Organizational Culture and BPM Ambidexterity in the EU Public Sector: the FADE Model

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Abstract

Organizational culture plays a paramount role in the success and outcomes of Business Process Management (BPM) initiatives. So far, academic research has primarily focused on the cultural values supporting exploitative BPM, and to a greater extent in the private sector. In this study, we aim to uncover the cultural context in the international public sector, underpinning the explorative dimension of BPM, as well as the necessary capabilities to balance explorative and exploitative process management practices. The latter is defined as BPM ambidexterity. For this purpose, we have conducted case studies in European Union (EU) public sector organizations because this governmental level stimulates digital innovation and is quite varied while not being limited to a single country. Our main contribution is a model of cultural values supporting exploratory BPM, called FADE (i.e., values related to Failure allowance, Agility, Disruptiveness, and Ecosystems).

Keywords: Business Process Management, Organizational Ambidexterity, Organizational Culture, Competing Values Framework.

1. Introduction

Public sector organizations need to confront a growing list of policy challenges, such as geopolitical risks, digital transformation of the economy and society, the green transition, economic disruptions, cybersecurity risks, and many more (Archick, 2017). The related risks are of increasingly international nature, and therefore international public organizations like the European Union (EU) play a growing role[1]. To address these challenges, public sector organizations require capabilities supporting both incremental and radical process innovation (De Vries et al., 2016). Nonetheless, innovation in the public sector, as compared to the private sector, faces unique challenges, such as legal and procedural constraints, as well as cultural barriers (Boukamel & Emery, 2017). Similar barriers apply to Business Process Management (BPM) initiatives in the public sector.

As argued by several researchers (Lederer et al., 2017), BPM initiatives are essential in digital transformations, as they provide practitioners with the necessary capabilities to transform digitally their business. Nevertheless, these initiatives often fail for cultural reasons, as certain values (e.g., resistance to change) may hinder the engagement of staff (Schmiedel et al., 2015). There is a growing body of knowledge regarding the cultural values supporting exploitative or incremental process management (Calciolari et al., 2018), whereas the organizational culture driving the more radical or explorative process improvements needs much more attention. Moreover, organizations need to balance their exploratory and exploitative processes activities (referred to as BPM ambidexterity), which also remains to a great extent unexplored (Helbin & Van Looy, 2021).

Our research question is therefore as follows:
RQ. What components of organizational culture support successful implementations of BPM ambidexterity in the EU public sector?

We aim to address this research question through a multiple, embedded case study design at selected EU institutions. The main theoretical contribution of this paper is a conceptualization of the components of organizational culture supporting BPM ambidexterity. This understanding will also help practitioners develop capabilities supporting digital innovation in their organizations.

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[1] Visit https://european-union.europa.eu/priorities-and-actions/eu-priorities_en for the current strategic priorities of the EU

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We proceed as follows. We start with a literature overview in Section 2, followed by the research design in Section 3. The results are presented in Section 4, and we provide the discussion in Section 5 to conclude in Section 6.

2. Literature review

We subsequently present the three key constructs in this study, namely BPM, organizational ambidexterity, and organizational culture.

2.1 Business Process Management

Business Process Management (BPM) is defined as the *"art and science of overseeing how work is performed in an organization to ensure consistent outcomes and to take advantage of improvement opportunities"* (Dumas et al., 2018 p. 1).

A key concept within this discipline is the BPM lifecycle and the corresponding lifecycle phases (de Morais et al., 2014), which systematize the steps necessary to run a business process. This lifecycle is further extended with organizational capabilities, such as culture and structure, to provide a more holistic view on an organization's business process orientation (Van Looy et al., 2014). Indeed, as highlighted by many researchers (vom Brocke et al., 2016, Zelt et al., 2018), the adoption and outcomes of BPM depend to a great extent on various contextual factors, related to the process itself, to organizational characteristics (such as the organisational culture) and to external environmental factors. Nevertheless, not all contextual factors are thoroughly explored. For instance, BPM research in the public sector is mostly restricted to local or national governments (Schedler & Helmuth, 2021), and research on BPM implementations in international public service is still lacking. In general, Van Looy & Van den Bergh (2018) provide empirical evidence that BPM adoption highly depends on the sector and size of organizations, and that governmental organizations tend to have lower BPM adoption, than private organizations.

