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How Transformational Leadership Influences Museums' Performance: A Contextual Ambidexterity View

ABSTRACT

Although researchers and managers recognise the tensional nature characterising the dynamics of museums and show a major concern with museums' performance, the lack of studies examining organizational antecedents of performance is potentially limiting the understanding of the process by which top managers promote this key outcome. Drawing on the literature on ambidexterity and transformational leadership, we suggest that the transformational leadership of museums' top managers facilitates the emergence of contextual ambidexterity which, in turn, influences museums' performance. Data collected from a sample of 38 museums, including their top managers and 256 employees, support our hypotheses.

Keywords: transformational leadership; contextual ambidexterity; organizational performance; organizational paradoxes; dualities

Introduction

It stated that cultural executives must operate complex organizations with inadequate resources, while motivating underpaid staff and unpaid volunteers to perform to high professional standards. Both executives and staff alike must also answer to governing boards consisting of individuals whose experience and expertise lie outside the heritage arts, and who are inclined to apply private-sector, for-profit standards to activities where such standards are often inappropriate. In addition, we must answer to an unknown number of publics within the context of changing societal values, all of whom have widely divergent levels of sophistication and expectation. At the same time, we must continuously foster creativity, innovation, public access and the preservation of the historical and artistic record. (Janes, 2013, xxvii).

The quote taken from Robert R. Janes's book (*Museums and the Paradox of Change*) summarises the challenges faced by cultural executives, at least as depicted by a Canadian university arts diploma. Underlying this rich description is a view of museums as complex entities full of tensions between competing goals and views held by distinct actors, who are required to operate under resource constraints while continuously changing in a dynamic world.

The plurality of museums' functions is part of the nature of these organizations (Mairesse and Desvaillées 2010; McCall and Gray 2014). Several educated, plural, demanding and diverse audiences challenge museums to question their purposes and dynamics (Achiam and Sølberg 2017; Gürel and Nielsen 2019). In this context, broader functions have been adopted by museums, including roles as distinct as collection, research, exhibition, interpretation, exemplars of enjoyment, recreation or refreshment, education and value-stating (Hatton 2012).

This change in museums' purpose happened in a context of financial restraints, which challenge top managers to become concerned about the financial sustainability of the organizations they lead, namely by reducing costs or finding new financing possibilities (Hutchison, Bailey, and Coles 2018; Guintcheva and Passebois-Ducros 2012). Although museums' performance has become a core issue, research has focused mainly on how to measure it (Camacho, Salgado, and Burneo 2018; López, Virto and

San-Martín 2019), considering the inherent diversity and specificities of these organizations (Zorloni 2012; Camarero and Garrido 2009).

Despite this generalised concern about museums' performance, research about the organizational antecedents of this key outcome is scarce, which weakens understanding of the organizational dynamics explaining performance and ultimately limits the range of options about how to improve it. This paper contributes to filling this gap by proposing the existence of a relationship between the museum's leadership and performance mediated by contextual ambidexterity. In line with Griffin and Abraham's (2000) argument about effective museums, according to which "leadership and cohesion are the critical factors for the successful museum" (349), we suggest that a key responsibility of leaders who want to improve a museum's performance is to act in a transformational way in order to create and nurture the ability of the organizations they lead to deal with the dual requirement of being both aligned and efficient and flexible and adaptive, a capability known as contextual ambidexterity (Gibson and Birkinshaw 2004).

We build on the paradox literature to pinpoint the tensional nature of museums, and we focus on contextual ambidexterity as the capability to promote simultaneously alignment and adaptability as sources of museum performance. Additionally, we draw on the transformational leadership literature to suggest that leadership influences organizational performance by nurturing the ambidexterity capability. In this context, the purpose of this research is to study contextual ambidexterity as a predictor of museums' organizational performance, to analyze the relationship between top management's transformational leadership and contextual ambidexterity, and to examine the role of contextual ambidexterity as an intermediary factor between transformational leadership and museum performance. Figure 1 depicts our proposal.

Using a sample of Portuguese museums, we collected empirical evidence supporting our argument.

Insert figure 1 about here

Theoretical Background

Museums as Entities in Tension

The tensional nature of museums was already acknowledged by numerous scholars. For instance, in reflecting on museums' social role, Gurian (2006) pointed to the dual purpose of being object-focused instructors versus client-centred includers. Discussing several dilemmas inherent to museums' dynamics, Hatton (2014) broadened the perspective and suggested that the debate around dualities regarding museums' purpose, i.e., entertainment vs. education, scholarship vs. interpretation, or conservation vs. access, has been with us since the nineteenth century. Janes (2004) underlines the persistence of paradoxical demands in the life of the museum.

