Initial framework of active ownership of a public e-service within transformational government

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Abstract

E-government success factors and challenges are often examined from the perspective of an external observer who concludes on the current state of affairs. The success of e-services, however, needs to be actively developed. In order to make the e-government success influencers more actionable, we propose a framework of active ownership of a public e-service. The framework identifies "digitalization leadership within a public organization" and "private organization within a public-private partnership" as an active owner and a co-owner of a public e-service. It further specifies more than twenty tasks and a number of qualities of an active owner. The framework is grounded in a literature study. As the research progresses, we expect the framework to strengthen its positions as a reference point and practical guidelines for developing thriving e-services.

Keywords

digital government, e-government leadership, digital transformation, e-governance, digitalization leadership, e-services, e-service management, digital champions

1. Introduction

The research on e-government success factors and challenges is often carried out from the point of view of an external observer who analyzes and documents the current state of affairs. The domination of the external-observer perspective itself may be a barrier to success because mere analysis and documentation are not enough to make an e-government engagement successful. In order *to make the e-government success influencers more actionable*, this research introduces the concept of active ownership of a public e-service. By "ownership" we mean the state of being in charge of the e-service or being a motivated stakeholder. By "active" we mean being committed to the success of the e-service and acting accordingly, as opposed to merely filling the vacancy of a public administrator. The active ownership is linked to qualities and tasks equivalent to more actionable "success factors and challenges".

The *problem that the active ownership seeks to address* is "whomever it may concern" e-services; most likely they will concern no one. If the organization does not know how to approach digital transformation, has no interest in doing digital transformation, and has no vision where to go, then digital transformation is likely to be limited to digitization of data [24][56].

Olsson and Berg-Johansen [35] differentiate between project owner, who defines the scope and goals of a governmental project, and project manager, who implements the project. In practice, however, the project owner is often a senior official who offers high-level support to the project manager and approves project funding, but is ultimately not involved in the benefits of the project's outcomes. Neither is the project manager.

"Not involved in the project's outcomes" made us separate active ownership of a public e-service from the ownership of the associated e-government project. Our previous literature review [52] explored active ownership of a public e-service in five dimensions: e-government success factors, e-

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government acceptance barriers, public-private partnership for e-government, stakeholders in e-government implementation, and adoption of e-services by citizens. The study had explicated a number of dimension-specific themes that contribute to the success of and challenges around e-services.

The *novelty* of this paper is the *framework of active ownership* of a public e-service that aggregates and gives structure to the previous literature-review results [52]. The framework *contributes* to the body of knowledge within public digital transformation by selecting and arranging actionable managerial aspects of e-service success.

2. Method

The source publication [52] had already laid the foundation of the framework of active ownership of a public e-service. At the moment of writing this paper we already knew that the literature review had outlined two actors for the role of an active owner, as well as had discussed the qualities and, most importantly, the tasks of an active owner. Now, we applied deductive thematic analysis to the source publication [52], identified statements that suggested qualities or tasks of either of the two actors, identified statements that motivated our research, grouped and re-grouped the statements, formulated and re-formulated the proposed qualities and tasks.

Section 3 summarizes the framework, and the subsequent Section 4 motivates the qualities and tasks by the literature findings [52]. Some additional literature research was performed while writing the motivations.

3. Framework of active ownership of a public e-service

3.1. Goal of the active ownership

The underpinning rationale of the active ownership assumes that a public e-service has better chances to thrive – to be more usable and to be more used – if the e-service has an *active owner*. The active ownership implies continuous engagement of the active owner into the success of the e-service that lasts throughout the lifecycle of the e-service, from the vision to continuous improvement.

3.2. Active ownership and active owner

A public e-service enjoys the benefit of active ownership if it has a clearly designated active owner who is responsible for or engaged in developing, managing, and promoting the e-service. In this context, the tasks associated with the ownership are those of the owner; the ownership is something actively carried out by a person or a small group of people, or an organization. Besides performing the tasks, an active owner possesses certain qualities that contribute to successful execution of the tasks. These qualities may include leadership, decision-making skills, and commitment to ensure that the e-service meets its goals. In other words, active ownership is not just about having an assigned person or role – it requires active engagement and responsibility in practice.