2.2. Organizational Ambidexterity

Organizational Ambidexterity (OA) can be defined as the simultaneous pursuit of exploration and exploitation by an organization (Benner & Tushman, 2003). The concept dates back to the early work of March (1991) on organizational learning, and has received a constantly increasing interest of academia since (García-Lillo et al., 2017, Kassotaki, 2022). OA has been researched in several research streams, including organizational learning, technology

innovation (Benner & Tushman, 2003), strategic management (Markides & Oyon, 2010), organizational design (Gibson & Birkinshaw, 2004) and BPM (Helbin & Van Looy, 2022). Moreover, depending on the theoretical context, the related balancing act may relate to various opposing forces, such as alignment and adaptability (Gibson & Birkinshaw, 2004), exploration and exploitation (Gupta et al., 2006), flexibility and rigor (Lee et al., 2010), or radical and incremental process innovation (Ng et al., 2015). Those various dimensions of competing forces and tensions have most recently led researchers to adopt the metaphor of "multidexterity" (Robbins et al., 2021), which stresses that organizations should simultaneously balance multiple competing tensions, going beyond the dualistic view of ambidexterity.

Ample evidence exists that OA leads to greater performance, particularly in dynamic environments (He & Wong, 2004). Organizations need to manage both exploratory and exploitative processes in order to deliver OA. Hence, in this study, we specifically focus on BPM ambidexterity (Helbin & Van Looy, 2021), which can be achieved through developing relevant organizational capabilities supporting exploratory BPM activities (Moreno Luzon et al., 2014), as well as adapting BPM practices to make them more exploratory (i.e., by extending them with design thinking, open innovation and other elements) (Santos & Alves, 2018).

2.3 Organizational Culture

Organizational culture can be defined as the underlying assumptions, and related values and beliefs espoused by members of an organization, which help its members resolve encountered problems (Schein, 2004). Culture is a critical contingency factor of successful BPM implementations (vom Brocke et al., 2016). There is a growing body of evidence that organizational culture is a mediator of process performance (Schmiedel et al., 2020), and supports the development of BPM ambidexterity (Moreno Luzon et al., 2014). Interestingly, early OA literature (Benner & Tushman, 2003) argued that culture supportive of BPM may lead to "exploitation bias" and should be structurally separated from departments dealing with exploration, as the required capabilities for exploitation were seen as detrimental for radical innovation. Later research has refuted this, arguing that both types of activities are reinforcing each other (Ng et al., 2015).

Several researchers have analyzed organizational culture through the lens of the Competing Values Framework (CVF) (Quinn & Rohrbaugh, 1983), which is considered the most influential and studied framework for organizational culture (Yu & Wu, 2009). CVF shows organizational values on two dimensions: an internal-external focus, and a focus on flexibility-stability. The resulting quadrant provides four culture types: (1) hierarchy, (2) clan, (3) adhocracy, and (4) market (Figure 1). In several studies (Hribar et al., 2014, Indihar Štemberger et al., 2018), the "clan" type has been identified as most supportive of BPM implementation, whereas the "hierarchy" type as the least supportive. Moreover, (Naranjo-Valencia et al., 2011) argue that organizations in the "hierarchy" type are most likely to imitate as a business strategy, rather than to innovate.

