

**DEEPENING THE CONCEPT OF CONTEXTUAL
AMBIDEXTERITY AND ASSESSING ITS INFLUENCE ON
PUBLIC ORGANIZATIONS' PERFORMANCE**

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Abstract

Contextual ambidexterity has caught the interest of researchers for the recent years. However, the concept itself has not evolved since its creation in 2004 by the work of Gibson and Birkinshaw and, to this time, it is seen as a combination of the capacities for alignment and adaptability in a business unit. In this dissertation, some modifications to the model are proposed in order to strengthen it. These are to transform alignment and adaptability into a set of sub-dimensions each and to add a third variable, autonomy norm. Additionally, the new model was tested in organizations from the public sector because, given the particular pressures that these organizations face, it would be logical that this organizational capacity would help to balance them.

Confirmatory factor analyses and hierarchical regression analysis were used to examine the responses from 199 public workers and their results were satisfactory, since alignment and adaptability were better represented as multiple factors, autonomy norm showed to reinforce contextual ambidexterity and, at last, all three variables displayed some effect on performance. These results will have both implications for the existing and future literature on ambidexterity and for the practices of managers in public organizations.

Keywords: Human Resources Management, Contextual Ambidexterity, Organizational Performance, Public Organizations Management

JEL Classification System: M14, H83

Resumo

A ambidextria contextual chamou a atenção dos investigadores nos anos recentes. No entanto, o conceito em si não foi evoluído desde a sua criação em 2004 pelo trabalho de Gibson e Birkinshaw e, até ao presente, é vista como uma combinação entre as capacidades de alinhamento e adaptabilidade numa unidade de negócio. Nesta dissertação são propostas algumas modificações ao modelo, de forma a reforçá-lo. Estas são a transformação de alinhamento e adaptabilidade para um conjunto de sub-dimensões cada e acrescentar uma terceira variável, norma de autonomia. Adicionalmente, o novo modelo foi testado em organizações do setor público uma vez que, dado as pressões específicas que estas organizações enfrentam, seria lógico que esta capacidade organizacional as ajudasse a equilibrá-las.

Análises fatoriais confirmatórias e uma análise de regressão hierárquica foram usadas para examinar as respostas de 199 funcionários públicos e os resultados foram satisfatórios, uma vez que alinhamento e adaptabilidade ficaram melhor representados por múltiplos fatores, norma de autonomia demonstrou que reforça a ambidextria contextual e, por fim, as três variáveis demonstraram algum efeito na performance. Estes resultados têm implicações tanto para a existente e futura literatura sobre ambidextria, como para a prática de gestão em organizações públicas.

Palavras-chave: Gestão de Recursos Humanos, Ambidextria Contextual, Performance Organizacional, Gestão de Organizações Públicas

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Index of Contents

Index of Figures	2
Index of Tables	2
1. Introduction.....	1
2. Organizational Ambidexterity	3
2.1 Organizational Environment	3
2.2 The Exploitation-Exploration Tension	4
2.3 The Development of Organizational Ambidexterity as a Concept.....	5
2.4 Different Approaches to Ambidexterity.....	7
2.5 Contextual Ambidexterity	8
3. Assessing the Concept of Contextual Ambidexterity	10
3.1 The 4I Framework of Organizational Learning.....	12
3.2 Management Control Systems.....	14
3.3 Expanding the Concepts of Alignment and Adaptability	15
3.4 Autonomy Norm.....	17
4. Contextual Ambidexterity and Public Organizations' Performance	19
4.1 Contextual Ambidexterity and Performance	19
4.2 Contextual Ambidexterity on Public Organizations	20
5. Methods	23
5.1 Sample.....	23
5.2 Measures.....	24
5.2.1 Alignment	24
5.2.2 Adaptability	25
5.2.3 Autonomy Norm.....	25
5.2.4. Performance.....	26
6. Results	27
6.1 Confirmatory Factor Analysis	27
6.2 Hierarchical Linear Regression	28
7. Discussion.....	31
7.1 Theoretical Implications.....	31
7.2 Practical Implications	34
7.3 Limitations.....	35
7.4 Future Research	36
8. References.....	38

9. Annexes	42
9.1 Annex 1 - Scales for alignment	42
9.2 Annex 2 – Scales for adaptability	43
9.3 Annex 3 – Scale for autonomy norm	44
9.4 Annex 4 – Scale for performance	44

Index of Figures

Figure 1: Proposed model for contextual ambidexterity	11
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Index of Tables

Table 1: Means, standard deviations and correlation matrix	29
Table 2: Hierarchical Regression Results	30

1. Introduction

One concept that has been gaining influence for the past decades on Organizational literature is organizational ambidexterity. Similar to the capacity to control both hands, an ambidextrous organization is able to display different, seemingly contradictory activities. For example, an ambidextrous organization can balance the tension between having to exploit its' current assets to be profitable while also remaining explorative and adaptable for changes in the environment, in order to ensure its future sustainability. There has been a proliferation of interest in this subject for the past years, and many different theories on how to achieve ambidexterity have come up.

This dissertation will revolve around a specific type of ambidexterity, which is contextual ambidexterity, and it will target two main goals: To deepen the concept and to apply it to organizations in the public sector.

The reason why the concept needs to be revised lies in the way it was first designed by Gibson and Birkinshaw in 2004. These authors, contrarily to previous theories, argued that although ambidexterity is an organizational capacity, it can be displayed on the individual level. In other words, if the right organizational context is nurtured, individuals can engage in activities towards alignment (coherence across the organization) and adaptability (the ability to respond to changes in the environment). Contextual ambidexterity is then represented in their model as a combination of alignment and adaptability.

In this project it will be argued that, despite the undeniable value that their contribution added to the literature, their conceptualization of contextual ambidexterity lacks some important explanations. First, the initial definition from Gibson and Birkinshaw (2004) may be considered vague and not easily understandable and that has implications on its practicality by managers and other entities. This arises from the meanings behind alignment and adaptability not being clear, and so new sub-dimensions to constitute them will be suggested, based on the framework of Crossan *et al.* (1999) on organizational learning and Simmons (1996) study of management control systems.

Another shortcoming from the original model was the lack of a variable that explained the individual action in this process. According to the authors, this approach to ambidexterity differs from the previous in the sense that instead of having structural or temporal separation between alignment and adaptability, here individuals decide on how to divide their time between activities towards each. Yet, their initial model does not comprehend any variable that represents individual's ability to make this decision. In order to overcome this deficiency, the proposal will be to add a third dimension to contextual ambidexterity named "autonomy norm", which represents how recurrent it is for individuals in the business unit to make their own decision.

The second goal of this dissertation will be to extrapolate the concept of contextual ambidexterity to public organizations because, although having been traditionally designed for private firms, it can be expected to be valuable for the understanding of performance in these organizations.

In fact, it is the very differences between public and private organizations that make it logical to use this approach. Public organizations face a number of specific tensions such as, for example, between providing good, adjusted services for each of its clients while also maintaining its principles of equality of treatment. Therefore, these organizations and their individuals have a lot to balance, thus in this dissertation it will be argued that a contextually ambidextrous public organization is expected to perform better, since it will provide its individuals the tools to make these decisions.

2. Organizational Ambidexterity

2.1 Organizational Environment

The initial concept of organizational ambidexterity has its foundations on the literature about how organizations are affected by their surrounding environment. In the past decades of organizational study, researchers have noted that the presence in different markets and environments, and different organizational strategies and goals, force organizations to adapt their structures and culture in accordance to their needs. Burns and Stalker (1961) observed that organizations belonging to steady environments built up “mechanistic systems”, defined by high levels of hierarchy and bureaucracy, standardization of processes and products and clear roles and job descriptions, while firms in volatile environments developed structures with less formalization and more lateral coordination mechanisms, what they named “organic systems”. This was named “contingency theory”.

Public organizations, which are at the center of this dissertation, exemplify this occurrence since they are subject to specific environments that influence the way they are structured (Boyne, 2002). The environments that surround these organizations are, according to Boyne (2002), characterized by high levels of complexity, permeability, given that they are especially affected by outside events, instability due to the frequent political change and, finally, absence of competition. In the view of Boyne (2002), this results in structures with much bureaucracy and “an unnecessary and counter-productive obsession with rules rather than results” (Boyne, 2002: 101) and low managerial autonomy. There have been different trends and recent tendency has been to decentralize (Walker and Andrews, 2013), although the outcomes from this approach are not yet clear (Boyne, 2002; de Waal, 2010).