Taking a more theoretically driven approach, Davis, Paton and O'Sullivan (2013) developed a model for understanding organizational culture in museums which, being based on the competing values framework (CVF) (Quinn 1988; Quinn and Rohrbaugh 1983), entails the idea that the management of effective organizations requires the ability to manage the tensions inherent to organizational life. Originally developed to study the structure of organizational effectiveness criteria, the CVF proposes the existence of three dimensions underlying organizational effectiveness indicators: (1) a focus dimension, describing a tension between internally oriented

effectiveness criteria and externally oriented ones; (2) a structure dimension, opposing effectiveness criteria centred on flexibility to those centred on stability and control; (3) a means-ends dimension, distinguishing the effectiveness criteria that are mechanisms to achieve desired ends from ends themselves. The combination of the first two dimensions is usually used to describe four types of cultures: clan (internal and flexibility focus), adhocracy (external and flexibility focus), hierarchy (internal and stability focus), and market (external and stability focus). The culture types located in opposing quadrants are said to have a competing or paradoxical relationship. This framework has been widely used in research in numerous types of activities and meta-analysis provides partial evidence of its ability to predict organizational performance, despite challenging the competing or paradoxical relationships between the four culture types (Hartnell, Ou, and Kinicki 2011).

Using an inductive research strategy based on 20 case studies, Davies, Paton and O'Sullivan's (2013) model elaborates on the CVF to develop an integrative model suitable for the museum context, the Museum Values Framework (MVF). In essence, the authors maintained the original three-axis structure suggested by the CVF but relabelled all its elements to map and provide structure to the numerous tensions that characterise museums' dynamics. The original CVF horizontal axis, setting an internal focus against an external one was reinterpreted as an opposition between the museum community, including professionals, volunteers and others, and visitors and potential visitors. The vertical axis, opposing stability and control to flexibility in the CVF describes, in MVF, the contrast between two distinct concepts of knowledge and understanding: fixed and controlled meanings, considered true by themselves, are opposed to a view of the meaning conveyed in museums as being in permanent reconstruction and open to context and actors' interpretations. The third axis represents

four core functions of museums: preserving material culture or objects; understanding the material; communicating what was learned; contributing to civil society.

These four archetypes of the museum role mirror CVF types of cultures, now reinterpreted as models of museums. The club model represents the combination between a combined focus on the museum community and a multiple interpretation perspective. The forum model depicts the joint operation of a visitor and potential visitor focus and a multiple interpretation. The temple describes the simultaneous presence of a focus on the museum community and on a single view based on formal sources. The visitor attraction model is the result of a conjoint emphasis on a single formal view and focus on visitors and potential visitors.

Overall, the MVF represents a suitable framework to depict, in a structured way, the variety of tensions we may find in museums. Despite this appropriateness, unlike the extensively researched CVF (Hartnell, Ou, and Kinicki 2011), subsequent research examining the relationship between museums' ability to deal with their tensions and performance indicators has not been carried out, which limits MVF's value as a comprehensive framework for understanding and managing museums.

The tensional nature of museums' dynamics can be highlighted within an established view in organizational studies. In fact, the idea that paradoxes are central constructs in understanding organizational dynamics has captured the attention of numerous scholars (Putnam, Fairhurst, and Banghart 2016; Schad, Lewis, Raish, and Smith 2016; Smith, Lewis, Jarzabkowski, and Langley 2017). This approach assumes that organizations are best described, understood and managed if we identify, emphasize and embrace their persistent and intertwined tensions. As stated by Smith *et al.* (2017, 1) "organizations are rife with paradoxes".

The co-existence of organizational elements that represent oppositional demands, such as flexibility and control, differentiation and integration, stability and change, engenders tensions. The tension comes from the sense of irrationality that arises from putting together elements that seen in isolation make perfect sense, but whose co-existence seems illogical. Sometimes these dualities become paradoxes. In an organizational paradox, both elements are interrelated and interdependent, and this dynamic of contradiction lasts over time creating a recurring association, such that each element is necessary to create the other. More simply, a paradox is a “persistent contradiction between interdependent elements” (Schad et al. 2016, 6).