Schmiedel et al. (2015) provide an alternative model: a single framework for organizational culture supportive of BPM implementations, based on the four "CERT" values (i.e., Customer orientation, Excellence, Responsibility, Teamwork), and eight subdimensions (i.e., external / internal customer orientation, continuous improvement / innovation, accountability / commitment, formal / informal structures). This framework primarily focuses on process exploitation, with some dimensions relating to ambidextrous tension (e.g., Customer orientation versus Excellence).

Looking specifically at the public sector, Wynen et al. (2014) have argued that organizational culture in the public sector is to a great extent not supportive of innovation due to its risk aversion and resistance to change. In addition, Syed et al. (2018) stress that innovation is constrained by rules, regulations and hierarchy. Moreover, (Calciolari et al., 2018) argue that organizational culture in the public sector corresponds to the "hierarchy" type in the CVF framework – which is the least supportive for BPM implementation. Recently, Kregel et al. (2021) have investigated the CERT model in the German public sector and concluded that the external customer orientation and informal structures are the most present values.

In this research, we address the related research gap on which components of organizational culture support exploratory BPM in the international public sector.

3. Research Design

The objective of our case study design was to investigate the dimensions of organizational culture, supporting BPM ambidexterity in the EU public
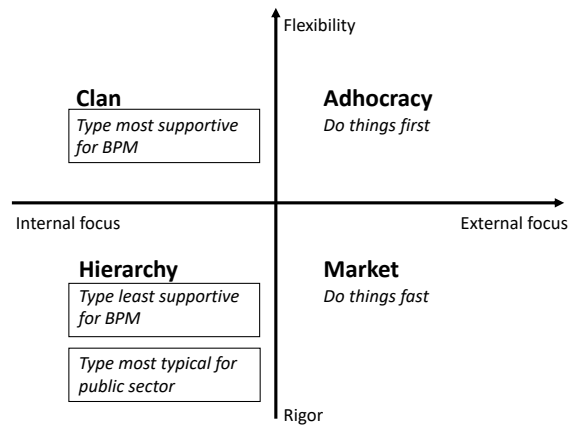

Figure 1. Competing Values Framework – based on (Quin, Rohrbaugh, 1983)

sector. The research was part of a broader case study exploring the contextual factors of BPM ambidexterity.

3.1 Selection of Case Organizations and Respondents

The EU public sector includes 13 institutions based in Brussels, Strasbourg, Luxembourg, and Frankfurt. They vary in size from approximately 100 to 32,000 employees. We selected five organizations, with a careful choice made to ensure a balance of institutions of various size and roles, ranging from more legislative, through consultative and executive – we have included the three main and largest institutions, as well as two smaller ones which play a consultative role.

We had two data collection strategies. First, we started with a pilot, consisting of a single, embedded in-depth case study (Recker, 2021) at an EU institution, where the units of analysis were six departments. The results of the pilot focusing on all organizational capabilities were published by the authors in the BPM workshops 2021 (Helbin & Van Looy, 2022). Afterwards, we continued with a multiple case study design at four other EU institutions, where we compared the institutions rather than departments. providing a basis for this paper, which is specifically focusing on BPM culture. This

Table 1 Case study scope

ID#	Project	Role/sector	Size (employees)	No. of interviews (interviewees)
1A	Pilot	Fund management	32,000	2 (2)
1B		IT		2 (6)
1C		Talent management		1 (1)
1D		Fund management		1 (1)
1E		Fund management		1 (2)
1F		Fund management		1 (1)
2	Main project	Legislation	8,000	2 (3)
3		Legislation	3,000	2 (2)
4		Sectoral consultation	700	1 (1)
5		Sectoral consultation	500	2 (2)

staged approach allowed us to validate and extend the results of the pilot. Table 1 shows an overview of the cases.

Four follow-up interviews were organized with senior experts to validate the conclusions of the interviews. The respondents of the interviews were members of the BPM competence centers, process owners and staff of IT departments working on BPM, covering various business domains, as well innovation managers (Table 2).