3.3. Entities of the framework

The framework of active ownership of a public e-service comprises three entities: (i) actors who can be an active owner, (ii) qualities, and (iii) tasks of an active owner. Currently, the framework recognizes two actors: (a) the digitalization leader – a person or a small group of people – within the public organization where the e-service is being deployed, and (b) a private organization within a public-private partnership.

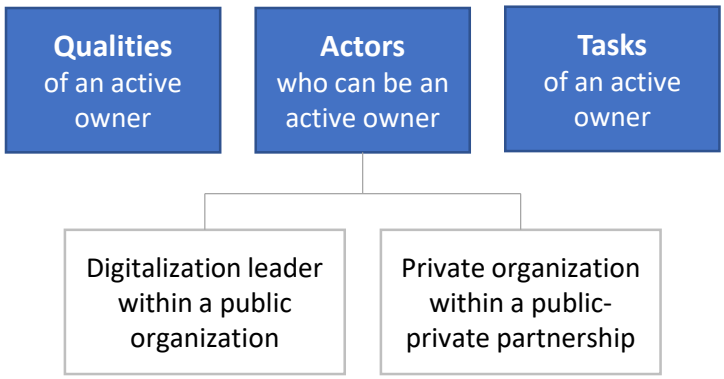

Figure 1: Entities of the framework of active ownership of a public e-service with specified actors.

3.4. Actors, their qualities and tasks

The actor "digitalization leader within the public organization" is a person, usually with a small team of engaged co-workers, having the qualities and tasks listed in Table 1.

"Public-private partnership in the field of ICT", "innovative e-government services", and "competition on the ICT market" are three of the 55 Ziemba's et al. [63] e-government success factors that signify collaboration between a public organization and the actor "private organization within a public-private partnership". By the private organization we mean a supplier of the e-service's technical solution or a supplier of a privately-owned software component (such as e-identification), or an equivalent vendor that stands by the side of the e-service continuously, not for a short-term consultancy assignment.

Two main reasons why public organizations outsource their IT are lack of inhouse expertise and cost reduction [13]. Furthermore, innovation enters IT services often through outsourcing [18]. Success of the customer is good for business [14][39], therefore the private IT vendor is interested in continuous success of the public e-service that the vendor is involved with. Hence, the public and the private partners complement each other as an active owner and an active co-owner of the e-service. The qualities and tasks of the actor "private organization within a public-private partnership" are listed in Table 2.

Citizens are not considered for the role of an active owner of a public e-service. Although citizens are an important stakeholder and the end-user of the e-service, they are not in charge of the e-service.

3.5. Society-level tasks of public digital transformation

Public e-services work in the context of the entire society, and that context can enhance or hinder the success of the e-services. Table 3 lists some society-level tasks of digital transformation relevant for the framework of active ownership of a public e-service. Someone has to lobby those tasks, but that someone is neither of the two actors within the framework.

4. Motivation of the qualities and tasks

This section links the qualities and tasks listed in Table 1, Table 2, and Table 3 to the literature sources, according to the method outlined in Section 2.

Table 1
Qualities and tasks of the actor "digitalization leader within a public organization"

Qualities	Tasks
Q1.1 Charismatic leader with strong "people's skills" – a natural influencer who can motivate, inspire, and rally people	***Vision***
Q1.2 Strategic leadership skills enable long-term planning, policy development, and high-level decision-making for digital transformation	T1.1 Create the vision of digital transformation as a road towards public service delivery
Q1.3 Informal leader, an internal digitalization champion without a formal title – a passionate, hands-on individual within the organization who proactively pushes for e-service adoption and modernization, even without being officially assigned the role	T1.2 Creates awareness of the value that ICT adds to the public service as opposed to simply promoting ICT itself
Q1.4 Courageous ice-breaker who challenges norms, a forward-thinking individual who is not afraid to question outdated administrative rules, political resistance, and slow bureaucratic processes	***Political support***
Q1.5 Leader with strong management skills within the organization – a well-organized leader who can coordinate teams, budgets, and implementation processes for digitalization projects	T1.3 Acquire political support to facilitate the e-service development and adoption; gain support from government officials and policymakers
Q1.6 Business-IT alignment skills require deep knowledge of the business processes and the operational needs at the organization on one side, and ICT and the digital enterprise architecture on the other side – the technical requirements for digitalization, the design, integration, and functionality of e-service platforms used within the organization	T1.4 Maintain contacts with e-service lobby from the society, e.g., business leaders, citizens who form constituency pressure, politicians
	Support within the public organization
	T1.5 Acquire top management support for e-service development and adoption
	T1.6 Acquire support from civil servants who do the daily job
	Changes within the public organization
	T1.7 Break established routines, resistance to change
	T1.8 Initiate and manage changes in the organization to facilitate the e-service development and adoption, facilitate digital transformation
	T1.9 Bridge departmental silos within the public organization
	T1.10 Recruit skilled workforce for developing e-services
	Collaborations
	T1.11 Seek and maintain collaboration with public and private stakeholders
	Attractive public e-service
	T1.12 Make sure that the e-service is perceived useful and easy to use by the citizens
	T1.13 Design the e-service from the citizen's perspective, not from the legal expert's perspective. Use concepts and processes that citizens can understand and follow, despite the laws and regulations being complex and difficult for citizens to comprehend
	T1.14 Market the e-service towards citizens