2.2 The Exploitation-Exploration Tension

This necessity for organizations to conceive their structures in accordance to their goals and needs exacerbates the tension related to the decision organizations need to make on designing a strategy of exploration and/or exploitation. Firms can choose to focus on exploiting their current assets by, as March (1991: 72) stated, “using the information currently available to improve present returns” or, on the other hand, choose to be explorative and continuously remain flexible and in active search for innovations, by “gaining new information about alternatives and thus improving future returns” (March, 1991: 72).

Naturally, these strategies will show positive outcomes in different time-frames. The benefits from a strategy of exploitation will become visible in the short-term, since the firms' efforts will be put in order to augment current efficiency and, on the contrary, a strategy of exploration aims for more timely distant results. Consequently, these strategies have different benefits and there are risks associated with choosing only one of them. March (1991) noted that exploitation is necessary to ensure a firm's current viability and, therefore, those that focus only on exploration will never receive the benefits from what they invested in. On the other hand, exploration is necessary for the long run, since firms that don't allocate some amount of resources to these activities will not be able to adapt to environmental changes and will eventually become outdated. According to March (1991: 71), these firms would find themselves in a “suboptimal state of equilibria”, where they have not reached the maximum of efficiency in their business but lack the will and tools to improve it. Therefore, firms face what Thompson (1967) named a “paradox of administration”.

2.3 The Development of Organizational Ambidexterity as a Concept

For the past decades, researchers have begun to understand that reconciling these disparities was not only possible, as it was also necessary for companies that desired to be sustainable and to survive on the long term (Gibson and Birkinshaw, 2004). One reason behind this point of view is that in any market or environment, if the time frame of observation is wide enough, there will be periods of stability and periods of revolutionary change (Tushman and O'Reilly, 1996) and for each of them, different strategies should be used. Furthermore, researchers have argued that organizations even need to face this duality simultaneously and have searched for solutions, as will be later seen in greater detail (Tushman and O'Reilly, 1996; Gibson and Birkinshaw, 2004).

Based on these propositions, researchers began to focus on the concept of organizational ambidexterity. The first use of the term goes back to Robert Duncan (1976) who noted that organizations needed to display different structures between moments of initiation of innovations and, eventually, their execution. Since then, many different studies on the subject have been designed and the definition of the concept that has been most broadly accepted is from Tushman and O'Reilly (1996: 24), who defined it as "The ability to simultaneously pursue both incremental and discontinuous innovation... from hosting multiple contradictory structures, processes, and cultures within the same firm". An effective way to understand this concept is to imagine a spectrum where exploration lies in one extreme while exploitation lies at the opposite. While in classical literature the optimal point would be in one of the extremes, for the theorists of organizational ambidexterity it is located somewhere in the middle (March, 1991). Yet, it is also important to note that there is no consensus on how to best achieve ambidexterity. Some authors consider organizations as being ambidextrous if they reach the highest possible level of both exploration and exploitation (combined ambidexterity), while others see it as finding the optimal balance between both components (balanced ambidexterity) (Cao, Gedajlovic, & Zhan, 2009).

Mostly for the past three decades there has been a proliferation of interest in this subject which has caused a significant number of studies to be performed. This interest has been valuable in the sense that it has brought deepening and reliable evidence for the subject but it also resulted in an unsustainable broadening of the concept and, consequently, in its weakening (O'Reilly and Tushman, 2013). For example, there is a wide discrepancy

in the definition of the contradictory elements that ambidexterity aims to balance. While in primordial studies of this subject the focus was on exploration and exploitation, as different theories have been designed, different contradictions have been assessed, such as efficiency and flexibility (Adler *et al.*, 1999), global integration and local responsiveness (Bartlett and Ghoshal, 1989), differentiation and low-cost positioning (Porter, 1996). Gibson and Birkinshaw (2004) broadly used the terms alignment and adaptability.

Despite the differences between the paths that the studies have followed, a clear association can be observed between ambidexterity and firm performance (O'Reilly and Tushman, 2013). In their review of the existing literature at the time about organizational ambidexterity, these authors found that many studies displayed a positive influence by this capacity on sales growth, subjective performance, innovation, market valuation and firm survival. On a similar tone, Junni *et al.* (2013) conducted a meta-analysis on the empirical evidence of the previous studies regarding the relationship between organizational ambidexterity and performance. The results went in accordance, since these authors found that it carries a positive relationship with performance in general, although it shows a more significant effect in certain elements, such as growth, than others, such as profit. Additionally, other insights from this meta-analysis were that "combined measures of OA [organizational ambidexterity] capture the performance effects better than balanced measures" (Junni *et al.*, 2013: 308), that the higher the level of analysis, the higher the effect on performance, and that the influence is greater in services and high technology sectors than in manufacturing. These are easily explained by the fact that these environments are especially volatile and dynamic.

2.4 Different Approaches to Ambidexterity

Another matter that has caught the interest of researchers and which is at the center of the study of organizational ambidexterity are its antecedents or, in other words, how it is best achieved. There has not been any consensus as of this moment, yet there can be observed three main lines of approaching: sequential, structural and contextual ambidexterity, here placed in chronological order of appearance.

Sequential ambidexterity, although not being initially named as such, goes back to the development of the concept of ambidexterity in itself. Duncan (1967) in the research that initiated the study of this subject, affirmed that organizations needed to realign their structures in accordance to their environmental and strategic demands. This line of thought rests on the idea that firms will face moments when exploration is needed and others when the focus should be on exploitation and, therefore, their structures should adjust to remain suitable, since it is easier to do so than to modify the culture of the firm (Boumgarden *et al.*, 2012). Evidence from different studies shows that this type of ambidexterity carries higher benefits for firms operating in steady markets and for firms that do not possess the means necessary for either structural or contextual ambidexterity (O'Reilly and Tushman, 2013). Yet, the costs and time consumption of re-structuring an entire organization make it less effective in adapting to rapid changes in the environment.

The approach of structural ambidexterity is significantly different from the previous. Here, ambidexterity is not achieved through transformations during periods of time, it is simultaneous. Organizations are divided in different subunits and this can be used to achieve ambidexterity since they can each pursue different objectives: While some units focus on exploratory activities, others focus on exploitation of the current assets. (O'Reilly and Tushman, 2013). This separation focuses not only on different structures but also on “different competencies, systems, incentives, processes and cultures – each internally aligned” (O'Reilly and Tushman, 2008: 192). This discrepancies between subunits can create many tensions, thus the necessity to have a shared vision and a strong leadership that is capable of ensuring coherence across the organization (O'Reilly and Tushman, 2008). This approach becomes more effective in organizations that have the necessity to invest strongly on R&D activities, such as technology firms, for example.

2.5 Contextual Ambidexterity

The third and most recent approach to this subject is contextual ambidexterity, a term that was proposed by Gibson and Birkinshaw (2004) and that lies at the center of this research. Unlike previous approaches, this theory suggests that ambidexterity can be performed at the individual level and that it should arise from the organizational context and not from structural or temporal separation. The authors argue that although separation may augment efficiency, since business units are designed to meet their specific needs, it carries costs related to the coordination of different subunits or to the continuous re-shaping of the organization through time.

Gibson and Birkinshaw (2004) defined the concept of contextual ambidexterity as “the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit” (Gibson and Birkinshaw 2004: 209). The main difference to the previous concepts is the idea that ambidexterity can be present in a single business unit and that it is best achieved by creating an organizational context that enables and promotes employees to decide how to best divide their time between activities of alignment and adaptability. These authors decided to approach the typical trade-off between exploitation and exploration with two broader, but still related, concepts:

Alignment is defined as the “coherence among all the patterns of activities in the business unit” (Gibson and Birkinshaw, 2004: 209), that is, if all activities in the unit are consistent between themselves and are all reaching towards the same objectives. There is a clear connection between alignment and exploitation, since the higher the level of coherence in a certain unit, the more efficient it will be in exploiting its assets.

Adaptability, on the other hand, represents an opposed concept and can be defined as “the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment”. It is related to exploration and the search for innovation and the ability to respond to changes in the environment.

Gibson and Birkinshaw (2004) argue that although being seemingly contradictory, these two capacities can be simultaneously shown in the same business unit and the key to overcome the inherent paradox is through a favorable organizational context. Organizational context can be defined as “the systems, processes, and beliefs that shape individual-level behaviors in an organization” (Gibson and Birkinshaw, 2004: 212).

