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Managerial approaches, frameworks, and practices for business model application in public services management in the VUCA environment

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ABSTRACT

Significant gaps in public services management were highlighted when service-dominant logic emerged in services science, resulting in fundamental changes in attitudes. The business model application in public services was initiated by offering public service logic. However, this concept requires justification of its interfaces with management approaches, frameworks, and practices. The VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) environment has changed the existing managerial approach in organisational performance and services management. This paper aims to highlight the key aspects and justify the application of services management approaches, frameworks, and practices (Agile practices, customer experience management frameworks, and the design thinking approach) that coincide with the business model approach in public services management (public service logic) in a VUCA environment. In this paper, the Cochrane Guide to Literature Reviews was loosely followed. The focus was on academic publications and such expert sources as webinars for practitioners. Only publications and expert sources in English were included. The Scopus search engine was used for academic sources. Publications covering at least two of the following domains were included: Customer experience, business model, Agile practices, design thinking approach, public services, and VUCA. The expert sources were selected using purposive sampling when communities of practice were identified by authors with expert knowledge, and the main communication channels within each community of practice were sampled. The analysis showed that public services are defined as public goods that the State's government commits to deliver in line with public values by applying a customer-centric approach. Integrating the design thinking approach and Agile practices help create customer-centric solutions for the customer experience management framework as design thinking helps understand what to do, while Scrum (one of Agile practices) gives the autonomy in deciding how to do it. Each analysed managerial method contributes uniquely to improving public services management in a VUCA environment.

KEY WORDS

business model, VUCA environment, Agile practices, design thinking approach, Customer experience management

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Introduction

Fundamental changes in attitudes towards public services management have occurred over the past decades (Osborne, 2021), driven by the introduction of service-dominant logic into services science (Vargo, 2004; Lusch, 2008), leading to the public service logic development (Osborne et al., 2013) in the public domain. This concept introduces the business model logic into public services management. The business model defines how an organisation creates, markets, delivers, and captures (customer) value using available resources. Various management

approaches, frameworks, and practices (such as Agile practices, design thinking, and customer experience management) are applied for this purpose. Whereas they provide organisational preconditions to co-create customer value, their efforts are often not aligned.

This is also enhanced by the fundamental changes in the context of public services (a VUCA — Volatility, Uncertainty, Complexity, and Ambiguity — environment; Van der Wal, 2017) that have shown how important well-functioning public services systems are when, in practice, they appear to be highly vulnerable. Consequently, public services systems are under even greater pressure to focus on creating better service value for customers and society and ensure resilience to future challenges. The research focused on the problem of how services management approaches, frameworks, and practices (such as Agile practices, customer experience management frameworks, and the design thinking approach) could coincide with the business model approach in public services management (public service logic) in a VUCA environment.

Thus, this paper aims to highlight the key aspects and justify the application of services management approaches, frameworks, and practices (Agile practices, customer experience management frameworks, and the design thinking approach) that coincide with the business model approach in public services management (public service logic) in a VUCA environment. This raises the following tasks for researchers: (1) to identify the specific characteristics of changes in the public services context (a VUCA environment); (2) to detect management approaches, frame-

works, and practices that should be applied to the business model approach in public services (public service logic) to respond to the VUCA environment.

The Cochrane Guide to Literature Reviews was loosely followed in the preparations of this paper. The main focus was on two source classes s in English only: academic publications and expert sources (e.g., webinars for practitioners). Only publications covering at least two of the following domains were included: Customer experience, business model, Agile practices, design thinking approach, public services, and VUCA. Scopus search for scholarly publications was chosen because it had the broadest coverage and availability of subscriptions. Eight hundred sixty-eight full-text publications were included for subsequent content analysis. For data extraction, MAXQDA 2022 software was used.

1. RESEARCH APPROACH

In this paper, the Cochrane Guide to Literature Reviews was loosely followed (Higgins et al., 2019). Eligibility criteria. As some domains have very active communities of practice and the academic domain

Tab. 1. Last version of keywords and Scopus search string per domain

	SCOPUS SEARCH STRING	SEARCH HITS
Customer experience	TITLE-ABS-KEY (customer journey map OR value proposition canvas OR user experience OR customer experience OR value proposition)	50 736* 52 282**
Business model	TITLE-ABS-KEY (business model OR business model canvas OR service-dominant logic OR public service logic)	39 033* 40 288**
Agile practices	TITLE-ABS-KEY (agile OR scrum OR kanban OR scrumban OR dual track agile OR product discovery OR product delivery)	41 661* 42 660**
Design thinking approach	TITLE-ABS-KEY (design thinking)	5 549* 5 826**
Public services	TITLE-ABS-KEY (public value OR public services OR value creation OR value co-creation OR service delivery OR service co-delivery OR service production OR service co-production OR service design OR service co-design)	95 071* 97 211**
VUCA	TITLE-ABS-KEY (vuca OR (volatility AND uncertainty AND complexity AND ambiguity)) OR ALL ((vuca 2.0) OR (vuca AND antidote) OR (vision AND understanding AND clarity AND agil*))	579* 623**