Table 2
Qualities and tasks of the actor "private organization within a public-private partnership"

Qualities	Tasks
Q2.1 Private organization is more innovation-driven and risk-taking than the public partner that operates the e-service is	***Innovation***
	T2.1 Take the risks, create innovative solutions, compete on the market
	T2.2 Promote the e-service solution, which facilitates adoption of the e-service
	Organizational culture
	T2.3 Disrupt bureaucracy and governmental inertia within the public-private partnership, help the public organization embrace changes and eventually the digital transformation

Table 3
Society-level tasks of public digital transformation

Tasks
T3.1 Build citizens' trust in public organizations that provide e-services • Trust in how personal information will be used • Trust in data and privacy protection • Trust in the delivery channel: will anyone actually respond to the citizen's application?
T3.2 Integrate e-services horizontally across organization borders, build a one-stop shop that solves more complex use cases, which facilitates adoption of e-services by citizens
T3.3 Lobby simplification of laws and regulations for digitalization
T3.4 Acquire nation-wide, easy to use, widely accepted e-authentication service (e-id)

4.1. Qualities of the actor "digitalization leader within the public organization"

Q1.1 Charismatic leader with strong "people's skills" – a natural influencer who can motivate, inspire, and rally people. Ziemba's et al. [63] e-government success factors "ICT leadership and visionaries in government units" and "top management support" should not be taken for granted; the first one comes as a valuable skill and the second one comes as a result of that skill. Kamal et al. [22] names "project champions" as vital in effectively leading technology-integration projects. E-government success stories in India have often been associated with charismatic leaders [2]. Neufeld et al. [32] integrate the Unified Theory of Acceptance and Use of Technology (UTAUT) with charismatic leadership theory, and conclude that a charismatic project champion increases acceptance of ICT at the organization. Q1.1 apparently supports tasks T1.3, T1.4, T1.5, T1.6, T1.9, T1.11, T1.14.

Q1.2 Strategic leadership skills enable long-term planning, policy development, and high-level decision-making for digital transformation. Antonopoulou et al. [3] lists strategic leadership as one the three components of digital leadership, the other two being business knowledge and ICT knowledge. The earlier mentioned "ICT leadership and visionaries in government units" is a closely related e-government success factor [63]. Q1.2 apparently supports tasks T1.1, T1.2, T1.3, T1.5.

Q1.3 Informal leader, an internal digitalization champion without a formal title – a passionate, hands-on individual within the organization who proactively pushes for e-service adoption and modernization, even without being officially assigned the role. Engaged co-workers, with the drive and appreciation for how technology transforms service delivery, make people involved [8]. Q1.3 apparently supports tasks T1.6, T1.7, T1.12.

Q1.4 Courageous ice-breaker who challenges norms, a forward-thinking individual who is not afraid to question outdated administrative rules, political resistance, and slow bureaucratic processes. Public

sector is more likely to succeed with digital transformation if the managers challenge the administrative norms and political agenda [6], and institutional cultural barriers [61]. Q1.4 apparently supports tasks T1.1, T1.2, T1.7, T1.13.