In order to design what this favorable organizational context is, the authors used as foundation the definition of organizational context by Ghoshal and Bartlett (1994), who divided the concept in four “behavior framing attributes”, which were discipline, stretch, support and trust. Discipline incites individuals to meet expectations and commitments. Stretch encourages individuals to set higher objectives and more ambitious goals. Support stimulates individuals to cooperate and aid each other. Finally, trust induces individuals to count on their colleagues and to rely on them. These attributes can be divided in “hard elements” (discipline and stretch) and “soft elements” (support and trust) and are interdependent (Ghoshal and Bartlett, 1994), or in other words, all need to be fostered in order to have a balanced organization.

Another relevant point from Ghoshal and Bartlett’s theory is that organizational context does not impose behaviors on individuals, yet it will enable or even inspire individuals to take certain actions. Building on this, Gibson and Birkinshaw (2004: 213) argued that when “a supportive organization context is created, individuals engage in both exploitation-oriented actions (geared toward alignment) and exploration-oriented actions (geared toward adaptability), and this results in contextual ambidexterity”.

Additionally, they believed contextual ambidexterity to be the mediator between the contextual attributes and organizational performance. This means that developing a favorable context, with the right levels of both hard and soft elements, will not necessarily improve performance by itself. Yet, it is through the development of the organization’s capacity of contextual ambidexterity that will, in turn, have a positive impact on performance. Furthermore, “attributes of context themselves can create and amplify internal tensions if they do not contribute to the simultaneous capacities for alignment and adaptability” (Gibson and Birkinshaw, 2004: 213), thus having the opposite result.

3. Assessing the Concept of Contextual Ambidexterity

Contextual ambidexterity is a well-constructed concept, with high potential to take a relevant role in organizational theory literature. Although there have been some studies conducted in the past years regarding the matter, they tend to focus on the role of leadership and HRM in achieving contextual ambidexterity (Havermans *et al.*, 2015; Malik *et al.*, 2019), in what environments it is more beneficial (Wang and Rafiq, 2014; Ikhsan and Rangga, 2017; Khan and Mir, 2019) and its relationship with different factors of performance (Meglio *et al.*, 2015; Ikhsan & Rangga, 2017; De Clercq *et al.*, 2013). Yet, the initial conceptualization proposed by Gibson and Birkinshaw (2004) has not been put to much discussion and, consequently, the notion of contextual ambidexterity could be more refined, given that it has not been deepened significantly since it emerged in 2004. Therefore, during this dissertation two main short-comings of the concept will be attempted to overcome. The resulting altered model can be seen in Figure 1.

The first is the lack of depth of the two components of contextual ambidexterity: alignment and adaptability. The definition provided by the original authors is rather vague and it is not made clear what constitutes these concepts. This problem is clearly visible on the measures that Gibson and Birkinshaw (2004) used in their study of contextual ambidexterity. Here they systematically used the term “management systems” for measuring both alignment and adaptability, for example in the items “The management systems in this organization work coherently to support the overall objectives of this organization” (Gibson and Birkinshaw, 2004: 217) for measuring alignment and “The management systems in this organization are flexible enough to allow us to respond quickly to changes in our markets” (Gibson and Birkinshaw, 2004: 217), which measures adaptability. First, by using the term “management systems” their research gravitates around the analysis of management and how it affects ambidexterity, which does not entirely represent the definitions provided by the authors for alignment (“coherence among all the patterns of activities in the business unit”) (Gibson and Birkinshaw, 2004: 219) and adaptability (“the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment”) (Gibson and Birkinshaw, 2004: 219). Additionally, the meaning of the term “management systems” may be considered ambiguous and thus being rather confusing for respondents of the questionnaire, who may

interpret it as management actions, procedures or other types of systems, which can threaten the validity of their empirical results.

The use of this term illustrates the lack of clarity of the description of alignment and adaptability, and thus of contextual ambidexterity. Consequently, this will affect the practicality of this concept, since business managers will have difficulties in achieving contextual ambidexterity if it is not itself well defined. Therefore, using the literature on organizational learning (Crossan *et al.*, 1999) and management control systems (Simons, 1994), the proposal will be to expand alignment and adaptability into a set of sub-dimensions which hopefully will facilitate its use in the business world.

The second shortcoming that will be assessed is the lack of measurement and even clarification on what is the role of individuals in a contextually ambidextrous unit. This approach, apart from other types of ambidexterity, relies on the individual decision on when to perform alignment activities and adaptability activities. Yet, in its related model, there is no variable concerning this issue. One can argue that having high levels of both alignment and adaptability is not enough to be considered a contextually ambidextrous unit, since it is also necessary that individuals have the means and motivation to make the decision on how to divide their time and resources. Therefore, autonomy norm will be introduced in the model alongside alignment and adaptability.

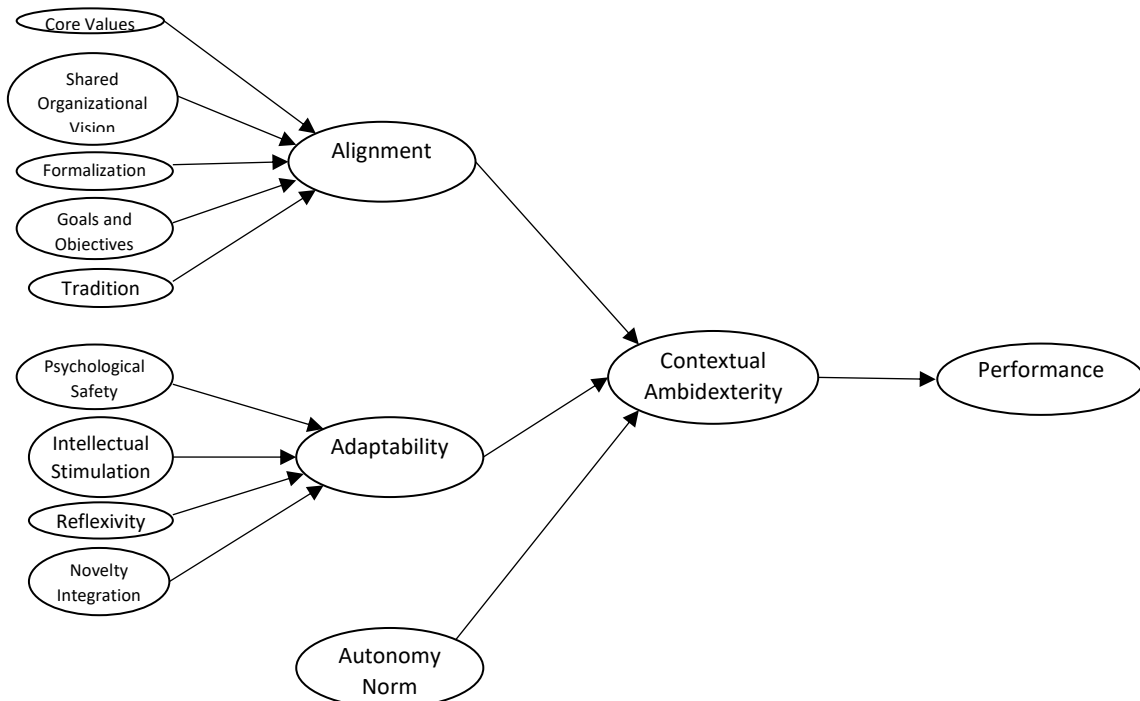


Figure 1: Proposed model for contextual ambidexterity

3.1 The 4I Framework of Organizational Learning

As stated previously, the deepening of the variables of alignment and adaptability was built upon the framework designed by Crossan *et al.* (1999) related to organizational learning. Although, as these authors state, there has not been yet a consensus on the definition of organizational learning, the authors focused their study on the “strategic renewal” of organizations. They stated that renewal, the main focus of their research, “requires that organizations explore and learn new ways while concurrently exploiting what they have already learned” Crossan *et al.*, 1999: 522). Then, it becomes clear that despite one focusing on business demands and economic performance and the other on organizational learning, both this study and the literature on ambidexterity simultaneously target the difficulty of managing the tension between exploration and exploitation.

The framework presented by these authors is based on the assumption that innovation and new ideas are developed on the individual level but, naturally, it cannot be considered organizational learning at this stage (Crossan *et al.*, 1999). Therefore, knowledge must migrate from the individual to the organizational level and in reverse. The authors define these motions as feed-forward and feedback, respectively. Feed-forward is the transference of new knowledge from individuals to groups and to the organization. It is related to exploration in the sense that individuals have new ideas and these are shared to larger scales, until eventually becoming embedded in the organization and feedback is the opposite movement. It is the transference of knowledge that has been institutionalized in the form of systems, structures, strategies and procedures and the way it affects individuals and groups (Crossan *et al.*, 2011). These processes are interactive between themselves.

