnel, and the routines, are adequate for reaching a competitive advantage". Thus, according to the explanations for the intentions, dispositions, motives or reasons, the dynamic capabilities environment is deduced as being eclectic, given the mixed agents mentioned by the author: abilities and routines. In this sense, the importance of strategic direction and alignment based on government is highlighted. This undoubtedly makes the existence of this type of biosphere possible within organizations. It was generally found that innovation and resilience capabilities are set by SMEs in ways not previously discovered for delivering relevant economic performance. These demonstrations have the potential to lavish implications for academia and the real-world, sector advancing into the next avenues of inquiry.

Implications for the literary body of work

Under the current empirical analysis threshold, dynamic capabilities in the organization are undertaken from the paradigm of strategy and the theory of dynamic capabilities. The development and understanding of these in tangible terms has created an obvious interest from management theory over the past 25 years. It is based on a dual but still abstract and disintegrated discourse of knowledge suitability to configure processes, in order to 'learn to learn' quicker than the competition in turbulent and chaotic markets, just as Robledo (2012) and Robledo et al., (2015) agree. In this regard, the study and its findings empirically support, and in grace of the theoretical but conditioned universality that the DCs include dimensions and factors that transcend the operation of resources, giving rise to competencies and routines of high strategic value. For this reason, it is necessary to adopt a conciliatory position around the hypothetical dispute between cataloguing them as skills (Teece, 2014) or repetitive patterns (Winter, 2013). Hence the tolerant vision and epistemological position of the researcher.

Concerning the specificity of the research problem, as mentioned above, several positions have been developed. However, this study contributes with an original, novel and pertinent case study from the Theory of Dynamic Capabilities, thus enabling the determination of the eclectic ecosystem of the construct. We can infer from the foregoing, that the contribution of the presented dissertation is that of enriching the conceptual framework, the analytical theoretical generalization of the phenomenon, but studied under the same methods and procedures presented in the article and the hypothetical principles of what would be called the new environment of dynamic capabilities within the Organization Theory. Furthermore, the practical derivations achieved show that the dynamic capabilities of innovation and entrepreneurial resilience explain financial profitability in its eclectic and integral ecosystem. From the structural point of view, the determined contribution of the

discussion is the multidimensional and factorial explanation of the dynamic capabilities in the increase of Financial Profitability.

Implications for General Management

Regarding the literary corpus, the method, the procedures and the techniques of the quantitative scrutiny, added to the results obtained, it is pertinent to point out that they will serve as a reference of interest and consultation for the academy and the real-world sector. The preponderant role of dynamic capabilities within organizations that generate high-value strategic and tactical actions in order to achieve their sustainable competitive advantage must become permanent points of organizational reflection.

On the other hand, the scientific examination outlines the idiosyncratic potential of firms, based on the competencies and processes of innovation and resilience on the basis of relevant market information, then focusing on their learning through the generation of knowledge, which will generate entrepreneurial innovation in chaotic and dynamic markets. However, given the multivariate condition of those inconstant studied, the *ad hoc* exploratory method, the size of the population and final sample of the competitive sector as a unit of analysis, it was possible to contrast the cardinal hypothesis, validating and testing the author's cognitive position of the analysis in the sense that the biosphere of the dynamic capabilities is eclectic.

Leaving aside the method's limitation, this analysis provides promising lines of research for management teams, management science and the real-world sector on the development and management of dynamic capabilities. Management teams based on leadership, organizational culture and idiosyncratic strategies through the training and development of skills and routines of world-class competitiveness, inspires essential concepts and constructs that characterize the holistic organization. In such a situation, every leader and student in the field of strategy is expected to understand the importance of dynamic capabilities as a source of sustainable competitive advantage.

Limitations

A first constraint is that 289 members of the management team from the 304 examination population unit responded to the three surveys, representing 95%, since a smaller proportion were on holiday and unable to take part. Another restriction is subject to the perception of the management teams of the 96 companies that together form the basic sanitation sector of the city of Cartagena; however, it could be different than what was stated by the middle management personnel who answered the questions from the data collection instruments.

In addition, the *ad hoc* measurement method and instruments, although validated by experts and reliable according to different statistical techniques explained in the Result chapter, were applied at a given time, by virtue of which it was not possible to know the findings of the analysis units in different time frame scenarios, which would help to generalize the Theory of Dynamic Capabilities. On the other hand, it was not possible to collect the information associated with the profitability variables: Return on equity; operating profit margin; administration expenses and sales values; gross profit margin; net profit margin, since the data was not supplied by the companies.

The first collated hypothesis and its alternatives address the primordial problem; these alternatives could not be validated through the technique of additive or average scales as initially budgeted but were contrasted by means of structural equations. Even so, in the end it manages to establish a limitation in the scope of the scrutiny and the particularities of the analyzed companies, due to the fact that the sector is conformed only by 96 commercial companies, which are characterized by being Small and Medium-sized enterprises. Consequently, the influence of dynamic capabilities on Financial Profitability in a much larger industry in population units could be addressed in a future research, provided that the findings are generalized.

Future Research Lines

Apart from the quantitative work that was carried out, more research is required for the nature of the dynamic capabilities, as well as its relationship with Financial Profitability, even for different productive sectors, micro, medium and large companies, especially in the Latin American context and in the Colombian Atlantic Coast. Lastly, as part of the present clause, more practical research is needed to validate the eclectic and integrated effects of the dynamic absorption, learning, innovation, adaptation and business resilience capacities on financial profitability.

Another research line is based on the ontological and social aspect of the dynamic capabilities of Colombian micro and SMEs, and consequently on their financial profitability and other sustainable competitive factors. A large company and micro and SMEs must take strategic actions that make it impossible for them to reveal their internal competitive advantage, given that if they do, they will lose their inimitability, sustainability and surprise factor, and in such virtue, understanding the dynamism and character of the dynamic capabilities will be a major challenge as a consequence of the arising constriction, which would require establishing new methods of analysis and support, with different theories in the managerial field.

In conclusion, the method and results obtained about the biosphere of the dynamic capabilities extend the previous research and offer a new configuration of how to study the phenomenon that has the potential to improve the future research oriented to the problem, though it is also necessary to validate them in other business context.

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Date received: 08/12/2018
Date reviewed: 09/07/2018
Date accepted: 10/16/2018