Q1.5 Leader with strong management skills within the organization – a well-organized leader who can coordinate teams, budgets, and implementation processes for digitalization projects. Charisma and vision of the bright future alone are not enough to get things done. The defined roles of Chief Information Officer do not always match the skills of the people in these roles; in particular, there is lack of "people's skills", as well as lack of cross-competence between digital technology, strategic leadership, and change management [6][61]. In public sector, managers are not seen as leaders but rather as traditional governmental administrators who are regulated by rules and institutional norms. The managers are often recruited and promoted according to their professional merits rather than leadership skills [6]. Q1.5 apparently supports tasks T1.7, T1.8, T1.9, T1.10, T1.11, but is useful also in networking and lobbying tasks.

Q1.6 Business-IT alignment skills require deep knowledge of the business processes and the operational needs at the organization on one side, and ICT and the digital enterprise architecture on the other side – the technical requirements for digitalization, the design, integration, and functionality of e-service platforms used within the organization [3][6][30][61]. Q1.6 apparently supports tasks T1.1, T1.2, T1.5, T1.6, T1.8, T1.10.

The above set of qualities is in high demand on the job market, therefore lower-paid public-sector vacancies must compete with better-paid private-sector vacancies. It is difficult to attract experts from the private sector [61]. Furthermore, considering the practice to recruit and promote public-sector managers disregarding their leadership skills and cross-competencies [6][61], the vacancies of active owners of public e-services do not seem well-staffed.

4.2. Tasks of the actor "digitalization leader within the public organization"

T1.1 Create the vision of digital transformation as a road towards public service delivery. Important during the early stage of the digitalization engagement. If the organization does not know how to approach digital transformation, has no interest in doing digital transformation, and has no vision where to go, then digital transformation is likely to be limited to digitization of data [24][56].

T1.2 Creates awareness of the value that ICT adds to the public service as opposed to simply promoting ICT itself [49][61]. Awareness of the return on investment may be problematic during the early stage of the digitalization engagement.

T1.3 Acquire political support to facilitate the e-service development and adoption; gain support from government officials and policymakers. For quite some time, implementation of e-government has been focused of technical and operational matters, whereas non-technical – institutional and political – barriers are the ones largely responsible for poor e-government adoption [48]. Elected politicians may or may not set e-government as a political priority [11][34]; politicians can make a political career on new and successful innovations [53]. If e-government is among political priorities, it will be treated as a law or regulation; if not, public organizations will rely on existing laws and regulations [15]. "The leadership provides the role of reformers who will help the e-governance initiatives sail through. The leadership may as well come from the private sector […] it is the politics of e-governance initiatives that probably hold the key" [16].

T1.4 Maintain contacts with e-service lobby from the society, e.g., business leaders, citizens who form constituency pressure, politicians. In the United States, non-governmental stakeholders – business leaders, citizens who see the success of ICT in business and develop constituency pressure, elected officials and interest groups who speak for their constituents – may have more e-service pro-adoption influence on local governments than governmental stakeholders have [58].

T1.5 Acquire top management support for e-service development and adoption. Institutional barriers are more often than technical challenges responsible for poor e-government adoption [48], therefore top management support is the top priority [63]. Top management ensures an integrated approach to e-government where departmental silos have to co-operate [44]: "Now we have a board of

directors who actually worked together, regardless of our differences, and thus are prepared for the fact that the struggles between the silos will have to be broken down."

T1.6 Acquire support from civil servants who do the daily job. Ideally, public managers and employees are driven by professional values and ambitions that prompt them to improve the services they are responsible for [53]. Nevertheless, digital transformation requires a change in the culture of the employees [56]. Convincing stories may help change the employees' beliefs and values, and facilitate adoption of new routines with the use of ICT [29]. There are three types of stories that digitalization leadership may use to engage civil servants in digital transformation [33]. Aspirational narrative stresses the many opportunities that the new technology opens, it embodies expectations from digital transformation. Following, setback narrative excuses failures as an intrinsic part of digital transformation, and even sees the failures as an advantage. Finally, persistence narrative deals with prior expectations not being met, it recalibrates the expectations and encourages patience.