In addition to these transference channels, the framework designed by the authors contains four learning processes, which they define as the 4 I's, hence the title “The 4I framework of organizational learning”. In their view, intuiting and interpreting happen on the individual level, interpreting and integrating on the group level and institutionalizing on the organizational level.

Intuiting is a preconscious process and occurs solemnly on the individual level. It is the recognition of patterns or possibilities in a personal view or experience. It can be divided in “expert intuiting” and “entrepreneurial intuiting”. The first is conducted by individuals with some degree of expertise in the organizations, who more easily understand situations due to the recognition of past patterns, and so they exploit what has been previously learned. The second is more related to novices, whose intuition is less biased and who tend to more easily find possibilities for new exploration. Another relevant point is that intuiting is only the beginning of new learning and only when it is embedded at all levels it can result in commercial success. By interpreting the insights collected during intuiting, individuals begin to develop cognitive maps, thus this being a cognitive process, contrarily to the previous. It can be developed at the individual or group level since, at some point, it carries out some kind of communication, even if within oneself (Crossan *et al.*, 1999). Next, integrating represents the process of finding a shared understanding between a group of individuals. The goal is to transform the new knowledge from the previous points in coherent, collective action and this is achieved through dialogue and shared practice. The final stage is institutionalizing, which represents the implementation of the new learning in the systems, structures and culture of the organization. Through this process, what was once learning from individuals and groups becomes organizational knowledge and an asset that is sustainable in time, since it will not be lost when individuals leave the organization.

When paralleling the previously referred feed-forward and feedback processes with the 4I framework, feed-forward is the transference from intuiting towards institutionalizing. It is then related to exploration, since it is the process of creating, developing and embedding innovation. On the other hand, the feedback process directly represents the exploitation of what has been previously learnt and may be seen as the influence that the institutionalized knowledge has on innovation.

3.2 Management Control Systems

The other literature used as ground for the deepening of the concept was Simons (1994) research on management control systems. This author studied how recently appointed top managers in firms used control systems in their organizations. He began to define control systems as “the formal information-based routines and procedures used by managers to maintain or alter patterns in organizational activities” (Simons, 1994: 170). There is an emphasis on the fact that these are formal and explicit, so informal systems are not taken into account in the analyses, and are also information-based, thus the exclusion of systems that do not convey information. These systems were defined as beliefs systems, boundary systems, diagnostic control systems and interactive control systems.

Beliefs systems are the “formal systems used by top managers to define, communicate, and reinforce the basic values, purpose, and direction for the organization.” (Simons, 1994: 170). It is through the clear definition of these systems that top managers create a shared vision among the organization.

Boundary systems are, in their turn, the “formal systems used by top managers to establish explicit limits and rules which must be respected.” (Simons, 1994: 170). It is the definition of unambiguous rules that delineate the boundaries between what is acceptable and what is prohibited. Freedom to explore and innovate is then confined between these limits.

In a different manner, diagnostic control systems are the “formal feedback systems used to monitor organizational outcomes and correct deviations from preset standards of performance.” (Simons, 1994: 170). These systems are used to find variances from previously set objectives and to correct them.

Finally, interactive control systems are the “formal systems used by top managers to regularly and personally involve themselves in the decision activities of subordinates” (Simons, 1994: 171). These are the clear systems that promote communication along the organization and between top managers and their subordinates. Its goal is to focus attention on “strategic uncertainties” and thus promote innovation and the sharing of insights from individuals.

3.3 Expanding the Concepts of Alignment and Adaptability

As it was previously stated, both Crossan *et al.*, 1999 organizational learning framework and Simons' (1994) study of management control systems will be used to deepen the concepts of alignment and adaptability. It is then proposed that alignment should be composed by the sub-dimensions of core values, shared organizational vision, formalization, goals and objectives and tradition. On the other hand, adaptability should comprehend psychological safety, intellectual stimulation, reflexivity and novelty integration.

“Core values” and “shared organizational vision” both derive from Simons' (1994) beliefs systems. They represent the existence of clearly defined organizational values and vision, and that these are shared across the organization and everyone acts in accordance to them, particularly managers. “Formalization” is the existence of rules and formal procedures and the level of rigidity in which individuals must follow them, as in Simons' (1994) boundaries systems and diagnostic control systems. “Goals and objectives” also stems from Simons' (1994) boundaries systems and diagnostic control systems. It comprises both the transparent definition of explicit objectives and tracking them. “Tradition” is the level of attachment to the past or, in other words, how the institutionalized learning (Crossan *et al.*, 1999) influences current procedures. There is also a strong relationship with expert intuiting, since the previous learning from individuals that have been in the organization for some time will to some degree be similar, due to their shared past experiences, and therefore result in some consistency between their actions. These sub-dimensions altogether will enhance the level of alignment in the organization and its business units, ensuring that there is coherence inside and across units, and also with past procedures and with what has already proven to have positive outcomes.

In terms of the new sub-dimensions of adaptability, “psychological safety” relates to how risk taking is perceived in the unit and, consequently, how individuals will feel protected in trying new methods or innovating. While intuiting is an unconscious process and thus not being possible to restrain, interpreting is a conscious, and many times communicative process, and it needs to be enabled by showing individuals that they can innovate and present new ideas. Both these processes can be more or less encouraged and thus the necessity for “intellectual stimulation”. “Reflexivity” measures the openness to changes

and the reaction to changes in the environment. It also comprises discussions about the necessity to change and areas of improvement, which can be related to the interactive control systems by Simons (1994), which allow and encourage different hierarchical levels to focus discussion on “strategic uncertainties”. Finally, “novelty integration” directly relates to Crossan’s *et al.* (1999) integrating, since it is the level to which innovations are adopted and the velocity at which this happens. Such as in the framework from Crossan *et al.* (1999), only when these sub-dimensions are fostered individual learning and innovation is created and shifted to integrated knowledge of the organization.

According to the formerly proposed new sub-dimensions, the two first hypotheses that will be tested in this study are:

H1: Alignment is a multidimensional construct composed by the variables “core values”, “shared organizational vision”, “formalization”, “goals and objectives” and “tradition”.

H2: Adaptability is a multidimensional construct composed by the variables “psychological safety”, “intellectual stimulation”, “reflexivity” and “novelty integration”.

3.4 Autonomy Norm

My proposal, apart from the deepening of alignment and ambidexterity, will be to add a third component to the initial conceptualization by Gibson and Birkinshaw (2004). The necessity for this addition begins with the fact that contextual ambidexterity differs from other ambidexterity models, namely sequential and structural ambidexterity, on the way it approaches the tension between exploration and exploitation. While all these models share the similarity of trying to find a balance in this tension, contextual ambidexterity aims to do so simultaneously and without any separation, being it physical or temporal. In other words, in the contextual ambidexterity model, one business unit can display evidences of exploration and exploitation at the same time, by performing activities towards alignment and adaptability.

As Gibson and Birkinshaw (2004) argued in their approach, it would be individuals who would make the decision between alignment and adaptability activities, and not managers. The role of managers in the seek for ambidexterity would be to create a supportive context which will enable individuals to decide how to best divide their times. Therefore, although being a “meta-level capacity (for alignment and adaptability) that permeates all functions and levels in a unit” (Gibson and Birkinshaw, 2004: 211), contextual ambidexterity is displayed on the individual level.

The problem lies in the fact that despite this being the main differentiator between contextual and previous approaches to ambidexterity, and where the distinctive value of this concept lies, the original authors don't include any reference to how individuals make this decision in their model. Then, while being successful in the acknowledgment of individuals performing both activities towards alignment and adaptability, it is arguable that the model designed by these authors lacks an explanation on how they make the judgement on which actions to perform at different times. A unit with high levels of alignment and adaptability does not necessarily exhibit contextual ambidexterity if individuals do not have the capacity, confidence and authority to decide on how to divide their time.

As an example of where their model might be unsuccessful, one business unit can have people working simultaneously towards both dimensions, while management is deciding on who and when should be performing different activities. If this unit was evaluated using the model from Gibson and Birkinshaw (2004) it would show high levels of contextual ambidexterity, however, it goes against what the authors have theorized when creating the concept, since individuals are not making this choice by themselves. Furthermore, it raises the coordination costs that their model aimed to remove.