* Original search on 01/12/2021
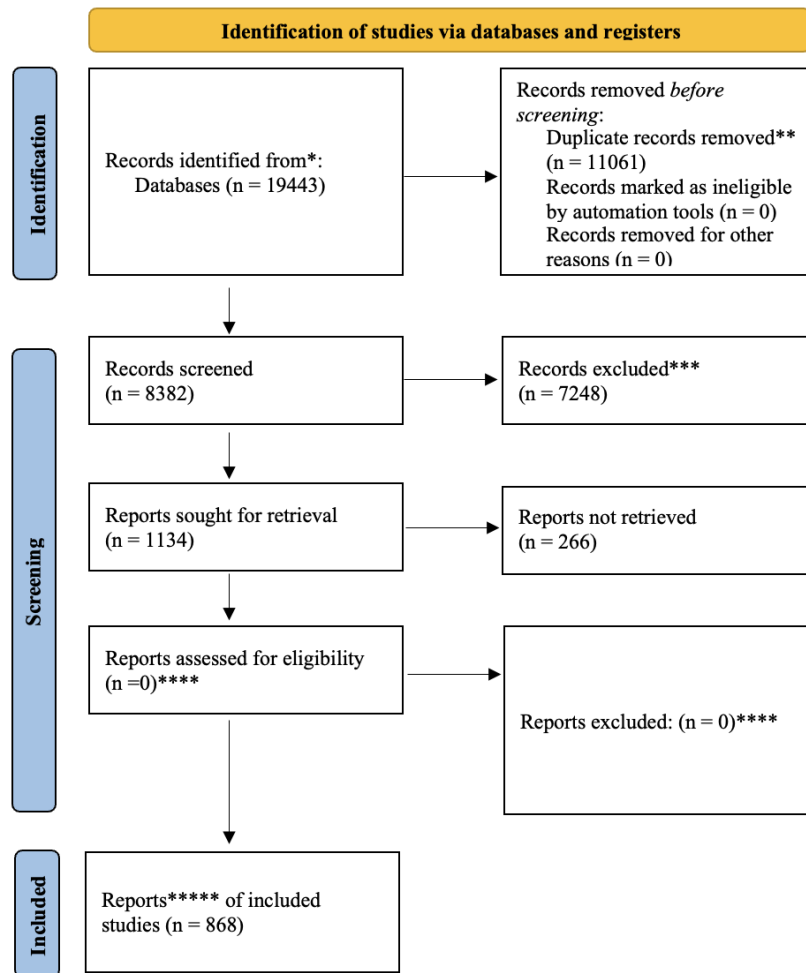** Update 19/04/2022

Fig. 1. PRISMA flow diagram

* Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

** Large number of duplicates is due to the search strategy where each domain is represented by intersections of the domain with each of the remaining domains in Table 1.

*** Due to the review strategy and information obtained from the *abstraktr* service, it is not possible to calculate the exact overall number of records excluded by the active learning algorithm. For all six domains, the relevance score threshold of 0.5 was used.

**** Full texts were not assessed for eligibility.

***** Numbers of original studies are not reported here as all research designs were included.

lags behind the real-life developments in businesses (e.g., Agile practices and VUCA), the focus was on two classes of sources: academic publications and such expert sources as webinars for practitioners. Only publications and expert sources in English were included. The Scopus search engine was used for academic sources. No restrictions on publication date and format or type of research (e.g., original qualitative, quantitative, or mixed methods research, reviews, theoretical work etc.) were imposed for academic publications. Publications covering at least two of the following domains were included: customer experience, business model, Agile practices, design thinking approach, public services, and VUCA. The expert sources were selected using purposive sampling when communities of practice were identified by authors with expert knowledge, and the main communication channels within each community of practice were sampled. The most theoretically relevant sources in those channels were reviewed.

Searching for studies. For each domain, a small number of publications conceived by expert knowledge of reviewers were identified. The bibliographic network of their references and references of references were analysed with the NetworkX package in Python (Hagberg et al., 2008). Nodes with the largest degree centrality and betweenness centrality scores were selected, and the most important keywords were extracted following the procedure in the litsearch R package, drawing on Grames et al. (2019). Based on this information, more informed search strings for each domain were finalised (Table 1). Scopus search as the main search engine for scholarly publications was chosen because it had the broadest coverage and availability of subscriptions to the research team.

Selecting studies to include in the review. The selection criteria in the screening phase were set as follows:

- Publications must cover at least one of the reviewed topics.
- Publications must cover any other domain besides the main topic of interest.
- Publications can employ any research method, from theoretically oriented to case descriptions.
- Publications covering culturally specific contexts or cases (e.g., India) are excluded.
- Publications covering software development if managerial methods are specific to the domain or are provided only for context are excluded.

The table above (Table 1) focused on two-way intersections of the domains. Each of the four reviewers covered one or more domains and conducted the initial screening of titles and abstracts using the abstraktr online software (Wallace et al., 2012), which employs an active learning algorithm.

After the screening, 794 full-text publications from Scopus search were downloaded. Besides keyword search, a manual search was used to identify additional candidates (n=104). After de-duplication, 868 full-text publications were included for subsequent content analysis.

PRISMA flow diagram (Page et al., 2021) in Fig. 1 shows the search results and the process of screening and selecting publications.

Collecting data from included studies. MAX-QDA 2022 software was used for data extraction. Each reviewer independently used a lexical search utility to find candidates that covered these categories: (i) What is it (descriptions)? (ii) How are the managerial methods combined/integrated? and (iii) Are managerial methods used in the context of public services? If so, how?

2. LITERATURE REVIEW AND RESEARCH RESULTS

The diversity of public services definitions shows the different conceptualisation perspectives applied in the studies. The definition of public services based on the government functions perspective emphasises public goods creation and provision in meeting the general needs of society/community and ensuring access for all. When the definition emphasises the purpose of services, it identifies public value creation in serving the public interest generally or universally. Public services are often associated with areas of particular importance to the customer (Osborne & Strokosch, 2013) that occur in different areas and are received under diverse circumstances. These services range from meeting basic human and civic needs (e.g., first aid, treatment, medication, housing, determining the legal facts and issuing relevant documents) to improving the quality of life (e.g., monitoring health, informing, educating, empowering, and mobilising community partnerships). Therefore, the individual perspective, including value creation for the customer, is also a significant aspect of public service delivery (Osborne, 2021, p. 43). According to McBride et al. (2019), public value and its creation is becoming more complex and requires more detailed research for several reasons: (1) public value is not static, (2) public value is what is created at the societal level, and (3) public value is the output or result of some service or activity. Public services are provided according to both the common needs of society/community and individual needs, leading to customer and public value creation. Summarised in this paper, public services are defined as public goods that the government commits to deliver in line with public values by applying a customer-centric approach.