T1.7 Break established routines, resistance to change. Unlike private organizations, public organizations have little competition [53], and the drive to change may be weaker than resistance to change. "It's just hard to break out of the way, the norms and cycles that 'we've been done things for so long'. And quite frankly, most folks, especially when you are at a political level, aren't incentivized to do that" [61]. Public managers and elected politicians may be risk-averse because failures may damage their careers; public services are quite complex, multifunctional, based on laws and regulations, and difficult to change without causing problems [53].

Government employees resist adopting e-services because they enjoy the security and comfort of established work routines [15]. In countries with poor e-government tradition, civil servants are likely to be pessimistic about and even frightened by digital transformation [47]. Some senior officers prefer working with legacy systems; officers close to their retirement are skeptical about digital strategies altogether [47].

T1.8 Initiate and manage changes in the organization to facilitate the e-service development and adoption, facilitate digital transformation. ICT alone does not ensure digital transformation; digital transformation requires changes in the organizational structure, the roles, responsibilities, and culture of employees [56]: "You can build a fancy front office, but if the back office lags behind this is of no use. The back office needs to be re-organised to accomplish the front office's goals."

T1.9 *Bridge departmental silos within the public organization.* The silos can cooperate by data, information, and knowledge sharing [40]. On the managerial side, three mechanisms may help: encouraging informal coordination, better monitoring of the implementation of political directives, and remedial policy-making where the failure is addressed [50].

T1.10 Recruit skilled workforce for developing e-services. Hiring people with appropriate skills should not be underestimated, because "it's very hard to give people […] new technical skills once they're in government" [61]. Governments tend to hire wrong people with wrong skill sets for working with digital tools in government, largely because of failure to understand the skills needed for the job opening, and inflexibility around hiring processes and rules [61].

T1.11 Seek and maintain collaboration with public and private stakeholders. The bureaucratic nature of governmental organizations is characterized by rigidity, hierarchy, routinization, and risk aversion [54], which are safety measures for preserving accountability and democratic values [7], but are also responsible for the difficulty to embrace innovation and e-services [58]. The innovation tasks in Table 2 are a good reason why public organizations should seek public-private partnership.

Collaboration between public organizations is motivated by the society-level tasks in Table 3.

While taking proper care of the e-service stakeholders should lead to success [27][36], a governmental project may be misused by a stakeholder to secure the stakeholder's power and political benefits instead of working for a common goal [62].

Acceptance of public-private partnership is country-specific. In Germany, private sector is not normally involved in developing public e-services. Instead, resource-scarce public organizations adopt solutions that other public organizations have already created [26].

T1.12 Make sure that the e-service is perceived useful and easy to use by the citizens. "Accessibility and inclusivity" and "easy to use" are two key features of public e-services according to the end-

users [46]. Technology Acceptance Model (TAM) [10] states that a person will use a software system, and how the person will use the system, depending on how the person perceives usefulness of the system and ease of use of the system. TAM is the most widely utilized theory to explore e-government applications [42], which signals the importance of perceived usefulness and ease of use for adoption of public e-services by citizens.

In Germany, only 7% of the citizens had made use of their eID in 2021 [41]. There are many reasons why the eID is not popular. Among them, the eID is difficult to understand and use, therefore public organizations prefer other means of authentication, therefore there are few public e-services that require the eID. Because the eID is rarely used, citizens never learn how to use it [26].

Users of public services are more actively engaged in raising demands, providing critical feedback, and co-producing solutions than customers in the private sector are [53], which helps develop citizen-centered public e-services.

T1.13 Design the e-service from the citizen's perspective, not from the legal expert's perspective. Use concepts and processes that citizens can understand and follow, despite the laws and regulations being complex and difficult for citizens to comprehend. It is not easy to "translate our specialist know-how that we have in the administrations, […] into the language that is close to that of the citizens" [26]. German citizens prefer personal consultation when they contact public services [11], which signals the citizens' non-understanding of the regulations.

T1.14 Market the e-service towards citizens. Limited communication and marketing of e-services are among known barriers that make e-government initiatives fail [23]. Furthermore, citizens also need those convincing stories [29], which were mentioned in T1.6, in order to change their beliefs and values, and to adopt new routines for accessing public services.