Along the lines of the paradox approach (Smith and Lewis 2011), paradoxes can stay latent within a specific organization or become lively under certain conditions. In the museum context, contextual factors like plurality, change or resource scarcity stimulate the rise of paradoxical tensions. Plurality of views and goals tends to motivate opposition and conflict among powerful individual or collective actors. In the same vein, change processes generate multiple reactions and sense-making activities, leading actors to become more or less committed to the current situation and the unknown future. The allocation of scarce financial, time or human resources stimulates tensions between competing alternatives for investment and strategic choice. If managers engage in proper strategies to manage the paradoxical tensions inherent to organizational life, they are contributing to organizational performance.

Because museums are depicted as plural organizations required to hold contradictory views and goals, usually facing resource scarcity due to their dependence on donations, visitor numbers, or public funds, and continuously changing to improve the experience they provide to visitors, they become entities whose normal state

becomes the experience of salient and enduring tensions. Embracing these tensions can be an important leadership activity for the sake of improving museums' performance.

Contextual Ambidexterity and Museum Performance

Top managers are supposed to contribute to organizational performance, a notion we can define as “the extent to which it (an organization) is able to survive, perform its mission, and maintain favourable earnings, financial resources, and asset value” (Yukl 2008, 709). In the case of non-profit and public organizations, as is the case of numerous museums (Evans, Bridson, and Rentschler 2012), this general definition can be refined, emphasising the extent to which one organization generates social and economic benefits for society at an acceptable cost, the value of its assets, and its longevity (Yukl 2008).

The influence of leadership behaviours on organizational performance is not direct. According to Yukl's (2013) approach, organizational performance is determined by three major types of organizational factors: those promoting efficiency, whereby leaders attempt to minimize the costs of resources required to conduct key operations by redesigning work processes, reducing the cost of labour, or using new technologies; factors that stimulate an innovative adaptation to the external environment, which is facilitated when leaders search for information about external threats and opportunities and stimulate learning practices about effective ways to deal with these possibilities; factors that nurture human capital, which is best achieved when leaders develop human resources and human relations, by investing in training, in attractive career paths and rewards, or attempt to promote organizational commitment and mutual trust and cooperation.

More importantly, these performance determinants can have adversarial relationships in the sense that attempts to improve one can impact another, potentially resulting in an overall negative influence on organizational performance (Yukl 2008). Efforts to improve human capital may reduce efficiency and vice-versa. For instance, high levels of compensation and benefits will increase costs, and very elaborate control mechanisms implemented to reduce errors tend to erode autonomy, a key motivational factor. In a similar vein, efforts to improve adaptation can require resources to invest in human capital and very often change processes can become strong sources of stress for people. Of special importance for our purposes is the trade-off between attempts to promote efficiency and innovation. Leaders seek to promote efficiency by refining existing norms, standard procedures, closely monitoring processes and the established strategy, which engenders reduced flexibility and increases the risk of ignoring new possibilities. On the other hand, efforts to innovate require experimentation, costly investments, and large periods of individual and collective learning, which reduces efficiency. In order to manage these trade-offs, organizations must be able to deal, simultaneously, with efficiency and flexibility issues, or with exploiting current assets and knowledge and exploring new possibilities, a capability known as ambidexterity.

The notion of ambidexterity has gained prominence in the literature as an explanatory factor of short and long-term organizational performance (O'Reilly and Tushman 2013), and has gathered strong empirical evidence (Junni, Sarala, Taras and Tarba 2013; Luger, Raisch, and Schimmer 2018), despite some observations of failure (Hansen, Wicki, and Schaltegger 2019). In essence, ambidexterity is a metaphor to describe the various ways organizations try to solve one of the tensions inherent to their existence, namely the one that opposes the exploitation of current capabilities and assets to the exploration of new markets, technologies or capabilities (March 1991). To the

extent that exploitation involves control, uncertainty reduction and pursuit of efficiency, and that in turn, exploration entails risk-taking, discovery and innovation, the contradictory nature of these two fundamental concerns requires the development of specific reconciling capabilities. Ambidexterity is the ability to hold the conflicting elements (Tushman and O'Reilly 1996).