2.1. BUSINESS MODEL APPLICATION TO PUBLIC SERVICES

Although the concept of business models and related business model innovation originated in business organisations (Al-Debei & Avison, 2010), it does not apply to every organisation as, regardless of its sector, every business creates, delivers, and captures value (Kaplan, 2012; Timmers, 1998; Zott et al., 2011). This concept is also relevant to organisations that provide public services (Magretta, 2002). According to Ranerup et al. (2016), various research-

ers of business models emphasise different aspects: the role of value creation logic (Zott & Amit, 2008; Zott et al., 2011), business processes (Osterwalder, Pigneur & Tucci, 2005), resource base and its longitudinal evolution (Hedman & Kalling, 2003). However, the business model (BM) is much more than only the descriptive narrative required to lead practical action (Magretta, 2002). In general, the BM concept includes the following interrelated components: (1) customers, (2) competitors, (3) services, (4) activity and organisation, (5) resources, and (6) supply of factors and production costs. Thus, it covers overall strategy aspects and economic and revenue models. The main purpose of the term is to help organisations manage services, and researchers carry out case studies that identify weaknesses of existing or inappropriate BMs (Timmers, 1998; Afuah & Tucci, 2001; Hedman & Kalling, 2003). All components can be treated as cross-sectional and examined at different points (Baden-Fuller & Morgan, 2010). Considering the importance of the changing environment, BMs must be dynamic and include a longitudinal process (Hedman & Kalling, 2003). Thus, the BM application is relevant to organisations operating in the VUCA environment.

One of the most prominent analytical systems that have received considerable attention due to its practical application is Osterwalder's BM Canvas (Aljena, 2014), which describes the rationale for how an organisation creates, markets, delivers, and captures value (Osterwalder, Pigneur & Tucci, 2005). The BM Canvas is used to describe, analyse, or create a new BM and has been used primarily in business organisations to better understand their processes and to develop new strategies. According to this system, a BM is interpreted as a canvas including nine elements, which are arranged into four groups: customers, offer, infrastructure, and financial viability (Díaz-Díaz et al., 2017). BM Canvas includes activities, resources/competencies, costs, revenue streams, partners/networks, communication channels, and relationships with recipients/users, and depends on specific BM (Wirtz et al., 2016).

The emergence of the business model is often associated with a competitive business environment; however, organisations offering public goods and services also rely, to some extent, on key BM components. From the general services perspective, in public organisations, BM components' relevance is mostly related to the issues and dynamics of information systems (Al-Debei & Avison, 2010; Panagiotopoulos et al., 2012; Ranerup et al., 2016). However, public

governance researchers, by introducing public service logic, emphasised a customer-centric approach, as the customers of the services perceive the value and focus on total shared value creation between services, organisations, and customers (Osborne et al., 2014; Osborne, 2021; Alwash et al., 2021). The application of public service logic is intricately linked to the sustainability of public services systems, as the knowledge application regarding customer experience offers favourable opportunities for public services development (Alford, 2016; Osborne et al., 2015).

2.2. Public services in the VUCA environment

The complexity and ambiguity in the public organisation context and the need to operate in unpredictable demand conditions lead to an innovative approach to a business model based on visionary strategies (Karpen et al., 2012; Shepherd et al., 2021; Kafel & Ziębicki, 2021). Addressing such a public organisation context requires strategies that depend on concepts and tools and allow for an innovative approach to the application of BMs (Bryson, Berry & Yang, 2010; Brorström, 2020). In this context, the BM approach is particularly valuable because public organisations operate in a VUCA environment (Wirtz et al., 2021).

Considering the main business model components, research in public organisations is related to the value creation and value capture dimensions (Edralin et al., 2018). It further clarifies value dimensions using the BM Canvas. Thus, for public services organisations (non-profit organisations), the non-profit Canvas called Mission Model Canvas was developed by Newell, Osterwalder and Blank in 2016. The main difference from the original concept is that this canvas is adapted to public services in which customers are treated as beneficiaries, and a value proposition is offered. The Mission Model Canvas targets organisations whose mission implementation has secured funding (based on public funding) that is not typical for business organisations looking for the best BM idea. BM Canvas, developed by business representatives, is recognised and can be applied to public organisations; however, its links to public service logic and its application in public organisations using Mission Model Canvas are limited.

Public services are provided in a dynamic and changing environment, and their operating principles must respond to changing needs of society and social perceptions (Lenaerts, 2012). Cognition is required

for recognising essential changes in the context of public services, which are described in various terms. One term framing the context in services science and practice is the VUCA environment. This concept is beneficial because it helps leaders understand the environment in which they operate (Johansen & Euchner, 2013). The VUCA acronym was coined by the U.S. Army War College and was first placed into the curriculum AU1988 in 1987 (U.S. Army Heritage & Education Center, 2021). Volatility is the intensity of fluctuations over time (Gläser, 2021) and is liable to change rapidly and unpredictably when events of unexpected occurrence and durations disrupt systems and norms (Van Der Wal, 2017). Thus, in a systemically volatile environment, change is constant. Uncertainty is the unpredictability of numerous events (Gläser, 2021) with unclear short- and medium-term consequences (Van Der Wal, 2017) when outcomes of non-linear interactions of a number of elements cannot be known beforehand. Complexity is being affected by several influencing factors and their interdependence or interaction (Gläser, 2021; Çiçeklioğlu, 2020) when events and issues feature and their interrelations are hard to understand (Van Der Wal, 2017). Ambiguity occurs due to the lack of models that explain observed phenomena since simple linear cause-and-effect descriptions provide more than one interpretation of a situation or information (Gläser, 2021; Nishimoto, 2021). Consequently, reality could be hazy, and there could be a high potential for misreading events and issues, as they are marked by contested, hidden, and inconsistent information (Van Der Wal, 2017). Although complex and complicated terms are often used incorrectly as equivalents, the definitions should be distinguished by the fact that a complicated system can be simplified without being destroyed, in contrast to a complex system that cannot (Gläser, 2021).