Table 2. Respondents of the interviews

Role	Cases
BPM competence center	1A, 1B, 1C, 1D
Process owner	2, 4, 5
Innovation / digital transformation manager	3, 5
IT department staff	1B, 1E, 1F, 2, 3

3.2 Operationalization and Interview Questionnaire

The primary source of evidence were face-to-face interviews, based on an interview protocol covering 26 questions, grouped into 13 sub-areas of the BPM capability framework of (Van Looy et al., 2014). Each sub-area included two questions: one focusing on exploitative activities and concepts, and the second one on explorative ones. The questions focusing on the cultural aspects were the following:

- *[Values_Exploit] How is the organization's commitment to excellence and continuous process improvement? How is cross-functional teamwork perceived in the organization? Are employees committed to process objectives, and empowered to make process decisions?*
- *[Values_Explore] How is the organization's commitment to radical innovation and disruption?*

The questions above were based on the framework of (Van Looy et al., 2014) for the exploitative part, and on conceptualization of (Ng et al., 2015) for the explorative part. The interview was concluded with the questionnaire of (McCormack, 2001) to establish the level of business process orientation of each the units of analysis.

We used the open coding technique of (Saldaña, 2013). As part of deductive coding we included the codes corresponding to the CVF types, which are covering both exploratory and exploitative activities, and CERT values, which are primarily focused on exploitative practices.

After coding, we analyzed the overall process orientation of each unit of analysis (i.e., organizations and departments), based on the results of the (McCormack, 2001) questions, and the presence of BPM practices (Van Looy et al., 2014). After this, we did a manual pattern matching between the units of analysis by determining which aspects of organizational culture were leading to greater maturity of BPM ambidexterity.

As a final step, we extended the CERT model with new values, based on the codes linked to organizational culture in the study. The complete workflow of steps followed in the research is visualized in Figure 2.

For data triangulation, we also collected corporate documents (e.g., related to BPM implementations and in-house training materials),
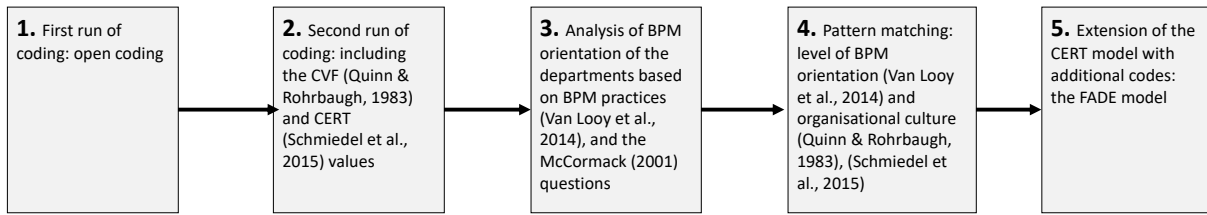
1. First run of coding: open coding	→	2. Second run of coding: including the CVF (Quinn & Rohrbaugh, 1983) and CERT (Schmiedel et al., 2015) values	→	3. Analysis of BPM orientation of the departments based on BPM practices (Van Looy et al., 2014), and the McCormack (2001) questions	→	4. Pattern matching: level of BPM orientation (Van Looy et al., 2014) and organisational culture (Quinn & Rohrbaugh, 1983), (Schmiedel et al., 2015)	→	5. Extension of the CERT model with additional codes: the FADE model

Figure 2. Step-by-step workflow of the research

wikis, and participation in specific events (e.g., meetings of the Business Process Automation center of excellence and BPM in-house training events).

3.3 Validity and Reliability

To mitigate risks to validity, we used several sources of evidence in the series of case studies (construct validity). To ensure internal validity, we adopted multiple measurement frameworks, such as the classification of capability areas of (Van Looy et al., 2014), the maturity model for business process orientation by (McCormack, 2001), and the concepts linked to radical process innovation by (Ng et al., 2015). Regarding reliability, we maintained a case study protocol, a case study database with a chain of evidence, including all event logs, interview recordings, transcripts and saved documents and communications.