Three types of ambidexterity have been studied, corresponding to different approaches to solving the tension between exploration and exploitation. The first, called sequential ambidexterity (Duncan 1976), suggests that organizations use different structures at historical moments that require exploration or exploitation, and which change organizational configuration according to this emphasis in distinct periods. The second, structural ambidexterity, proposes the existence of a differentiated architecture in which, in the same organization, there is a unit configured to solve the exploiting requirement, while another unit oversees exploring activities. Structurally separated from each other, these units should be integrated by a common vision nurtured by the top management team (O'Reilly and Tushman 2008). The third type of ambidexterity is contextual (Gibson and Birkinshaw 2004). This view of ambidexterity suggests that a given business unit can demonstrate within itself the ability to be aligned and adaptive. Alignment refers to the existence of coherent and predictable patterns of activity, while adaptability concerns the ability of the organization or unit to reconfigure its activities in the face of the changes noticed in the work context (Gibson and Birkinshaw 2004). Contextual ambidexterity is a significant predictor of public organizations' performance (Nunes, Martins, and Mozzicafreddo 2018). In our view, ambidexterity grasps a specific tension of museums and it is a capability that leads to better performance. In this context, we posit the following hypothesis.

Hypothesis 1. Museum's contextual ambidexterity is positively related to perceived organizational performance

Leadership and Contextual Ambidexterity

Contextual ambidexterity (Gibson and Birkinshaw 2004) suggests that managers play a key role in setting the context for the development of this organizational capacity. More precisely, contextual ambidexterity is said to emerge in contexts characterised by the combination of social support and performance management. Social support describes contexts in which people are induced to cooperate with others and to trust others' commitment. Performance management contexts induce people to comply with managers' expectations and to set ambitious objectives. While the original research conducted by Gibson and Birkinshaw (2004) supports the role of the context, combining social support and performance management, as an antecedent of contextual ambidexterity, here we posit that transformational leadership has a decisive role to play in generating this organizational ability.

Although the concept of transformational leadership is an umbrella encompassing several specific approaches (Yukl and Gardner 2020), it usually entails followers' description of leaders' behaviours around a limited number of dimensions (Podsakoff, MacKenzie, Moorman, and Fetter 1990; Carless, Wearing, and Mann 2000). Transformational leaders: identify and articulate a vision of the future of their organization or unit, often in order to explore new opportunities; provide an appropriate model for followers; foster the acceptance of group goals, promoting efforts to achieve a common goal; establish high performance expectations and excellent work for their followers; provide individualised support, showing concern about followers' individual needs and feelings; promote intellectual stimulation, challenging followers to question

their own assumptions and to think differently. Despite controversies regarding conceptual clarity and measurement validity (Antonakis 2012), transformational leadership is the most researched leadership framework (Fischer, Dietz, and Antonakis 2017) and is used as a reference for the development of new leadership approaches (e.g., Hoch, Bommer, Dulebohn, and Wu 2018).

The effects of transformational leadership on adaptability are foreseeable, considering the changing nature of both this type of leadership and this dimension of contextual ambidexterity. Innovation and change are the most usual expected effects of transformational leadership (Yukl 1989). By stimulating people to think about common situations in new ways, by providing individualized support and encouraging followers' growth, and by identifying new opportunities and articulating an inspirational vision of the future, transformational leadership enables the development of a context characterised by adaptability. On the other hand, by fostering trust and cooperation among people to achieve shared goals, by expecting high performance from people, and by becoming a role model for everyone to follow, transformational leadership becomes an important contextual element that signals the requirement of alignment.

However, these transformational leadership behaviours can influence the two dimensions of ambidexterity differently. Leaders can stimulate some of their followers to reconsider their work in order to refine current methods. Leaders can show concern about followers' needs in order to improve the organizational climate and cooperation between people through pre-established work procedures, and not necessarily to transform the context. Leaders can articulate a vision for the future completely consistent with the past and foster consensus around the enduring character of the organization's identity. These behaviours are now contributing to alignment instead of adaptability.

In the same vein, to fostering the acceptance of common goals and cooperation between people is vital to cope with changing circumstances. Becoming a role model to be followed by people can engender a generalised mimic effect and not all leaders' behaviours are oriented to change. For instance, a leader can act as a good example of how to comply with an existing organizational policy or procedure. A leader can show they expect a lot from followers in performing current tasks. Now, these dimensions of transformational leadership are contributing to alignment instead of adaptability. When seen as a global concept, transformational leadership is a double sword that can generate the two components of contextual ambidexterity. Based on these arguments, we offer the following hypothesis:

Hypothesis 2. Transformational leadership of museums' top management is positively related to contextual ambidexterity

The Mediating Role of Contextual Ambidexterity

Ensuring organizational performance is a widely accepted leadership responsibility. Although some literature examined a direct relationship between transformational leadership and organizational performance, results provided mixed evidence, although slightly favourable. For instance, Howell and Avolio (1993) found that leadership predicted unit performance, measured by the proportion of goals achieved, also finding a positive relationship between leadership and the performance of bank branches. However, Rowold and Heinitz (2007) did not find a positive relationship between leadership and profit, and Zhu, Chew and Spangler (2005) obtained a similar result using sales as the criterion variable. Despite these inconsistencies, meta-analytical work conducted by Wang, Oh, Courtright and Colbert (2011) about the relationship between transformational leadership and organizational level performance reveals the existence

of a low but significant relationship between these two constructs. The work by Wang et al. (2011) also reveals that original studies yield very distinct correlation coefficients, which means considering the existence of intervening variables in the relationship between transformational leadership and organizational performance.