VUCA calls for a leadership response or behavioural leadership model called VUCA Prime (Johansen, 2007), VUCA 2.0 (George, 2017), or VUCA 2.0 Antidote (Faecks, 2021). In contrast to VUCA 2.0 (George, 2017), which has a traditional organisation focus on strategic leadership, VUCA 2.0 Antidote (Faecks, 2021) goes beyond empowering the leadership to be closer to the employees inside the organisation and towards deeper employee communication and engagement as well as close customer experience and competition revival through:

- Vision — the ability to see through the chaos of the storm and be the guiding star of the organisation's mission, values, and strategy (George,

2017). Additionally, the need to be transparent emphasises that the employees be devoted to the mission and hold a common understanding of values and strategy to secure relevant, informed decisions (Faecks, 2021; Çiçeklioğlu, 2020).

- Understanding — the need for a deep perception of an organisation's capabilities and strategies to maximise strengths and minimise weaknesses (George, 2017) or have a far-reaching understanding of structures and processes to quickly and effectively apply skills that exist within the organisation; additionally, possess an in-depth understanding of customers and competitors and changes through transparent communication and networking (Faecks, 2021).
- Courage — the need to make audacious decisions and take new challenges and risks (George, 2017), or clarity (in addition to courage in VUCA 2.0) — the ability to focus and formulate the organisation's management through effective countermeasures implementation, resulting in more structured processes, more efficient communication channels, and quick and transparent decisions for employees (Faecks, 2021).
- Adaptability — the need for flexible tactics without altering the strategic course (George, 2017; Çiçeklioğlu, 2020) or agility (in addition to adaptability of VUCA 2.0) — organisations need to establish flexible processes and cross-functional cooperation (Faecks, 2021).

Current VUCA challenges require addressing its aspects by new perceptions, e.g., that give up traditional conceptions of strategy and leadership (Systems Innovation, 2019) and transform strategic leadership dramatically from the traditional heroic leadership of centrally controlled organisations to various modern leadership styles firmly rooted in empathetic leadership (Jordaan, 2019). Empathetic leadership is a style of leadership that focuses on identifying with others and understanding their point of view (Robbin, 2022a). Empathy is an essential part of various leadership styles aimed at building relations via increased trust, stronger teams, better decision-making, increasing influence, and more promotions (Robbin, 2022b). Although communication, delegation, and the ability to motivate others are likely leadership skills, empathy — a key quality of a truly effective leader — has often been overlooked and underestimated (Nodding, 2021) until recently (Robbin, 2022a).

Due to volatility, the strategy needs to evolve from resisting it to working with it through agility

and enabling adaptive capacity (Systems Innovation 2019). In a VUCA world, the organisational strategy must be clear regarding where to go but flexible in how to get there (Johansen & Euchner, 2013). Thus, empathetic leadership of volatility through vision requires steering via an often repeated simple and authentic vision (Agile Leadership, 2020). Furthermore, the team should be engaged in the vision development, in addition to its repetition, where an emphatic leader uses active listening, facilitating, and moderation skills.

Second, due to uncertainty, the strategy shifts from defining one environment in the future that is most probable and creating a single optimal strategy for this to developing organisations that can operate under multiple outcomes through increased diversity (Systems Innovation, 2019). Thus, the challenge of leadership is to develop clarity but moderate certainty (Johansen & Euchner, 2013). Empathetic leadership of uncertainty through understanding requires comprehending the current worries of the team as well as being fully transparent in the organisational reality in the present world (Agile Leadership, 2020), thereby creating trust.

Third, due to complexity, strategic leaders must focus on creating the context that enables the emergence of the desired outcomes instead of delivering them (Systems Innovation 2019). Clarity counters confusion and enables action; however, there should be clarity of intentions and direction, not just response; a high degree of flexibility in means; and the ability to turn a threat into an opportunity (Johansen & Euchner, 2013). Emphatic leadership through complexity with clarity and communication requires an empathetic leader to be clear about the goals set, call the team to action, and be consistent in leadership, e.g., asking the team to change habits to adapt to a new reality (Agile Leadership, 2020).

Fourth, due to ambiguity, strategic leaders need systems thinking to see interconnections and gain different perspectives (Systems Innovation, 2019). Emphatic leadership, through ambiguity with agility or adaptability, implies various roles based on relevant competencies (Agile Leadership, 2020), e.g., roles of Expert, Achiever, Catalyst, Co-Creator, Synergist (Joiner & Josephs, 2008), Moderator, and Facilitator.

Summing up, the VUCA world strategically challenges organisations and individuals to seek success. It calls for immersive learning experiences and strategic-foresight development using multiple methods synergistically to create and explore scenarios (Heger & Rohrbeck, 2012; Johansen & Euchner, 2013).

Meanwhile, empathetic leadership enables the fastest response and shortest resolution times to respond to the changes directly with autonomous teams or even empowered individuals to drive value co-creation with the customer.

2.3. Agile values and practices in public services

In February 2001, a group of software development practitioners called "The Agile Alliance" developed a brief document built on four values and twelve principles for agile software development (Bedle et al., 2001a; Beck et al., 2001b; Highsmith, 2001). Authors of the Agile Manifesto chose Agile because the term represents adaptiveness and response to change, which was important for their approach (Agile Alliance, 2022).