Therefore, to assess if a certain unit displays contextual ambidexterity, measuring the levels of alignment and adaptability is not enough and the proposal to overcome this will be to add a third variable named "autonomy norm", which represents how recurring it is in the business unit for individuals to have the necessary independence to decide which activities to perform. This new variable will measure if the management pushes daily decisions to the lowest hierarchical levels, if workers have the necessity to ask for authorization or consulting the management before taking decisions and other indicators of the overall autonomy of subordinates. This is reflected in the new hypothesis:

H3: Contextual ambidexterity is composed by "alignment", "adaptability" and "autonomy norm".

4. Contextual Ambidexterity and Public Organizations' Performance

4.1 Contextual Ambidexterity and Performance

As it was stated previously, there has been a significant amount of interest and empirical research on organizational ambidexterity for the past decades. Yet, the large majority of these studies focus on structural or sequential ambidexterity, rather than on contextual ambidexterity. This results on a lack of empirical robustness to support the concept and one of the ambitions of this study is to provide additional evidence to the subject.

Despite the fact that there has been some evidence that supported the inexistence of a relationship between ambidexterity and performance, most studies show that ambidexterity has a positive influence on business performance (Junni *et al.*, 2013). In their meta-analysis on the relationship between ambidexterity and performance, these researchers found that its influence became more significant in the services and technology sectors and argued that “a possible explanation is linked to the elevated level of environmental dynamism” in these markets, and these firms “need to continuously be on the lookout for new opportunities (exploration), in addition to exploiting existing resources, because the duration of an existing competitive advantage is very uncertain.” (Junni *et al.*, 2013: 308). Due to the high dynamism that characterizes public service, as will be seen in detail in the next section, contextual ambidexterity could be expected to have some influence in performance.

4.2 Contextual Ambidexterity on Public Organizations

To understand the impact contextual ambidexterity can have on public organizations, it is important to first analyze how these have evolved until the state at which they are today. To do so, it is relevant to observe the work of Boukamel and Emery (2017), who studied the evolution of ambidexterity on public organizations and were able to divide its history into three main periods. The first, which they named "Bureaucratic Period" lasted until the 1970's. During this time, the focus on innovation was almost inexistent in public organizations, given that the aim was on exploration and short-term results. The punctual innovations that could be observed were led by politicians and were transferred in a "top-down" manner. Afterwards, the second period took place between the 1980's and 1990's and was characterized by the rise of the New Public Management (Hood, 1991). During those decades, which Boukamel and Emery (2017) titled "Managerial Period", there was a development in the understanding of the necessity for innovation in public organizations and this innovation was guided by managers in a top-down fashion, while civil servants had almost no interference in the process. During this time, some separation could be observable between structures that performed exploitation and exploration activities, or in other words, public organizations were beginning to display some level of Structural ambidexterity (Boukamel and Emery, 2017). The last period appeared in the beginning of the 21st century and is taking place until the present and was named "Post-NPM [New Public Management] Period". The authors claim that during the first decades of the new millennium there has been a shift in the paradigm of public organizations: the goal went from having innovation in public organizations to having innovative public organizations.

The emergence and development of the New Public Management, previously referred to as the "Managerial Period", has shifted the emphasis for managers to make public organizations become more "market and businesslike" (Walker and Andrews, 2013: 102). This trend towards importing private sector's procedures and management styles has been visible in the public sector for the past decades and it is still recurrent in present times. Although some criticism has arisen towards this approach, claiming that these sectors have fundamental differences that impeded the successful transfer of their methods (Sayre, 1953; Ranson and Stewart, 1994; Savoie, 2005), different studies and meta-analyses have concluded that there are no clear evidences to support it (Boyne, 2002; de Waal, 2010; Walker and Andrews, 2013). Therefore, in this dissertation, one concept will be

extrapolated from the private sector literature because it is considered to connect to the particularities of public organizations.

These particularities emerge from the fact that public organizations face a largely higher number of stakeholders than their private counterparts do. Public organizations are mostly designed to provide services to society (Nunes *et al.* 2018) and so, their goal is to work towards its best interest and subsequently need to attend different, and sometimes contradictory, demands and expectations from the public (Nunes *et al.* 2018). Contradictorily, there is a strong pressure on these organizations and their servants to be efficient and to respect their “core values of equality of treatment” which rely on “standardized and well-monitored processes and structures” (Boukamel and Emery, 2017: 03), or in other words, alignment.

In addition to the previous, other peculiarities displayed by public organizations that deepen the exploration/exploitation tension are the lack of competitive pressure, which is replaced by an increased political pressure (Choi and Chandler (2015). While the first results in a lack of concern with renewal, the second results in a strong urge for short-term results and ultimately both culminate in a strong focus on exploitation. Despite this traditional (and still current) preference towards exploitation in disregard of exploration in public organizations, it is clear that in order to be sustainable and to provide the best service to society, these organizations have difficult tensions to balance. This is, perhaps, one of the reasons why there has not been yet a consensus on the best management practices to foster good performance (Boyne, 2002).

Yet, there is a clear need for improvement of performance in public organizations (de Waal, 2010) and so researchers have continuously tried to solve this problem. One relevant theory about public management is O'Toole and Meyer's (1999) model, which comprises four “M's” that represent the activities behind decision-making of managers in these organizations. M1 is associated with the maintenance and adaptation of existing systems, M2 comprises a strategy for managing the environment that surrounds the organization and M3 and M4 represent the needed balance between taking advantage of environment changes and to defend the organization from these changes. Walker and Andrews (2013) found in their meta-analysis that evidence from previous studies suggest that M1, M3 and M4 have a higher relationship with performance.

Another relevant study regarding this matter is de Waal's (2010) research on high performance organizations [HPO]. By applying the HPO framework to the public sector, the author proposed some improvement areas for public organizations. Most of these have a theoretical connection with contextual ambidexterity, such as improving the "aura" of managers by being effective and encouraging everybody to do so while letting their staff experiment and make mistakes, to be innovative in order to improve their service to clients, to improve management processes and make them known by everybody in the organization and to increase the quality of the workforce by training them and encourage knowledge sharing between employees.

Both the results from these studies and the specific tensions that these organizations must balance lead to the suggestion that contextual ambidexterity can be expected to have a positive impact on public organizations' performance. The reason why contextual ambidexterity would be a more suitable approach is that, due to the high dynamism and multiple stakeholders that these organizations simultaneously face, decisions must be taken in the fastest way possible and it will be helped by providing individuals the right context. Therefore, the impact of contextual ambidexterity on public organization's performance, hence the fourth hypothesis:

H4: Contextual ambidexterity influences performance in public organizations.

5. Methods

For the purpose of testing the presented hypotheses, data from different organizations belonging to the public sector was gathered. These organizations were widespread in different sectors of activity, with many disparities. Additionally, respondents also ranged from various hierarchical levels, from subordinates to people in management positions. This data was collected in the form of questionnaires which were delivered to respondents who answered to them anonymously.

5.1 Sample

The collected sample was composed of 200 respondents who worked on the public sector, from which 1 respondent was deleted due to missing values in several items, resulting in a total of 199 valid responses. From this total, 55% were females while 45% were males. The mean age was of approximately 48 years ($SD = 8.4$), although minimum and maximum ages were, respectively, 20 and 65 years. In terms of educational level, 46% had a Medium or Higher Education degree, 31.5% had the Secondary Education level, 16.5% had a degree above a Bachelor and 5% had the Basic Education level.

Despite all belonging to the public sector, respondents worked for different organizations with disparate purposes. The highest represented group was of those working in the Education Sector, with 42.5% of respondents, followed by 20% that worked in the Security/Law Enforcement Sector. Next, the Public Administration/ Local Governance Sector was represented by 12.5% of respondents and the Healthcare Sector by 9.5%. The remaining 15.5% of respondents either worked for dispersed organizations or did not specify what was the goal of their organization. Regarding the size of these organizations, the values vary from 6 to 26.000 people. From the total, 26% of respondents worked for small organizations with less than 100 collaborators, 38,5% belonged to organizations with a number of employees between 100 and 500. There were 19% belonging to entities with between 500 and 3.000 members and, finally, 13% belonging to organizations with over 3.000 collaborators. Seven respondents did not provide this information.

In terms of the specific business unit where respondents worked and that were the subject of the questionnaire, there was also a great variation in size, being the minimum 2 people and the highest with a reported number of 25.000 people.

Finally, regarding management, from the total of 199 respondents, 18% are in some type of managing positions. The time of tenure in the organization varies a lot amongst individuals, from just 1 year to a maximum of 44 years, while the average time is approximately 17 (SD = 9.64) years. Similarly, the time for which respondents have been in the current position varied from 1 year to 40 years, with an average of approximately 18 (SD = 9.45) years.