One of the core tenets of the contextual ambidexterity approach is that this capability mediates the relationship between the context, as created by managers (Mom, Chang, and Cholakova 2019; Zimmerman, Raisch, and Cardinal 2018), and organizational performance. We follow this line of reasoning and posit the same mediating role. Our argument also echoes the above-mentioned grouping of determinants of organizational performance suggested by Yukl (2013), namely those focused on the search for both efficiency and innovative adaptability. More specifically, literature suggests an indirect effect of leadership on organizational performance. For instance, Mintzberg (1971) proposes that a manager contributes to organizational performance because “he must maintain the stability of its operations, and he must adapt it in a controlled and balanced way to a changing environment” (B107). Strategy scholars working under the dynamic capabilities approach also underline the central role of top management in fostering the match between organizations and shifting environments by devising actions in order to develop, integrate and reshape organizational attributes, namely skills and resources (Teece 2014; Fortune and Mitchell 2012). In line with the arguments above, our third hypothesis is:

Hypothesis 3. Contextual ambidexterity mediates the relationship between the transformational leadership of museums’ top management and the perceived organizational performance

Method

Procedure and Sample

We used the Portuguese Museum Network to identify potential participants for the study. This list contains 137 museums located across the entire country, with various types of collection and diverse types of ownership. In 2016, we sent a letter to each museum, inviting participation in a study about museums' organizational characteristics. For each museum, we prepared a set of questionnaires. One questionnaire to be filled in by the top manager and several copies to be filled in by other museum employees. We also included individual envelopes for respondents to send answers directly to the first author, as the coordinator of the project, to guarantee anonymity. A numerical code was included in each questionnaire to match top managers' and employees' answers.

This procedure yielded 52 answers from top managers, representing 38% of museums. From 620 questionnaires sent out, a total of 290 employees, working for 53 museums, sent their answers (46.8% response rate). Both proportions fall into acceptable response rates (Baruch 1999). After removing nine employee questionnaires for having more than 10% of missing values and pairing the museums whose top managers returned questionnaires with those museums with more than three complete questionnaires sent by employees, we retained 38 museums, including the answers from their top managers and 256 employees. The mean of employee respondents per museum was 6.6 (SD=4.21). Although it is a nonprobability sample, there are no reason to expect that this will affect the pattern of relationships between variables (Krosnick 1999, the focus of our analysis).

Considering the employee sample (n=256), the mean age was 44.8 years (SD=9.99) and 71.1% were female. The majority of respondents hold a university

degree (55.5%). On average, employee tenure was 14.0 years (SD=9.85) and 49.2% performed technical or supervisory jobs. In the top manager sample (n=38), 52.6% were male and the average age was 50.2 years. All respondents had a university degree, including 76.3% with a post-graduate degree. The mean tenure was 12.76 years (SD=8.44). Most of the museums were publicly owned (84.2%) and, except for one private museum, the remainder were non-profit. On average, the museums employed 17.37 people (SD=14.82) and during the year before data collection received on average 46972.34 visitors (SD=77393.15).

Measures

In order to avoid common method variance, measures of independent (transformational leadership) and mediator (contextual ambidexterity) variables were reported by employees and organizational performance was reported by museums' top managers. We measured transformational leadership using the scale developed by Carless, Wearing and Mann (2000). Although transformational leadership is conceptualized as a multidimensional construct (Bass and Avolio 1995; Podsakoff *et al.* 1990), we used a unidimensional measure because we suggest a global effect of transformational leadership on both alignment and adaptability. Additionally, recent research conducted in the museum context (Goulaptsi, Manolika, and Tsourvakas 2019) show that a well-known four-dimensional measure of transformational leadership (Bass and Avolio 1995) is best represented by a single factor. The scale by Carless *et al.* (2000) includes seven items describing core transformational leadership behaviours, and we asked respondents to assess the frequency of each behaviour as exhibited by the museum's top manager (1= rarely or never; 7=very frequently if not always). Exploratory principal component analysis confirmed that all items loaded on a single

factor with an eigenvalue of 5.38 and accounted for 75.93% of the variance. Internal reliability is high ($\alpha=.89$).