The Agile Manifesto stated four core values of Agile software development. First, working software over comprehensive documentation defines the Agile philosophy as condensing the functional requirements into user stories and starting development in iterations significantly earlier, in contrast to the waterfall process that uses a long analysis stage before development or real creation of value starts. It means creating enough documentation to support working deliverables but not more than needed to support and develop it further (Wrike, 2022a; Wrike, 2022b). Second, responding to change over following a plan means: the Agile team should be willing and able to adapt to changing customer expectations and requests rather than sticking to a fixed scope. Agile teams work in short, iterative cycles, meaning they can react quickly and implement changes continuously (Wrike, 2022a; Wrike, 2022b).

Third, customer collaboration over contract negotiation means that the Agile team outlines product requirements with the customer directly as opposed to through contract negotiations (Wrike, 2022a; Wrike, 2022b). Consequently, the Agile team gets customer feedback earlier during the expectations phase, not the acceptance phase. Fourth, individual interactions and interactions over processes and tools mean that processes and tools should be flexible enough to adapt to the needs, skills, and priorities of team members and stakeholders (Wrike 2022a). According to Agile philosophy, people are more important to creating value than processes and tools.

Agile philosophy focuses on teamwork, where each participant contributes to the desired outcome

during the process (Hurochkina & Zvonar, 2020). Considering that Agile values unite people for success and create a robust background to resolve tough dilemmas due to ambiguity, Agile philosophy remains practical and promising in describing the emerging world. Thus, Agile values address all aspects of the VUCA operating environment and perceptions of how to deal with VUCA challenges.

Different management approaches were developed to embody Agile values. Scrum is the most popular Agile approach used by software development teams (66 % of the teams follow it most closely, with an additional 15 % who follow ScrumBan at 9 % and Scrum/XP at 6 %) (5th Annual State of Agile Report, 2021). Scrum is a disciplined and lightweight framework that helps organisations generate value for complex problems through innovative and adaptive solutions based on continuous improvement (Mathew, 2019; Schwaber & Sutherland, 2020). It is based on an iterative and incremental process of inspection and adoption when complex tasks are implemented step-by-step, leading to unpredictable and unrepeatable outputs. Scrum has predefined roles (product owner, product developer, and Scrum master) with presumed leadership styles (Visionary, Democratic, Affiliative, and Empathetic) that address VUCA world challenges.

Dual-track Agile is a methodology that combines product discovery (in other words, validation of products, services, or features before implementation) and product delivery (in other words, the technical implementation and deployment of the identified outputs of discovery) (Cagan, 2012; 2018; Trieflinger et al., 2021). Discovery track outputs become the inputs of the delivery track. The simultaneous execution of product discovery and delivery through fast release cycles allows the team to adapt the solution to the customer's needs more quickly (Trieflinger et al., 2021). Thus, Dual-track Agile helps organisations focus on the right kind of innovations for the markets and deliver products for which customers will pay. It leads to better results with fewer resources and efforts, i.e., better products, less time spent, and lower development costs.

These Agile approaches are generic for application in various domains (Wastell, 2011) but difficult to implement in public management as they require the immediate involvement of all relevant professionals, i.e., building cross-functional teams. However, these flexible frameworks are more progressive compared to others (Hurochkina & Zvonar, 2020) as they

are a model of management for non-routine processes of teamwork that uses the sociotechnical approach in action by self-organising, learning, and minimal structures (Wastell, 2011).

2.4. Customer experience management in public services

The definition of customer experience (or user experience) has been discussed and is well established. It differs from other similar concepts (e.g., service experience) in its clear focus on experience, i.e., the customer (Bueno et al., 2019). This concept of customer experience evolved from classical usability, and its focus is distinctive in creating a positive customer experience. As customer experience emerges from the interaction between a customer and an organisation (its brands, services and/or products, employees) (Lemon & Verhoef, 2016), it represents several aspects of the concept corresponding to the position of the participant in this interaction (Johnston & Kong, 2011). From a customer's (as an individual) perspective, customer experience is defined as a multidimensional construct based on a set of cognitive, emotional, behavioural, sensory, and social responses of the customer (Lemon & Verhoef, 2016; Teixeira et al., 2012). Thus, it has a subjective and internal nature (Meyer & Schwager, 2007) arising from personal interpretation of the benefits and value of the services, experience in the services process (Johnston & Kong, 2011), and inclusion in it. From an organisational perspective, customer experience is seen to be a psychological construct of customer sensation or knowledge acquisition (Verhoef et al., 2009) based on the overall organisation's offer experienced during the customer's journey at each touchpoint (Homburg et al., 2015). Customer experience is dynamic because customer sensation or knowledge is shaped during, before, and after (Bueno et al. 2019) direct or indirect contact (Meyer & Schwager, 2007) and influenced by the VUCA environment.

Service is a customer-organisation interaction-based process; thus, services are co-produced through multiple interactions with the customer. Instead of offering an experience as such, organisations develop the preconditions for customers to gain the desired experience. In such a framework, customer experience consists of three component types: (1) touchpoints (customer and organisation interaction points), (2) context (internal and/or external customer resources available in the situation), and (3)

qualities (attributes reflecting the nature of customer responses and reactions to interactions) (De Keyser et al., 2020).

A customer experience is self-perceived by the customer as it is based on a subjective interpretation of a series of interactions developed by the service provider. Thus, the customer experience arises from factors that the organisation can directly control (the process of the service delivery or interaction with an employee at the touchpoint) and cannot directly control (an internal perception or interaction with other customers). Customer experience management (CEM) is defined as an organisation's strategy to manage all customer interactions, including individual touchpoints, the overall customer journey, and the physical and social environment (Zomerdijk & Voss, 2010).