5.2 Measures

The questionnaire consisted of various Likert-type scale items, where respondents assessed their level of agreement with presented phrases from 1 (entirely disagree) to 7 (entirely agree). These scales were based on researches from different authors and, to test if the items appropriately represented their latent constructs, confirmatory factor analyses were performed, using the *SPSS AMOS 26* software. Next, the various scales and results from the analysis will be explained in greater detail and the final scales that were used to measure the variables can be seen in Annexes 1 to 4.

5.2.1 Alignment

As seen in previous points, the alignment variable was divided into a set of sub-dimensions and, for each, different scales were used. Scales from Denison *et al.* (2006) were used to assess “core values” and “goals and objectives”. For assessing “formalization” and “tradition”, scales from Patterson *et al.* (2005) were used. Finally, the “shared organizational vision” scale was taken from Burgers *et al.* (2009). After conducting the Confirmatory Factor Analysis, some items were deleted by using the Modification Indices to assess their collinearity. subsequently, “core values”, “shared organizational vision” and “formalization” were each assessed by three items, while “goals and objectives” and “tradition” by four items each.

5.2.2 Adaptability

Similarly to the previous, this variable was divided into new sub-dimensions which were assessed differently. "Psychological Safety" was assessed with the scale from Edmonson (1999), while scales from Patterson *et al.* (2005) were used for "intellectual stimulation" and "reflexivity". A new scale was used for "novelty integration", with items such as "New ways of working are rapidly adopted" and "People are encouraged to support the implementation of ideas or new projects" (Annex 2.4), it aimed to measure how new ideas and procedures are easily adopted in the business unit. Again, the confirmatory factor analysis was performed and items with high collinearity levels were deleted. Consequently, "psychological safety", "intellectual stimulation" and "novelty integration" were reflected by four items each, while the scale used to measure "reflexivity" consisted of five items. After this reduction of items, the scores from the confirmatory factor analysis were satisfactory.

5.2.3 Autonomy Norm

For the new component of contextual ambidexterity, "autonomy norm", a scale by Patterson *et al.* (2005) was used to assess the level of autonomy managers granted their subordinates in the units that were subject to the investigation. The confirmatory factor analysis showed unsatisfactory results regarding these items. One possible explanation for this was the presence of reverse worded items since, as researchers have found out, carelessness from respondents in this type of items may influence model fit when performing a confirmatory factor analysis. According to Wood (2016), for latent variables with approximately 40% of reverse worded items, it can be expected that if at least 10% of respondents answer carelessly to these items, the impact on the analysis results will be significant. In this study, reverse worded items represented 50% of the measure of "autonomy norm", so it is likely that carelessness from respondents resulted in these poor results. Therefore, three items were removed from the initial scale and four items were added. These four items belonged to Gibson and Birkinshaw's (2004) original scale for measuring contextual ambidexterity and were chosen due to their conceptual resemblance to this new variable.

5.2.4. Performance

As it was stated in the initial review of the existing literature, organizations in the public sector face a number of peculiarities which must be necessarily taken into account when analyzing their performance. For example, they need to respond to multiple stakeholders in many different dimensions and thus, indicators solemnly focused on economic or overall performance may be too short-sighted for these organizations. As Loon (2016) argued, "The performance of a work-unit in a public organization can be defined as that work-unit's contribution to achieving the organization's public mission" (Loon, 2016: 84). Therefore, a multi-dimensional scale created by this author specifically for public organizations was used to assess this dependent variable. After performing a confirmatory factor analysis, from the initial 15 items six were removed thus remaining 9 items.

6. Results

6.1 Confirmatory Factor Analysis

In order to assess the validity of *H1* and *H2*, different confirmatory factor analyses were carried out. For each dimension (alignment and adaptability) two confirmatory factor analyses were done to compare the results between a one-factor model, where alignment and adaptability each represented one dimension, and a multi-factor model, where alignment represented the proposed five sub-dimensions and adaptability represented the proposed four sub-dimensions.

For alignment, the proposed five-factor model showed favorable absolute fit indexes: chi-square = 212.918; $df = 109$; $p < 0.001$; GFI = 0.888; CFI=0.918; TLI=0.898; RMSEA=0.069; SRMR = 0.08. Although these results may not be excellent, they are adequate and superior to the one-factor model absolute fit indexes (chi-square = 844.768; $df = 252$; $p < 0.001$; GFI = 0.666; CFI = 0.739; TLI = 0.714; RMSEA = 0.109; SMRM = 0.110).

The results for adaptability were similarly positive, since the proposed four-factor model displayed satisfactory analysis results, with the following absolute fit indexes: chi-square = 223.298; $df = 113$; $p < 0.001$; GFI = 0.887; CFI = 0.919; TLI = 0.903; RMSEA = 0.07; SMRM = 0.0535. Again, these results were preferable to those of the one-model factor analysis (chi-square = 477.542; $df = 189$; $p < 0.001$; GFI = 0.812; CFI = 0.835; TLI = 0.817; RMSEA = 0.088; SMRM = 0.067).

These results from the confirmatory factor analysis go in accordance with *H1* and *H2*, since the models with the new proposed sub-dimensions chosen for alignment and adaptability showed to have a better fit than those that treated them as a one-factor variable. Nonetheless, it is important to note that although being higher than the one-factor model, the results for the multi-factor models were not excellent, which might indicate that the factors used were not the best.

6.2 Hierarchical Linear Regression

Prior to performing the hierarchical regression, collinearity diagnoses were performed to assess if any independent variables were redundant in the sense that they were measuring the same as others. The dimensions “goals and objectives” and “reflexivity” showed a high VIF of 4.2 and 4.26 respectively. Therefore, these variables were removed from the model when performing the regression.

Despite the evidence displayed in the previous section that supported *H1* and *H2*, the fact that these sub-dimensions have been removed from the model due to being redundant results in the rejection of these hypotheses, since not all proposed variables have proven to be fitting. Nonetheless, they were partially correct, given that evidence showed that alignment and adaptability function better as groups of distinct elements.

In Table 1 are displayed the means, standard deviations and correlations between the measured variables. As can be seen in this table, the values of the means are similar, overall, and do not variate extremely from the median of the 1-7 scale. The lowest mean is that of “shared organizational vision”, while the highest belongs to the assessment of organizational performance. By analyzing the correlations between the variables, some preliminary evidence for the proposed hypotheses can be withdrawn. There is a strong correlation between most components of alignment and adaptability and performance, which suggests that these have an impact on performance. Additionally, the new proposed variable autonomy norm also displays a significant correlation with performance. On the other hand, one of the sub-dimensions of alignment, “tradition”, unexpectedly endures a negative correlation with performance and with almost every other sub-dimension, being “core values” and “formalization” the only exceptions.

Another noticeable insight from Table 1 is the high correlation between most alignment dimensions, adaptability dimensions and the autonomy norm variable. From this, one can take the conclusion that although being distinct and expectably opposing constructs, all can exist simultaneously in the same business unit or, at least, such is the perception from respondents. Although not being one of the objectives of this dissertation, these results by themselves provide additional evidence to the fact that contextual ambidexterity is possible inside the same business unit.

Table 1: Means, standard deviations and correlation matrix

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Core Values	4,631	1,131	1									
2. Shared Organizational Vision	3,997	1,238	,600**	1								
3. Formalization	4,623	1,078	,508**	,266**	1							
4. Goals and Objectives	4,441	1,223	,693**	,777**	,402**	1						
5. Tradition	4,366	1,091	,015	-,172*	,296**	-,154*	1					
6. Psychological Safety	4,207	0,897	,369**	,301**	,199**	,399**	-,155*	1				
7. Intellectual Stimulation	4,057	1,170	,584**	,596**	,224**	,708**	-,213**	,464**	1			
8. Reflexivity	4,173	1,059	,609**	,615**	,324**	,722**	-,228**	,415**	,802**	1		
9. Novelty Integration	4,156	1,131	,562**	,687**	,237**	,730**	-,282**	,543**	,755**	,808**	1	
10. Autonomy Norm	4,140	1,083	,527**	,634**	,187**	,674**	-,173*	,433**	,658**	,622**	,683**	1
11. Organizational Performance	4,832	1,050	,475**	,616**	,256**	,664**	-,262**	,353**	,512**	,513**	,577**	,623**

(Source: own processing; N = 199; *p<0.05; **p<0.01)

Furthermore, Table 2 shows the results from the hierarchical regression analysis that was performed to analyze the impact the studied dimensions have on performance. The first model was used to assess the influence of control variables on performance. Since performance is being measured by the perception of individuals, control variables were specifically chosen by the logic influence they could have on the understanding they have on their units' performance. As can be seen in Table 2, these variables had no significant impact on performance, as the “management position” β was 0.011 and the “size of business unit” β was -0.03.