4.3. Qualities of the actor "private organization within a public-private partnership"

Q2.1 Private organization is more innovation-driven and risk-taking than the public partner that operates the e-service is. Public organizations are characterized by rigidity, hierarchy, routinization, and risk aversion, which impede innovation (see T1.11). Private organizations, however, must compete for the right to be a supplier to a public service, and useful innovation makes the supplier stand out among the competitors. A moderate amount of competition stimulates innovation [21][38], whereas "excessive competition exacerbates uncertainties and uses up limited resources. It also deteriorates internal or external collaboration" [21].

4.4. Tasks of the actor "private organization within a public-private partnership"

The below tasks illustrate how the private partner complements the public partner, the former being an *active co-owner* of a public e-service.

T2.1 Take the risks, create innovative solutions, compete on the market. See Q2.1 regarding the competition and innovation.

T2.2 Promote the e-service solution, which facilitates adoption of the e-service. One reason of non-adoption of the eID in Germany is that German public organizations do not feel responsible for the success of the eID, and they do not know anyone who is responsible [26]: "We have no distribution. We have the best product with all the background information, but we don't have a single salesperson, neither at federal, state or municipal level."

Given that the e-service has the necessary political support, the private partner can support the "digitalization leader within the public organization" with entrepreneurial mindset, as well as task management and task execution skills. "The leadership may as well come from the private sector wherein the private partners may drive the whole initiative for the government" [16].

T2.3 Disrupt bureaucracy and governmental inertia within the public-private partnership, help the public organization embrace changes and eventually the digital transformation. The entrepreneurial

mindset and management skills (see T2.2), the "private sector thinking" disrupts governmental inertia and routine dependency [61], which eventually helps to accomplish T1.7 and T1.8.

An example of a successful public-private partnership is BankID in Sweden [17]. BankID, owned by a consortium of banks, is the de facto electronic authentication service for both public and private e-services. In 2023, 99.4% of the Swedish population between 18 and 67 years of age had a BankID [4]. Public sector accounted for 5% of the use, signing mobile payments accounted for 18%, banking and finance accounted for 51%, and other private sector accounted for 26% [4]. The "other private sector" shows that many companies and their customers regard the widely-accepted BankID as more convenient than the traditional username-password authentication.

4.5. Society-level tasks of public digital transformation

T3.1 Build citizens' trust in public organizations that provide e-services. Later versions of TAM have added trust as one of the technology acceptance factors [28]. From another study, "transparency, openness and trustworthiness" is one of the three most end-user appreciated features of a public e-service, the other two being "accessibility and inclusivity" and "easy to use" [46].

Trust in e-service provider is more important than trust in Internet as the e-service communication medium [5][31]. Skepticism that the government gathers information about citizens through various channels, and "no one knows" how the data is being used, can discourage people from using public e-services [1]. Furthermore, trust in data and privacy protection, specifically the extent to which citizens' data is safeguarded against unauthorized access, plays a crucial role [1].

"Trust in the specific e-government service" and "problem responsiveness" [37] are another aspect of trust: will anyone actually receive the submitted application and proceed with the case? Sri Lanka, for example, has a strong tradition of face-to-face interaction between citizens and local government in overcrowded receptions [51], and the tradition is not likely to change in the nearest future; trust in e-government may be undermined by the technology-created spatial and temporal distance between a citizen and the government [59]. Furthermore, while computer-literate citizens may prefer digital channels for getting information, solving a problem may be easier face-to-face [43], and so may be getting personal consultation [11].

T3.2 Integrate e-services horizontally across organization borders, build a one-stop shop that solves more complex use cases, which facilitates adoption of e-services by citizens. The concept of horizontal integration across public organizations and a one-stop-shop e-government is not new [25], but we have not seen it among any e-government success factors. We argue that public e-services will become increasingly popular when they start solving complex issues that require automatic co-operation of e-services from different public organizations. Despite bureaucratic rivalries and unrealistic performance expectations being a barrier [20], there are successful e-service integration cases having a common data exchange layer, such as X-Roads, originally Estonian, today used in several countries [45].

T3.3 Lobby simplification of laws and regulations for digitalization. Complexity of the legal system is one reason why civil servants in Germany prefer off-line service delivery channels [26]: "The simpler and clearer the law is formulated, the easier it is to digitize it. […] at the federal level as well as at the state and local level, the law simply has to be simplified so that it can be digitalized throughout." European Commission's "Better Regulation Guidelines" have the REFIT chapter that aims to "simplify laws, streamline procedures and eliminate unnecessary burdens without undermining the objectives and benefits of the policy in question, e.g. by means of looking for digital solutions" [12].