At the core of customer experience is the value co-creation between the customer and the provider, as services become meaningful only concerning a customer and not otherwise. Therefore, the organisation does not create value for the customer but presents a value proposition as a design for the customer experience. A value proposition does not have control over the customer's value creation but sets the stage for customer experiences, i.e., empowers the customer for action to create value through their experience. Service design is focused on integrating service features with the customer's psychological aspects of functional and emotional value on perceived accessibility and quality of services. The level of customer involvement in developing a service offering may vary as service providers can consciously involve customers in the determination, development, and refinement of the service experience or foresee and meet customer needs and expectations through an active experience (Beltagui et al., 2016). Therefore, diverse services mapping tools (such as customer journey maps) are used to shift the focus to the customer experience, emphasising the emotional and functional aspects of the customer's journey rather than the defined touchpoints from the services provider's perspective.

2.5. DESIGN THINKING APPROACH IN PUBLIC SERVICES

As a collaborative problem-solving tool, design thinking has received increasing attention from researchers and practitioners trying to find ways to innovate both in business and public organisations. It can help solve different challenges faced by organisa-

tions. It starts with human needs and uses suitable technologies to create entrepreneurial value through customer value (Brenner et al., 2016).

The design thinking approach (DTA) is design oriented, where the concept of design has usually been described as a process or a creation (Adikari, McDonald & Campbell, 2013). In design, the ability to emotionally understand customers is recognised as crucial and leads to empathy, which then inspires and helps create designs that meet customer needs and expectations. DTA uses creative tools, such as persona, empathy maps, and prototyping, to address complex managerial activities and ensure empathy with customers (Brown, 2010; Carlgren et al., 2014).

Initially, design as a process was applied to business organisations to innovate individual projects, internal processes, and entire BMs (Brown, 2009). The word "thinking" came together with "design", trying to explain the function of designers. Design thinking is usually perceived in different ways, i.e., as a mindset, toolset, and process (Stickdorn et al., 2018; Brenner et al., 2016; Liedka & Salzman, 2016; etc.). As a mindset, design thinking is usually based on the following main principles (Brenner et al. 2016; Brown 2008; etc.): make innovations by and for humans; combine divergent and convergent thinking; fail often and early as this facilitates learning; build prototypes that can be experienced; test early with customers; work in the iterative cycles; and design in a flexible space. As a process, design thinking is based on the mindset that attempts to find innovative solutions through iterative cycles of research and development. DTA provides a robust, creative, and innovative process (Nedeltcheva & Shoikova, 2017). As a toolset, design thinking involves applying various methods and techniques from different disciplines (e.g., design and engineering). As a cross-disciplinary language, DTA helps designers understand customer needs and behaviour and develop new problem-solving skills (Muratovski, 2012). A cross-disciplinary language is needed that combines multidisciplinary, interdisciplinary, and transdisciplinary ways of working (Muratovski, 2017). If design thinking is sustainably applied in an organisation as a management approach, it can be exploited as a management approach to both the incremental innovation of existing value propositions and radical innovation for completely new services or products (Stickdorn et al., 2018).

Different variations in the stages proposed by the existing design thinking models or frameworks can be found in the scientific literature (Tschimmel, 2012;

Plattner, 2015; Stickdorn et al., 2018; Duggan, Roberts & Dahl, 2017; etc.): IDEO model, Institute of Design at Stanford (DSchool) model, 4D or Double Diamond model of the British Council, the design thinking model of the Hasso-Plattner-Institute (HPI) academy, and the human-centred design (HCD) model, among others.

According to Brown and Wyatt (2010), DTA transcends the borders of public non-profit and profit sectors, and close collaboration with customers allows high-impact solutions to come bottom-up rather than top-down. Design thinking, with a strong focus on the real customer experience, seems particularly valuable in addressing the complex social challenges faced by governments and public organisations (Liedka & Salzman, 2016, p. 10). Fundamental elements of design thinking in public organisations include customer-centricity, i.e., design solutions that must become part of people's living experience (Krippendorff, 2006); empathy and deep research of customers; and multidisciplinary teams that are effective in mitigating several cognitive biases during the idea generation process (Trischler et al., 2019). Accordingly, these teams also use unique formats, e.g., Scrum methodology, which includes development times divided into short so-called design sprints. The methodology and the tools applied during the sprint cycles need to be purpose-built for the underlying context to successfully consider related barriers and opportunities (Trischler et al., 2019).

Summing up, design thinking is a human-centred, collaborative, cross-disciplinary, iterative approach applied to research, prototyping, and a set of activities and visualisation tools to meet the needs of customers, create a positive experience for them, and provide high-quality public services.

3. Discussion of the results

The following discussion concerns compliance aspects of the customer experience management frameworks, Agile practices, and the design thinking approach with the business model (public service logic) and the compatibility of these concepts.

Business model and customer experience management. Customer experience results from the co-creation process of customers interacting with several service elements (Vargo & Lusch, 2004; Teixeira et al., 2012). Thus, the shift from service to customer experience requires CEM that integrates the customer domain, service domain, and BM and relevant concepts to meet customer experience requirements (Laghari et al., 2010). CEM can be used as a modelling tool in the early stages of service design (Teixeira et al., 2012, p. 363) to manage complex realities as different elements of services lead to various, more compelling contexts (Zomerdijk & Voss, 2010) and ensure a creative transition to service design decisions (Patricio et al., 2008) arising from a previously accumulated knowledge base.

Business model and Agile practices. Agility expresses new ways of a BM's development and running of services to meet challenges (Xu & Koivumäki, 2019) because different customers have different requirements, and these requirements alter over time. A business model leads to agility as not only the business model design comes from the continuous iteration during the different ongoing stages of new service design but also the continuous development and/or testing of the business model in different environments. Thus, the business model embodies the ability to adapt and respond to unforeseen change and uncertainty, i.e., agility. Furthermore, business modelling helps activate teamwork, prioritise, and plan actions.

Business model and design thinking approach. According to the business model, an organisation is treated as an integrated system that encompasses the services environment and development process. The public services design process is a multistage process of design thinking application. Depending on the specific situation, different tools can be used at various stages, e.g., the content identified in the discovery and definition stage has a major impact on customer experience value (Lee et al., 2021, p. 199).