In Model 2, independent variables related to alignment were added to the regression, which resulted in a significant R^2 change of 0.442, $p < 0.001$. Next, in Model 3 the measured sub-dimensions for adaptability were added, leading to a R^2 change of 0.023 with $p < 0.05$, which showed to be of little significance and neither of these variables showed to have a relevant influence on performance. Finally, in Model 4 “autonomy norm” was added to the regression, which led to a significant R^2 change of 0.049, with $p < 0.001$.

These results mean that when adding the variable of “autonomy norm” to the original model, the impact of contextual ambidexterity on performance will be higher. Therefore, it can be concluded that this variable strengthens the concept of contextual ambidexterity and *H3* can be considered valid.

Additionally, these results also suggest that *H4* is incorrect since not all three components of contextual ambidexterity showed an acceptable degree of significance in predicting the value of performance, since none of the proposed sub-dimensions of adaptability has proven to be relevant in predicting the dependent variable. Therefore, only alignment and autonomy norm have displayed influence on performance.

Additionally, the independent variables that proved to be of considerable significance were “shared organizational vision” ($\beta = 0.284$; $p < 0.001$), “formalization” ($\beta = 0.141$; $p < 0.5$), “tradition” ($\beta = -0.184$; $p < 0.01$), all of them sub-dimensions of alignment, and “autonomy norm” ($\beta = 0.337$; $p < 0.001$).

Table 2: Hierarchical Regression Results

	Model 1 Beta	Model 2 Beta	Model 3 Beta	Model 4 Beta
Control Variables				
Management Position	0,006	-0,036	-0,016	0,002
Size of business unit (nr. of employees)	-0,022	0,037	0,034	0,049
Studied Variables				
Core Values	--	0,137	0,063	0,032
Shared Organizational Vision	--	0,464**	0,376**	0,284**
Formalization	--	0,128	0,119	0,141*
Tradition	--	-0,228**	-0,178**	-0,184**
Psychological Safety	--	--	0,067	0,033
Intellectual Stimulation	--	--	0,059	-0,022
Novelty Integration	--	--	0,128	0,053
Autonomy Norm	--	--	--	0,337**
R²	0	0,453	0,475	0,520
R² change	0	0,453	0,022	0,044
F	0,46	38,028**	2,670*	18,957**

(Source: own processing; N = 199; * $p < 0.05$; ** $p < 0.01$;))

7. Discussion

This dissertation focused on two main goals, which were to propose some developments for the concept of contextual ambidexterity while also providing new evidence to test the effects that this capacity has on organizational performance. In order to do this, a new, deepened model for contextual ambidexterity was introduced, which should be seen as a complement to the original concept rather than a replacement of it. The results from the research went in some way in accordance to what had been proposed, yet not in its entirety.

On the one hand, the results pointed that alignment and adaptability, the two components of contextual ambidexterity, function better as a combination of multiple factors than as a single factor variable. However, the sub-dimensions suggested in this project did not prove to be excellent in fitting the model, since two sub-dimensions showed some level of redundancy with the others being assessed and were consequently removed from the model. Nevertheless, the introduction of the new variable autonomy norm displayed some very satisfactory results.

Regarding the relationship between contextual ambidexterity and performance in public organizations, the results were not satisfactory to what had been proposed, since some outcomes did not go in accordance to what was expected. The main finding was that only alignment and autonomy norm were significantly influential to performance and the results were remarkably lower for adaptability when compared with the other two. It is also relevant to note that the sub-dimension "tradition" showed a negative impact on performance, despite the overall positive effect of alignment.

7.1 Theoretical Implications

Although being a very promising concept in Organizational literature for the past years, which resulted in some empirical extension, contextual ambidexterity as a concept has not been thoroughly questioned thus lacking of some theoretical refinement. It was conceptualized by Gibson and Birkinshaw (2004: 209) as a "behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit" and it was argued in this dissertation that for a unit/organization to be successfully

ambidextrous, displaying both the capacities for alignment and adaptability would not be sufficient, hence the introduction of the new variable autonomy norm. Additionally, there was made an effort towards the deepening and clarification of alignment and adaptability, for which new sub-dimensions were designed. The attempt to overcome the theoretical shortcomings of the concept in this dissertation was to some extent met, since both showed positive results.

Probably the strongest change to the existing literature would be the introduction of the third variable, autonomy norm. This modifies the initial concept in its structure and defies what has been studied on the subject, and the way contextual ambidexterity has been measured and seen. The introduction of this variable truly helps to strengthen the concept and starts the path to its continuous improvement and thus increasing its legitimacy. Additionally, by expanding alignment and adaptability into a set of sub-dimensions it was possible to help clarify these notions for both researchers and practical users. In the vast literature on ambidexterity and the different trade-offs it focuses on, the work of Gibson and Birkinshaw (2004) targets a rather vague one, or at least not completely specified by the authors. With the evidence pointing to the existence of these new sub-dimensions, although not being certain that they are the correct ones, hopefully some new light will be shed in this matter.

Although, on the overall, contextual ambidexterity has not been proven to have a positive effect on public organizations' performance, the results are also worthy of note for the literature about these organizations, starting by the fact that it provides further evidence for this discussion and, as researchers such as de Waal (2013), Andrews *et al.* (2011) and many others have asserted, further investigation on what are the elements of performance in the public sector is necessary.

Literature of this topic for the past decades has been shifting the perspective on public organizations' performance as not only being directly connected to high efficiency, but also to some flexibility and capacity for innovation (Boukamel and Emery, 2017). The results of this study were rather conservative regarding that matter, since it was seen that the link between performance and alignment was extremely higher than the one between performance and adaptability and this means that the respondents who saw their units as being more aligned also perceived them to have higher performance.

Likewise, another relevant finding was the strong influence that autonomy norm had on performance, which leads to the conclusion that, in a public organization, the autonomy of individuals when doing their job is more important to the overall performance of their business unit than the level of adaptability of said unit. Therefore, for the future, researchers should perhaps move their focus less towards flexibility and innovation in these organizations and more towards individuals' empowerment and self-government.

Another result that is worthy to highlight was the negative effect that tradition had on performance and there are two possible reasons that may explain this occurrence. The first is that there is currently occurring a shift in paradigms in the public sector, as authors have pointed out, what were once established ideas are being questioned more than ever (Pollitt and Sandru, 2013). Perhaps it was this increased criticism towards old procedures that made individuals in highly traditional organizations to also perceive them as not performing too well, which is increasingly relevant due to the fact that the same individuals rated both. The second possible reason behind the negative relationship between those variables may be the scales used to measure tradition, which could be seen as more "extreme" than those for other alignment sub-dimensions. As can be seen in Annex 1.3, the items used for this variable share a more negative connotation than most of those used for the other variables. For example, "Management are not interested in trying out new ideas" and "Changes in the way things are done here happen very slowly" may be considered to represent an unhealthy level of rigidity and, if seen from this perspective, it is not surprising that respondents would link them to organizations that are not performing well. Nevertheless, these results have a strong theoretical impact since the characteristics of alignment and coherence that resulted in better performance were not necessarily linked to old practices, or in other words, organizations that show alignment between their current activities rather than with their past should be expected to perform better, according to the results.

7.2 Practical Implications

One of the main goals of this research was to clarify the concept of contextual ambidexterity in order to augment its practicality, since it was argued that the original concept might not be easily understandable. By adding the sub-dimensions to alignment and adaptability, it becomes clearer to managers how they can assess the current level of ambidexterity in their organizations and which are the areas where it could be improved. This should not be confused with the work from Gibson and Birkinshaw (2004) who have already made a respectable job in studying the antecedents of contextual ambidexterity. Whereas they showed *how* to achieve it, this study focused on *what* it is, and these have very different practical implications.

Hopefully the introduction of contextual ambidexterity in the literature on public organizations will help managers in their search for higher performance. According to the specific evidence from this study, managers in these organizations should focus on having in their unit a defined and shared vision, clear formal rules and high levels of autonomy for their employees, being the last of utmost importance. An interesting result for management on public organizations was the significantly higher influence that the autonomy norm had on performance than the impact of adaptability. This means that working towards having a flexible environment, where innovation is fostered and quick adaptations are made is less important than fostering autonomy among employees, giving them the possibility and encouragement to make their own decisions in their daily work. However, this is not what is traditionally observable in these organizations, since they are characterized by highly rigid rules designed by top management (Boyne, 2002) and both lower management and subordinates tend to have little independence. It is therefore important that, if these results are supported by future research, these organizations give more autonomy to their employees.