4. Results

We now describe the main results of the case studies.

First, based on the initial run of coding we established a significant variability in the values

supporting BPM across the units of analysis. Cultural context was seen in several cases as a significant enabler (or barrier) for BPM ambidexterity. It was argued that the lack of a supportive culture had led to past challenges in BPM adoption in several of the studied departments and organizations (case 1C, case 1D, case 2).

In the next rounds of coding, we specifically looked at the CERT values and consolidated the codes from the case study onto the CERT values (Table 3). These values were particularly visible in the domains of finance, fund management and internal control. We observed that departments dealing with financial processes tended to develop a culture to a greater extent focused on efficiency and optimization (case 1A, case 1E) – corresponding to the "excellence" value in CERT, and the "clan" type in CVF. On the other hand, departments with a greater focus on legal compliance (case 1C) – corresponding to the hierarchy type in CVF – were less supportive of process management activities and digital innovation, as expected in literature.

Looking specifically at the CVF tags, we uncovered several values supportive of the exploratory and disruptive elements of BPM, which we mapped in Table 4, onto the four CVF types. Although most units of analysis were at first not open for radical innovation

Table 3. CERT values examples in the case study

CERT value	Code	Case study	Examples, quotes
Customer orientation	User centricity	1D	*"We need to be closer to the people, to the users, so that we can better grasp and have a better understanding, and have better traction with them"* (case 1D)
Excellence	Efficiency	1A, 1E, 2, 3	*"In the end, we are like a supply chain. We get the request. The request is checked. The request is processed and executed and then delivered"* (case 2) *"There is clearly an effort for making life more efficient"* (case 3) Focus on speed and accuracy of processes linked to financial transactions (1A, 1E)
Responsibility	Legal compliance, Transparency	1C, 5	Focus on legal compliance, so as to avoid litigation and political risks (case 1C) Focus on enhancing transparency (case 5)
Teamwork	Teamwork	1D, 1E	Multiple BPM initiatives focusing on cross-departmental cooperation to manage end-to-end processes (case 1D, case 1E)

Table 4. Exploratory activities linked to the CVF framework in the case

CVF type	Code	Case study	Examples, quotes
Hierarchy	Failure acceptance	1B, 1C	Launch of an innovation lab and safe-to-fail framework for prototypes (case 1B) *"It's good to have an entity where disruption is safe to do and so they can try without punishment"* (case 1C)
Clan	Agility	1D, 2	*"We want to tackle the things now, we need to very quickly bring something back to them"* (case 1D) Adaptation of BPM practices to make them more agile (case 2)
Adhocracy	Disruptiveness	1A	BPM embedded in the structures, supporting radical changes (e.g. COVID response) (case 1A)
Market	Ecosystems	1C, 2	*"We are in the center of this European government ecosystem"* (case 1C) Broad network of political organizations cooperating with the institution (case 2)

("we are not an R&D department"- case 1E), several cultural contextual factors were presented supporting various facets of BPM ambidexterity. For instance:

(1) the growing focus on agility (case 1D, case 2), where the departments had identified the lack of agility of previous implementations, as the main reason for their lack of success,

(2) openness to radical change (case 1A), whereby departments used their existing BPM capabilities to deliver radical organizational change due to the COVID pandemic,

(3) ecosystems with member states and other political bodies (case 1C, case 2), which are to a certain extent unique to the setup of the European Union, and provide opportunities for inter-organizational process management,

(4) the growing drive to promote a safe-to-fail mindset (case 1B, case 1C), as part of the political drive to promote digital innovation, and innovation labs.

It is worth noting that some departments provided examples of activities linked to several tags and corresponding CVF types (i.e. case 1C), which demonstrates that organizations need to pursue several often competing values – a phenomenon which can be conceptualized as "multidexterity" (see 5. Discussion).