Design thinking approach and Agile practices. If Agile is a mindset that addresses specific issues related to the ongoing delivery of services, the goal of design thinking is to identify challenges that need to be addressed first (The Service Design Playbook, 2017). The design thinking process is designed to define the customer experience and behaviour and help frame challenges and generate innovative service improvement ideas (Nedeltcheva & Shoikova, 2017). Design thinking helps understand what to do, and Agile practice gives the autonomy to decide how to do it (Nedeltcheva & Shoikova, 2017). Although Agile practices (e.g., Scrum) and design thinking seem quite different, they contain some important similar concepts, such that both can be integrated. They are both iterative processes; they require recognising early successes and failures through continuous evaluation and adaptation, and both rely on self-organis-

Tab. 2. Compliance of selected managerial concepts with public service logic

CRITERIA OF PUBLIC SERVICE LOGIC IN THE VUCA ENVIRONMENT	AGILE VALUES AND PRACTICES	CEM FRAMEWORK	DTA
Customer- (human) centric approach/ empathy (Osborne, 2021; Teixeira et al., 2012)	Customer satisfaction is a priority; accomplished by iterative deliveries of small working sets of features to the customer (Jurca et al., 2014), incorporating customer feedback as part of the requirement process and including end-user feedback during all development phases (Nedeltcheva & Shoikova, 2017)	Customer orientation is a point of departure (Lemon & Verhoef, 2016; Johnston & Kong, 2011). Is based on empathic research to define customers' needs and find ways to innovate (Zomerdijk & Voss, 2010). Is used to design, test, replicate, and develop services (De Keyser et al., 2020)	Putting real people's needs at the centre and engaging them in shaping solutions (Adikar, McDonald & Campbell, 2013; Liedka & Salzman, 2016; Allio, 2014; etc.). based on empathy as the capacity to understand and imaginatively step into another person's shoes (Allio, 2014; Liedka & Salzman, 2016)
Value (co-)creation (Osborne, 2021; Kaplan, 2012; Karpen et al., 2012)	The process of value creation emphasises people, not processes and tools, empowering the employees and customers (Mathew, 2019; Schwaber & Sutherland, 2020)	Changing management tactics from service quality to customer experience quality (Bueno et al., 2019). Tailoring the service to the customer to get a meaningful impact on how consumers perceive the level of value received (Homburg et al., 2015)	This is the basis for providing the supporting resources to enable customers to integrate and operate (Trischler & Charles, 2019). The involvement of customers, employees, and other stakeholders in the design process has been seen as an important driver for service design (Mager & Sung, 2011)
Leadership–followership relations (Johansen & Euchner, 2013; Joiner & Josephs, 2008; Nodding, 2021)	Transforms strategic leadership from traditional to various modern styles firmly rooted in empathetic leadership (Johansen, 2007; Jordaan, 2019; Faecks, 2021; George, 2017)	As customer experience is largely unmanageable in the traditional command and control sense, and thus total engagement across the organisation is required (Homburg et al., 2015), including ownership, responsibility, and leadership in customer focus	The team composition is an essential element in ensuring the necessary solutions' diversity (Liedka & Salzman, 2016). It is linked with stewardship, defined as the core ability of change agents to successfully achieve the desired outcomes (Allio, 2014)
Learning culture (Johansen & Euchner, 2013; Mergel et al., 2021)	Agile practices (e.g., Scrum and Dual Track Agile) are advanced in unconventional teamwork processes (Hurochkina & Zvonar, 2020) by promoting self-organisation and continuous learning (Wastell, 2011)	By creating positive memories of the experience, an organisation may change the customer's perception and influence their future behaviour (Johnston & Kong, 2011). Satisfaction does not measure the customer experience; thus, the use of both operational and experience data to measure, track, and improve the customer experience is important (Lemon & Verhoef, 2016). Systemic improvements	When the environment is uncertain, stakeholders are not coordinated, and quick learning together becomes necessary (Liedka & Salzman, 2016). To ensure collaborative creativity, knowledge is created through social interaction

CRITERIA OF PUBLIC SERVICE LOGIC IN THE VUCA ENVIRONMENT	AGILE VALUES AND PRACTICES	CEM FRAMEWORK	DTA
Scenario building/development (Heger & Rohrbeck, 2012)	Agile practices use user stories to enable scenario building (Johansen & Euchner, 2013; Wrike, 2022a; Wrike, 2022b)	Based on the perception of the customer experience, the provision of services is analysed (Teixeira et al., 2012). The organisation uses a guiding zone of tolerance of customer experience as the specific customer experience is unmanageable (Bueno et al., 2019)	Designing means thinking about what problem customers encounter in a specific time, place and task flow and building up the scenario in the process of solving the problem by giving the best solution (Wang et al., 2021)
Collaboration/involvement/engagement of customers (Debei & Avison, 2010; Panagiotopoulos et al., 2012; Ranerup et al., 2016)	An Agile team outlines product requirements based on customer collaboration over contract negotiation (Wrike, 2022a; Wrike, 2022b)	Customer co-creation is the process of collaborating with customers in a problem-solving or ideation process to get fresh ideas, solutions, or customer input (Beltagui et al., 2016; De Keyser et al., 2020). The highest engagement can only be achieved if the customer comes already having a good experience (Lemon & Verhoef, 2016)	An open culture of collaboration is essential when facing a complex challenge. Collaboration refers to interactive and collective thinking, teamwork, and networked design collaboration (Liedka & Salzman, 2016; Allio, 2014; Lee, Ostwald & Gu, 2020; etc.)

ing and interdisciplinary teams. Furthermore, they value reflective practice and the concepts of testing and improving through iteration (Dobrigkeit, Wilson & Nicolai, 2018). Nevertheless, neither design thinking nor Agile practices provide support for tracking growth and scaling a service after its delivery.