T3.4 Acquire nation-wide, easy to use, widely accepted e-authentication service (e-id). Public e-services need robust and easy-to-use e-authentication for personalized service without face-to-face interaction. Horizontal e-service integration also requires a reliable digital identity.

5. The Western bias

Currently, the framework of active ownership of a public e-service has a Western bias. While low- and middle-income non-Western countries are well-represented in research on e-government success factors and barriers, public-private partnership and stakeholder analysis in e-government settings (two of the five dimensions of the literature study [52] that the framework is built upon) are dominated by the Western perspective. Technology Acceptance Model (TAM) [10] was developed in 1980-ies when technology for masses was mostly a Western privilege (adoption of e-services by citizens is another dimension of the literature study [52]). Later, Unified Theory of Acceptance and Use of Technology (UTAUT) [57] enhanced TAM by social influence as a technology adoption factor, thus diluting the default assumption of the Western context.

Section 4.5 on society-level tasks discusses matters beyond insufficient ICT infrastructure and digital divide in the society, having high-income countries in mind.

Public digital transformation focuses on citizen-centric, cost-effective, and efficient public services [60] that reflect liberal democracy as the foundation of the relationship between the state and the citizens. Liberal democracy is not universally accepted across the countries, and may be seen as a tool to spread Western influence [9]. As long as we view citizen-centricity and efficiency of public services through the lens of liberal democracy, public digital transformation has a Western bias.

6. Conclusions and future research

The underpinning rationale of active ownership of a public e-service assumes that the e-service has better chances to thrive – to be more usable and to be more used – if the e-service has an active owner that is committed to the success of the e-service and acts on behalf of the e-service. The framework of active ownership of a public e-service stems from a subset of e-government success factors, barriers, and challenges. Nevertheless, the framework differs from the success influencers in terms of having more managerial focus and being more actionable.

Active ownership of a public e-service is related to the role of an e-government project manager. Nevertheless, the active ownership has a longer timeline: it stands by the e-service throughout the lifecycle of the e-service, from the vision to continuous improvement. Furthermore, the active ownership has a broader scope of tasks than a project manager has.

The *theoretical contribution* of the framework is an enrichment of the body of descriptive e-government success influencers (they analyze and document the state of affairs) by a prescriptive framework around desirable activities that facilitate the success of a public e-service.

For *practitioners*, the framework could be useful as a checklist (i) to assess whether a public e-service gets all the variety of managerial attentions it needs, as well as (ii) to assess the merits of job candidates during recruitment process. Having the right person in the right position leads to better e-services for citizens and lower costs, since resources are not wasted on hiring mistakes.

We regard this framework as "initial" because it originates from a literature study [52]. The necessary next step during the *future research* is empirical validation of the framework.

In order to make the framework more useful for e-service health check, further research on operationalization of the framework is needed – specifically, which dimensions of the active ownership can be measured, what measurement methods and units should be applied.

The concepts of active ownership and active owner of a public e-service have been coined by this research. Meanwhile, there exists a parallel concept of digitalization champions. While writing this paper, we concluded that a comparative study between our framework and the role of digitalization champion would be welcome (there even exists a framework for nurturing champions of digital innovation [19]).

The research on e-government success influencers typically addresses e-service development projects. There is little research on the life of an e-service after the initiation project is over and the e-service is operational. Because our framework has the ambition to address the entire lifecycle of

an e-service, the framework needs a study that addresses maintenance and enhancement of the e-service during its steady state.

Tsai and Zdravkovic [55] have proposed roles and responsibilities in a digital business ecosystem, where almost every responsibility overlaps with one or several qualities and tasks in our framework. The only exception is responsibilities of the end user, who would be citizens in the context of the framework. While citizens are an e-service stakeholder, they are not in charge of the e-service. Although citizens are recipients of the e-services, our framework does not charge the citizens with any responsibilities. Both the ecosystem and the framework were developed independently, therefore we regard the overlap as a token of mutual endorsement.

Declaration on Generative AI

Generative AI has been used to re-phrase individual sentences. The author reviewed and edited the content as needed and takes full responsibility for the publication's content.

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