We measured contextual ambidexterity with the Gibson and Birkinshaw (2004) six-item scale, with slight language adjustments to the museum context. Three items measure alignment and three assess adaptability. Principal component analysis revealed that both sets of items load on a single factor (eigenvalue=2. and 1.91 respectively for alignment and adaptability; variance explained=73.43% and 63.73%, respectively for alignment and adaptability). Internal reliability is satisfactory for both scales ($\alpha=.82$ and .78, for alignment and adaptability, respectively). Because alignment and adaptability are interdependent, in line with the procedure used by Gibson and Birkinshaw (2004), we computed the multiplicative interaction between these two variables, thus forming the contextual ambidexterity variable.

We measured organizational performance using the Gibson and Birkinshaw (2004) four-item scale. Considering the foreseeable missionary essence of museums, we added an item aiming to capture this feature (“This museum is accomplishing its purpose”). We asked top managers to reflect upon the global performance of the museum they lead and to state to what extent they agree or disagree with the five items (1=totally disagree; 7=totally agree). The use of perceptual measures to assess organizational performance has a long tradition in organizational studies (Delaney and Huselid 1996; Raymond, Marchand, St-Pierre, Cadieux, and Labelle 2013; Kim 2010), and this approach is considered a valid psychometric option and appropriate for public organizations (Andrews, Boyne, and Walker 2006). Principal component analysis revealed that all items loaded on a single factor with an eigenvalue of 2.99 and accounted for 59.94% of the variance. Internal reliability is acceptable ($\alpha=.81$).

Given that the perception of organizational performance can be influenced by both museums and top managers' characteristics, we considered three control variables, namely the number of employees, the number of visitors, and top managers' core self-evaluation. Core self-evaluation is a broad personality trait including self-esteem, generalized self-efficacy, neuroticism and locus of control (Judge, Locke, and Durham 1997) and is said to predict job satisfaction and job performance. We measured core self-evaluations using Judge, Erez, Bono and Thoresen's (2003) scale. Respondents are asked to reflect about themselves and to indicate their agreement or disagreement with 12 statements (1=Strongly disagree; 7=Strongly agree). In our sample, this scale has acceptable internal validity ($\alpha=.79$).

Data Analysis

After validating measures at the individual level of our employee sample, we aggregate scores at the museum level for the subsequent analysis. Intraclass correlation coefficients, ICC(1) and ICC(2) were computed as a precondition for aggregating data requires perceptual agreement within a unit (James, 1982). An Anova test (F) using the museum as independent variable was significant for contextual ambidexterity and transformational leadership, and the ICC(2) test revealed acceptable values for both ambidexterity (.76) and transformational leadership (.78).

Hypotheses were tested at the organizational level (n=38) using hierarchical multiple regression analysis. Because we wanted to test a mediation effect, we followed Baron and Kenny's (1986) regression procedure. In the first step we regressed contextual ambidexterity against organizational performance, thus testing Hypothesis 1. Second, the independent variable (transformational leadership) should be related to the mediator (contextual ambidexterity), which represents the test of Hypothesis 2. Finally,

the mediating variable (contextual ambidexterity) should be related to the dependent variable (organizational performance) with the independent variable (transformational leadership) also included in the equation, thus testing Hypothesis 3. Full mediation is in place if the independent variable has a non-significant effect in this last step, and the mediator remains significant. In all steps, the effects of control variables (number of employees, number of visitors, and top managers' core self-evaluations) on organizational performance were examined.

Results

Table 1 presents the means, standard deviations and intercorrelation between study variables. Museums' organizational performance, as rated by managers, reaches a reasonable level (Mean = 4.99; SD = .75). In the same vein, both alignment and adaptability, rated by employees, show relevant levels (Mean = 5.23; SD = .71 and Mean = 5.43; SD = .62, respectively), which is consistent with other measures of these variables in both for-profit (Gibson and Birkinshaw 2004) and public (Nunes, Martins, and Mozzicafreddo 2018) sectors. Interestingly, transformational leadership, the leadership behaviour shown by top managers as perceived by employees, scores higher than the other study variables (Mean = 5.59; SD = .86) and the average reported by Carless, Wearing and Mann (2000).