Design thinking approach and customer experience management. CEM seeks to facilitate an understanding of the customer experience and provide valuable insights to support the service design process (Teixeira et al., 2012, p. 11). Design thinking can be used to create a positive customer experience, especially when the challenge addressed is not clearly defined. Thus, it is important to incorporate design thinking into the CEM early enough in the process.

Customer experience management and Agile practices. Agile practices may be applied in the redesign and digitalisation of public services, especially in the initial requirement analysis based on customer experience modelling (Mergel et al., 2021). At the heart of the Agile application in service design development is the recurring interaction between the design of customer experience and service features, as well as technology selection. Accordingly, Agile methods enable organisations to design services that are valued by the customers.

The integration of the design thinking approach and Agile practices help create customer-centric solu-

tions for the customer experience management framework as design thinking helps understand what to do (identifying problems and challenges and generating ideas of innovative solutions), while Scrum gives the autonomy in deciding how to do it (within a creativity enabling environment).

CONCLUSIONS

In this paper, public services are defined as the services that the State commits to aiming to (1) create public value and (2) ensure that the public interest is guaranteed for achieving the objectives of solidarity and equality in society. A holistic approach to public services emphasises them as a process; however, the modern approach highlights the importance of value creation for the customer (society) rather than the process. The concept of public services emphasises the provision of welfare achieved by adding customer value without reducing social value. In this context, the junction between public value and customer value becomes more pronounced. This is what public service logic means.

VUCA clearly reflects the characteristics of the emerging world through the aspects of Volatility, Uncertainty, Complexity, and Ambiguity, as well as by responses to performing in such an environment

of Vision, Understanding, Courage, Clarity, Adaptability, and Agility. The VUCA environment strategically challenges organisations and individuals to achieve success. Meanwhile, empathetic leadership enables the fastest response and shortest resolution times to respond to the change directly with autonomous teams or empowered individuals to drive value co-creation with customers in the public or business domain.

The business model foundation is an approach to organisational performance and its relationship with the customer that demonstrates the integration of customer value creation (as an organisation's overall orientation) and internal processes. Public organisations lack customer-centricity (e.g., over time and between segments) and managerial flexibility (due to funding and regulatory constraints). Public service logic, in contrast to service-dominant logic, is specific due to differences in the specificities of the services, e.g., the value to the customer and the society gained from limited resources and framed by formal requirements of legitimacy.

The value to the customer lies not in what the organisation does (in other words, not an inward-looking approach) but in how the customer creates value through their experience. The organisation creates the preconditions for creating customer value. Therefore, customer involvement in the design of the services is valuable regarding the final result. Customer experience management is based on a multi-disciplinary approach that emerges due to the diverse information from many sources about customer experiences.

Accordingly, it reveals the holistic nature of the customer experience. Customer experience management is a purposeful, organised, and structured (cheaper and faster) move of an organisation towards value creation for the customer. This increases the efficiency (cheap and fast) and effectiveness (responds to need) of services, forms satisfaction and earns trust.

Agile values address all VUCA world operating environment aspects and perceptions on how to deal with VUCA challenges. Considering that values unite people for success and create a robust background to take tough decisions, such as during dilemmas, Agile practices sound promising, performing in the VUCA environment. Nevertheless, they were historically based on software development, not business management.

With its strong focus on the research of real customer experiences, the design thinking approach is particularly valuable in addressing the complex societal challenges public organisations are facing. The design thinking approach provides a new approach to public services, helps listen to customer experiences, uses visualisations, prototypes, and tests them with real customers, and follows learning by doing.

Each managerial method analyses and contributes in its unique way to improving public services management in a VUCA environment. Customer experience management provides a common vision that includes a values-based strategy and leads to a mission. A good understanding of the general environment and specific situations enables clarity in management decision-making. While customer experience management leads to understanding an organisation's capabilities and strategies, Agile practices enable an understanding of organisational structures and service development processes. Agile practices provide tactical flexibility as adaptability towards changing environments without changing strategic course. The design thinking approach ensures an in-depth understanding of customers.

As the organisation's performance results from synergistic interactions of many structures and processes, it requires a unified approach by integrating various managerial methods, e.g., both Agile practices and design thinking approach include principles, methods, and toolkits. If cleverly applied together, both can help teams generate solutions that bring new value to customers, thereby improving the customer experience management framework. Design thinking approach and Agile together can create a customer-centric environment focused on fast, frequent iterations for optimal results. Although the design thinking approach and Scrum (as an Agile practice) seem different initially, the analysis reveals several similarities (e.g., both recognise early successes and failures, iterative processes, and self-organising and interdisciplinary teams). Therefore, the design thinking approach and Scrum can supplement each other when the design thinking approach helps generate a customer-centric solution, and Scrum helps realise that solution.

Future research and challenges for practitioners:
- Although the design thinking approach and Agile practices are creative and innovative, they lack a solid theoretical foundation as managerial tools in services science;
- The general concepts developed in public governance science (such as public service logic) do not lead to practical application tools or methods. In this way, scientific knowledge does not signifi-

cantly change management practices and does not provide an opportunity to develop public management practices;

- In the case of public services, there is a need for adaptation and redesign of general management approaches, frameworks, and practices according to the characteristics of public services. In one case, these may be systemic aspects that apply to many concepts, while in others, they are concept-level issues;

- Integration of different management frameworks and practices into a common unified whole at an organisational level is challenging too. As the need for customers to be at the heart of the business process in organisations arises, agile internal processes are required. Thus, methodological issues for the integration of managerial concepts arise.

As regards the research limitations, the project is still being implemented, so the article only provides theoretical insights into managerial approaches, frameworks and practices of BM application in public services. In the future, the benefits of using the referral method in organisations that administer and provide public services need to be investigated. It will be the next step while implementing this project.

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