Interestingly, in several cases the respondents stated that purely structural solutions (such as innovation units) did not suffice to develop openness for innovation, and growth of organizational capabilities including the organizational culture was necessary (case 2, case 3).

Moving towards pattern matching, we observed great variability between the units of analysis in terms of maturity of the activities linked to BPM and digital innovation. Organizations/departments with the highest process orientation (case 1A, case 1E, case 2), as observed through their BPM practices, were characterized by a culture both supportive of process exploitation and process exploration (Table 5 – highest process orientation marked in bold). The most present values were associated with "excellence" in the CERT model, as well as agility. The units with the lowest process orientation displayed primarily cultural aspects associated with process exploitation, and in

Table 5. Observed process orientation and aspects of BPM culture, based on practices in the units of analysis

ID#	Process orientation	Codes - exploitation	Codes - exploration
Case 1A	**High**	**Efficiency**	**Disruptiveness**
Case 1B	Medium	Customer orientation	Failure acceptance
Case 1C	Low	Legal compliance	Ecosystems
Case 1D	Medium	User centricity	Agility
Case 1E	**High**	**Efficiency, teamwork**	**Agility**
Case 1F	Medium	Legal compliance	-
Case 2	**High**	**User centricity, teamwork**	**Agility, ecosystems**
Case 3	Medium	Efficiency	Ecosystems
Case 4	Low	Transparency	-
Case 5	Low	Transparency	-

particular the "responsibility" value from the CERT model.

Since the codes linked to exploratory aspects of organizational culture visualized in Table 4 were not part of established CERT model of BPM culture, we proposed to extend the CERT model with the values supporting exploratory BPM activities. For this we used tags from the case study linked to exploratory activities, and proposed to view them as a holistic model, with the acronym FADE:

- **F**ailure acceptance – culture allowing failure as part of the innovation endeavors
- **A**gility – focus on early and incremental value delivery of BPM initiatives
- **D**isruptiveness – culture supporting radical changes enabled through BPM
- **E**cosystems – focus on managing processes spanning several organizations

These FADE values are mapped on the dimensions of the CVF in Figure 3.

Finally, it is worth noting that stakeholders in multiple cases (case 1B, case 1C, case 2, case 3) decided to embrace imitation strategies (rather than innovation), as expected by researchers. The reason was a perceived limitation in their organizational capabilities. For instance, this was done through the purchase of ERPs and other enterprise solutions, or the adoption of market standards for certain processes.

Figure 3. The proposed FADE model supporting exploratory BPM – mapped on the CVF framework

5. Discussion

The results show that there is a great variability in the cultural enablers and barriers to successfully adopt BPM ambidexterity in the EU public sector.

Organizational culture is clearly listed as the primary enabler for the success of these initiatives, as documented in innovation literature (De Vries et al., 2016). Despite the expectation that the organizational culture in the public sector will in general not be supportive of BPM and digital innovation (Syed et al., 2018), we have identified several values and associated practices supporting BPM ambidexterity in the units of analysis – in particular values associated with "excellence" in the CERT model, and agility.

Looking at the theoretical implications, we have derived that the CVF dimensions can also be used to articulate the dimensions of BPM ambidexterity (exploitation – exploration, flexibility – rigor) (Saxena, 2022), while the resulting quadrant of values may be defined as "multidexterity". The latter is a metaphor, which has recently received academic interest in the open innovation domain (Robbins et al., 2021). The CVF translated to explorative BPM practices is visualized in Figure 4, underscoring that Organizational Ambidexterity may be conceptualized through several complementary dimensions. In the context of BPM, organizations are expected to balance multiple opposing forces, and develop several competing capabilities.