As can be seen in table 1, transformational leadership is correlated with contextual ambidexterity ($r=.84$, $p<.01$) and with organizational performance ($r=.49$, $p<.01$). Contextual ambidexterity is also related to organizational performance ($r=.57$, $p<.01$). Thus, the results give preliminary support to Hypotheses 1 and 2. Moreover, alignment and adaptability, the dimensions of contextual ambidexterity are correlated

($r=.78$, $p<.01$), meaning that even if they are distinct constructs, employees perceive that they can co-exist within the same organization.

Insert table 1 about here

Table two depicts the result of regression analysis. Hypothesis 1 predicts that ambidexterity, the multiplicative interaction of alignment and adaptability, measured by aggregating employees' perception, will be positively related to organizational performance, as perceived by museums' top managers ($\beta = .63$, $p < .01$). The results also support Hypothesis 2, according to which top managers' transformational leadership is positively related to contextual ambidexterity ($\beta = .82$, $p < .01$). Finally, Hypothesis 3 predicts a mediation role of contextual ambidexterity in the relationship between transformational leadership and organizational performance, and the data support full mediation. Although transformational leadership is a significant predictor of organizational performance ($\beta = .52$, $p < .01$), this effect becomes non-significant ($\beta = .03$, $p > .05$) while the effect of contextual ambidexterity remains significant ($\beta = .60$, $p < .01$). The Sobel test (Sobel, 1982) yields a significant coefficient ($Z = 4.24$, $p < .01$), confirming the hypothesized full mediation effect.

Insert table 2 about here

Discussion and recommendations

The overriding goals of this research were to study contextual ambidexterity as an antecedent of museums' organizational performance, to examine the relationship

between top managers' transformational leadership and contextual ambidexterity and to investigate the role of contextual ambidexterity as an intermediary factor between transformational leadership and museum performance. Overall, the data obtained support the hypothesized relationships. Museums showing higher levels of perceived performance reveal an increased capability of combine alignment with adaptability, or contextual ambidexterity, potential tensional components whose trade-offs can be reconciled within museums' dynamics. This result provides additional support for this relationship, as in both seminal work (Gibson and Birkinshaw 2004) and subsequent validation in the public sector (Nunes, Martins, and Mozzicaffredo 2018), this time in a specific sector.

In line with our predictions, transformational leadership plays a key role in improving museums' performance, becoming an important contextual element for performance. However, it is not enough for museum managers to act as transformational leaders. Museums' performance improves when transformational behaviours create the capacity for contextual ambidexterity (Yukl 2008). Thus, in the museum context, transformational leadership acts an antecedent of both alignment and adaptability, two key dimensions able to connect managers' behaviour and the museum's performance. Unlike usual views of transformational leadership, usually associated with innovation or adaptability (Goulaptsi, Manolika, and Tsourvakas 2019), we suggest that transformational leadership can also contribute to organizational alignment. In fact, depending on the context and followers' interpretation, common dimensions of transformational leadership (identifying a vision, becoming a role model, promoting collective goals, establishing high performance expectations, providing individualised support; promoting intellectual stimulation) have the potential to engender contextual

ambidexterity because they are an appropriate set for creating both alignment and adaptability.

In accordance with the paradox approach (Smith and Lewis 2011), the tensional nature of museums is acknowledged in the literature (Janes 2007; Hatton 2014; Davis, Paton, and O'Sullivan 2013) and our study extends this view by providing evidence of the role of managers' transformational leadership behaviour as a means to create contexts characterized by the co-existence of both adaptability and alignment. Because museums are portrayed as plural organizations required to hold competing views and goals, usually facing resource shortage, the ability to reconcile inherent tensions can be an important antecedent of organizational performance, and contextual ambidexterity is one of these organizational level abilities.

Managerial Implications

In a context of generalized concern about museums' performance (Camacho, Salgado and Burneo 2018; López, Virto, and San-Martín 2019), this study contributes to discussion of the antecedents of performance, thus enriching the possibilities for crafting appropriate strategies for improved performance. Dealing with the tensional nature of ambidexterity, amongst other organizational dualities, calls for a shift in the management mindset towards a more Janusian style of thought, one that entails the ability to notice the simultaneous operation of two contrasting ideas or concepts (Rothenberg 1979).