On the other hand, there were also findings on characteristics that have a negative impact on performance. The two variables that showed this relationship were "tradition" and "intellectual stimulation". The first has already been previously specified and possible reasons behind it have been proposed. The implications that it might have for managers are straight-forward: what were once good procedures are now not as effective in producing favorable outcomes. The negative impact of intellectual stimulation of employees is harder to explain. Perhaps, the reason behind these results is that individuals

find that it is more likely for them to be asked to “rethink the way they do things” (Annex 2.1) when their unit is not performing so well. As a matter of fact, this is just a possibility, since the evidence collected is not sufficient to take such conclusions and further research would be necessary. However, the negative influence from this variable has not been proven statistically significant thus without any further evidence it is not possible to know if there simply is not any influence.

7.3 Limitations

There are some clear limitations in this research. The first is the number of respondents which was considerably low, consisting of 199 individuals. This number is extremely lower than, for example, that of Gibson and Birkinshaw (2004) which counted up to 4,195 respondents. These values are incomparable and this may have an impact on the validity of this research. Related to this, there is the fact that this research was developed on the individual level and a more suitable approach would be to do it on the organizational level, where it would be possible to compare different units. Additionally, this problem is intensified by the fact that, despite all belonging to the public sector, the organizations assessed in this study belonged to extremely different contexts, since they ranged from police forces to hospitals or schools, amongst many others. However, once again, for this to be surpassed the pool of respondents needs to be much larger, so that they can be aggregated at the organizational level.

This research might also be limited by common method variance, which is also related to the previous point. In this study, both the dependent variables and the independent variables were rated by the same subjects. Authors have called for the attention to this detail when conducting a research (Poksadoff *et al.*, 2003). In relation to ambidexterity, Junni *et al.* (2013) also found that this could considerably bias the results and recommended that future researchers used multiple respondents for different variables. However, for this dissertation it was impossible to collect a higher number of responses and this limitation could not be overcome.

As well, in previous literature there has been the argument that a problem for research on the public sector could be that different stakeholders will possess different information and opinions that will influence their view on performance (Andrews *et al.*, 2011; Walker,

2010) and so, analysis on performance should be based on “administrative” results rather than on surveys, which was the method used here. On the other hand, the meta-analysis from these same authors (Walker and Andrews, 2013) showed that this could not be proven and suggested that both measures should be used, something that was not done in this study.

Finally, not all scales used to measure every variable have been proven to be the most suitable. *A posteriori* analysis of the results has uncovered that possibly the measures used could have been better. For example, confirmatory factor analysis highlighted the issues related to using reversed items for the variable “autonomy norm” and, as it was argued in the previous topic, the results relating to tradition might also have been affected by the measurement. There is also the possibility that the high collinearity that resulted in the sub-dimensions “goals and objectives” and “reflexivity” being removed from the model might have been due to measurement errors. However, it is important to note that there was an attempt to respect the original scales by the chosen authors and that the only cases where some changes were made to the items were when the direct translation would not make sense or would not be easily understandable.

7.4 Future Research

This dissertation has opened the door for future research. Here, it was proposed that deepening the concept of contextual ambidexterity was necessary. Despite the results evidencing the benefits behind this rethinking of the concept, some questions remained unanswered and could be the starting point for further research.

The results from deepening the variables alignment and adaptability into the new sub-dimensions were positive but not extremely satisfactory. Furthermore, some of the proposed sub-dimensions did not fit the model. Therefore, these results suggest that these variables represent a set of sub-dimensions rather than just one factor, yet it is not completely defined which are these dimensions. This was not surprising, since this was nothing more than an initial proposal of sub-dimensions subject to test and to future refinement, thus my suggestion for future research to look for new components of these variables.

Another modification to the initial model that showed promising results was the addition of the autonomy norm variable. It revealed to have a positive impact on performance, thus strengthening the concept of contextual ambidexterity. Nonetheless, it would be interesting for future research to try to understand the role this new variable plays in the model of contextual ambidexterity and its interaction with alignment and adaptability. For example, it would be expectable that units with higher levels of autonomy norm would also display high levels of alignment and adaptability, hence the relevance in assessing if this variable has a moderation role.

It would also be interesting to conduct a comparative study between the original model for contextual ambidexterity and the model suggested in this dissertation, in order to assess which of them better helps predicting performance. However, to do so a larger sample would be needed to stay in line with the study from Gibson and Birkinshaw (2004), which was conducted on the organizational level.

In conclusion, I consider this dissertation to be a significant addition to the existing literature on both contextual ambidexterity and public sector organizations. Despite the limitations of the research that was conducted, the results were very promising, in the sense that they open new doors for future discussion about these topics.

8. References

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9. Annexes

9.1 Annex 1 - Scales for alignment

The leaders and managers "practice what they preach".
There is a characteristic management style and a distinct set of management practices.
There is a clear and consistent set of values that governs the way we do business.
Ignoring core values will get you in trouble.
There is an ethical code that guides our behavior and tells us right from wrong.

Annex 1.1 – Core values, source: Denison *et al.* (2006)

There is commonality of purpose in my organization.
There is a total agreement on our organizational vision.
All organizational members are committed to the goals of this organization.
People are enthusiastic about the collective goals and mission of whole organization.
Our unit shares the same ambitions and vision with other units at work.

Annex 1.2 – Shared organizational vision, source: Burgers *et al.* (2009)

It is considered extremely important here to follow the rules.
People can ignore formal procedures and rules if it helps get the job done.
Everything has to be done by the book.
It's not necessary to follow procedures to the letter around here.
Nobody gets too upset if people break the rules around here.

Annex 1.3 – Formalization, source: Patterson *et al.* (2005)

There is widespread agreement about goals.
Leaders set goals that are ambitious, but realistic.
The leadership has "gone on record" about the objectives we are trying to meet.
We continuously track our progress against our stated goals.
People understand what needs to be done for us to succeed in the long run.

Annex 1.4 – Goals and objectives, source: Denison *et al.* (2006)

Senior management like to keep to established, traditional ways of doing things.
The way this organization does things has never changed very much.
Management are not interested in trying out new ideas.
Changes in the way things are done here happen very slowly.

Annex 1.5 – Tradition, source: Patterson *et al.* (2005)

9.2 Annex 2 – Scales for adaptability

If you make a mistake on this team, it is held against you
Members of this team are able to bring up problems and tough issues
People on this team sometimes reject others for being different
It is safe to take a risk on this team
It is difficult to ask other members of this team for help
No one on this team would deliberately act in a way that undermines my efforts
Working with members of this team, my unique skills and talents are valued and utilized

Annex 2.1 – Psychological safety, source: Edmonson (1999)

People are challenged to think of new ways about old problems.
People are confronted with questions that stimulate reflection
People are encouraged to rethink the way they do things
People are encouraged to reevaluate aspects of their work that they saw as undoubtable
There's support for the development of new ideas

Annex 2.2 – Intellectual stimulation, source: Patterson *et al.* (2005)

In this organization, the way people work together is readily changed in order to improve performance.
The methods used by this organization to get the job done are often discussed.
There are regular discussions as to whether people in the organization are working effectively together.
In this organization, objectives are modified in light of changing circumstances.
In this organization, time is taken to review organizational objectives.

Annex 2.3 – Reflexivity, source: Patterson *et al.* (2005)

New ideas are rapidly accepted.
Promising ideas are used.
New ways of working are rapidly adopted.
When a new method of working appears, people are ready to use them.
People are encouraged to support the implementation of ideas or new projects.

Annex 2.4 – Novelty integration, source: authors' elaboration

9.3 Annex 3 – Scale for autonomy norm

Management let people make their own decisions much of the time.
Management trust people to take work-related decisions without getting permission first.
People at the top tightly control the work of those below them.
Management keep too tight a reign on the way things are done around here.
It's important to check things first with the boss before taking a decision.

Annex 3.1 – Autonomy norm, source: Patterson *et al.* (2005)

9.4 Annex 4 – Scale for performance

Safety in the work
Quality of the work
Efficiency
Responsiveness towards clients
Equal treatment
Contribution to well-being of clients
Developing skills and work processes
Developing work processes
Giving clients and society value for money
Being prepared for unexpected calamities
Compliance to safety regulations
Transparency in finishing the tasks
Doing something "extra" for the organization out of free will
Keeping an eye on the impact of the work on society as a whole

Annex 4.1 – Public organizations' performance, source: Loon (2016)