Our case studies' focus on BPM ambidexterity led us to propose to expand the recognized CERT model of Schmiedel et al. (2015), with additional FADE values, based on the CVF framework, to support process exploration and radical process change more explicitly. In line with the concept of BPM ambidexterity, organizations are expected to balance the CERT and FADE values to deliver both incremental (exploitative) and radical (explorative) process change (Figure 5)

Regarding our practical implications for managers, the study underlines and confirms that the development of a supportive culture is one of the key prerequisites for successful BPM implementations. Practitioners are advised to promote contextual settings which support both exploitative values (customer orientation, excellence, teamwork, responsibility) and explorative ones (agility, disruptiveness, safe-to-fail mindset, ecosystems).
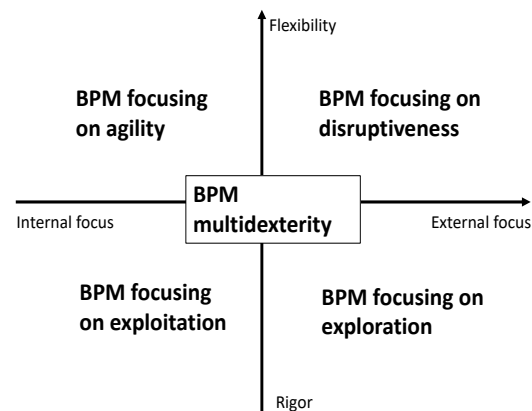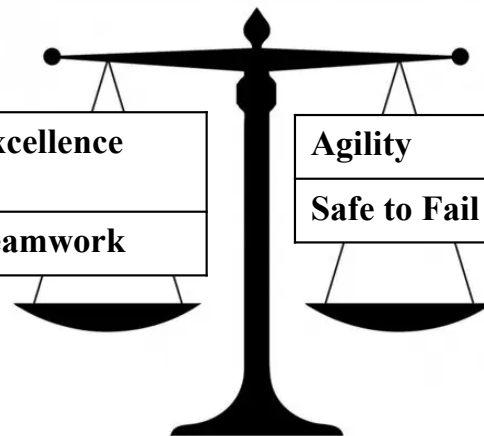

Figure 4. BPM multidexterity: CVF applied to BPM practices

Figure 5. The balancing act of CERT and FADE values - the BPM culture ambidexterity

Moreover, despite the documented barriers to digital innovation in the public sector (legal constraints, resistance to change etc.), there are multiple pathways for growing process orientation, while delivering digital transformation and digital innovation in the civil service: practitioners should carefully choose the capabilities to develop, based on the specific contextual settings of the organization. For instance, in the EU public sector the values most supported were "excellence" and "teamwork", combined with "agility and "ecosystems". As a final recommendation for practitioners, it is worth stressing that creating structures to support process innovation on its own will not make the organization more innovative, and more holistic investment in organizational capabilities, in particular organizational culture is necessary.

We also acknowledge certain limitations of the research. First, the study was qualitative in design and limited to BPM and digital innovation practitioners. More targeted quantitative research is still needed to validate and extend the findings. Secondly, the scope was restricted to a diverse, yet limited scope of interconnected institutions. Hence, broadening the scope to other international public sector organizations could further enhance the validity of our findings.

Regarding future avenues for research, we specifically call for more research into the values supporting successful process exploration, and BPM ambidexterity.

6. Conclusion

Responding to our research question on the components of organizational culture supporting successful BPM implementations in the EU public sector, we have extended the CERT values for BPM exploitation with additional values more specifically addressing explorative BPM. The values were derived from literature and from our case studies, with examples of practices in the EU public sector supporting these values. We have also argued that both CERT and FADE values can lead to a greater process orientation of the studied departments and organizations, with the values of "excellence", "agility" and "ecosystems" particularly present. Moreover, we have extended the notion of Organiational Ambidextery towards a broader, multidimensional balance of several competing forces, which can be better conceptualised as "multidexterity". This in turn provides researchers with a conceptual framework to further analyze the evolution of the BPM discipline in the context of digital innovation and transformation.

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