This shift can be stimulated by using a leadership development programme that should include a module aimed at strengthening transformational leadership skills. For instance, Frese, Beimeel and Schoenborn (2003) and Antonakis, Fenley and Liechti (2011) present an already tested general approach that can be adapted to suit museums'

specific organizational characteristics. The core component of this programme should be focused on the adoption of appropriate management strategies for dealing with paradoxes, including the acceptance of paradoxes as vital ingredients of high performance (Lewis, Andiopoulos, and Smith 2014) and an invitation to creative problem-solving (Lüsher and Lewis 2008). After being accepted, paradoxes can be managed by a strategy involving differentiation activities, or creating formal and informal activities targeted at each element of the paradox (e.g. separate structural elements, distinct leadership roles, different learning times) combined with integration activities accommodating both elements (e.g. boundary spanners, all-embracing strategic aspiration, assigning integrative roles to leaders, complex cultures).

Finally, considering the missionary nature of museums, this programme should include a module focused on how to engage in identity work in order to improve organizational performance. As suggested by Nunes, Martins and Lopes (2020), this identity work could draw on organizational identity as a lens and as a compass, as a resource, as encompassing multiple identities, and as a source of identification. Organizational identity can facilitate the management of organizational dualities due to its symbolic integrative value, recognized as a device that makes organizational life possible (Haslam, Postmes, and Ellemers 2003).

Limitations and Future Research

This study has important limitations that can threaten its validity. The museum sector encompasses very different types of organizations, and the pattern of relationships we found can be influenced by this diversity. Additionally, this study was conducted in Portugal, and different national and institutional contexts can provide specific moderators of the relationships we obtained. We relied on perceptual measures of

museum performance. Although evidence suggests they are relevant and reliable (Raymond et al. 2013; Andrews, Boyne and Walker 2006), other measures (e.g. archive), and stakeholders (e.g. public) could be mobilized to measure museums' performance and validate the predictive role of contextual ambidexterity and transformational leadership.

Besides addressing these limitations, future research could examine the predictive power of contextual ambidexterity *vis à vis* other plausible organizational determinants of museum performance, like service climate (Schneider, Gonzáles-Romá, Ostroff, and West 2017), entrepreneurial orientation (Rauch, Wiklund, Lumpkin, and Frese 2009) or identity orientation (Nunes, Anderson, Martins and Wiig 2017), testing independent effects of different predictors or, perhaps more importantly, examining configurations of predictors, in line with the neo-configurational approach (Misangy *et al.* 2017). Moreover, a promising line of inquiry could address the extent to which the ability shown by museums to effectively deal with already identified sector-specific dilemmas, like entertainment vs. education, scholarship vs. interpretation or conservation vs. access (Hatton 2014), or the tensions coming from the opposition between the museum community vs. visitors and multiple interpretations vs. single narratives, as suggested by Davis, Paton, and O'Sullivan (2013), is a relevant predictor of museums' performance.

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Figure 1. Structure of relationships suggested

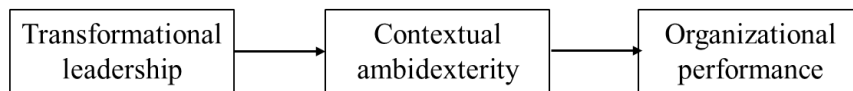


Table 1. Means, standard deviations and correlation matrix

Variable	Mean	SD	1	2	3	4	5	6	7
1. Number of employees	16.89	15.03	-						
2. Number of visitors	48033.66	77069.05	.62**	-					
3. Top manager core self-evaluation	4.17	0.67	-.11	.01	-				
4. Alignment	5.23	0.71	-.24	.02	.19	-			
5. Adaptability	5.43	0.62	-.10	.11	.22	.78**	-		
6. Contextual ambidexterity	28.71	6.44	-.19	.04	.22	.95**	.92**	-	
7. Transformational leadership	5.59	0.86	-.03	.11	.19	.83**	.77**	.84**	-
8. Organizational performance	4.99	0.75	-.13	-.07	.04	.54**	.50**	.57**	.49**

n =38; * p<0.05; ** p<0.01.

Table 2. Results of regression analysis

<i>Dependent variable</i>	Organizational performance		Contextual ambidexterity		Organizational performance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>Control variables</i>						
Number of employees	.05	.14	-.30	-.11	.08	.14
Number of visitors	.01	.09	.16	.03	.07	.09
Core self-evaluation	.04	.17	.21	.06	.13	.17
<i>Mediator</i>						
Contextual ambidexterity		.63**				.60**
<i>Independent variable</i>						
Transformational leadership				.82**	.53**	.03
R ²	.00	.36	.09	.73	.26	.36
Adjusted R ²	.00	.29	.01	.69	.17	.26
ANOVA F	.03	4.69**	1.16	21.70**	2.95*	3.65**

n= 38; * p < .05; ** p < .01; standardized coefficients are reported.