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FROM USERS TO NON-USERS: WHY IMPROVING SATISFACTION OF COMPETENT PUBLIC E-SERVICE USERS MATTERS

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Abstract. Although many public services are available online, actual citizen uptake remains limited and uneven across social groups. This study examines continued public e-service use among institutionally more competent users in Latvia, using survey data from 1,059 respondents. The analysis applies descriptive statistics, reliability analysis, and a TCT-inspired framework combining correlation analysis and structural equation modelling to test relationships among perceived usefulness (PU), perceived ease of use (PEU), service outcome success (SO), satisfaction (SQ), frequency of use (UF), and number of services used (UN). The results show that PU and PEU are strong predictors of SQ, whereas SQ has only a weak association with UF and does not significantly explain variation in UN. A counterintuitive finding is that SO does not significantly predict either SQ or UF, suggesting that, for competent users, usage may be shaped more by administrative necessity than by episodic service outcomes. Descriptively, satisfaction with concrete service experiences was moderate. Although satisfaction is not a strong behavioural driver within this group, increases in satisfaction may still matter for wider diffusion, as competent users can act as credible opinion leaders whose experiences influence broader uptake of public e-services.

Keywords: public e-services, non-users, competent users, satisfaction, user experience, continuance, diffusion, network externalities.

JEL Classification: H83, O33, L86.

1. Introduction

The rapid development of new technologies and the widespread diffusion of mobile devices have created significant potential to increase the efficiency of public-sector operations and improve the public sector's interaction with society (The Organisation for Economic Co-operation and Development, 2020). One way to achieve such efficiency gains is to transition public service delivery to online channels, thereby reducing the amount of manual work and, consequently, the resources required to provide these services. Digital channels do or should enable citizens to receive services remotely, anytime and anywhere, avoiding in-person visits to public institutions and the associated time costs and and, if properly designed, potentially improve interactions between the citizens and the state.

In the European Union, this technological opportunity is matched by ambitious policy commitments. The Digital Decade Policy Programme 2030 (European Parliament & the Council of the European Union, 2022) sets EU-level targets for the digitalisation of public services, including that key public services should be fully accessible online by 2030 and that all citizens should be able to use electronic identification (eID) for secure access by that time. Efforts to achieve these aims have led to an EU average of 83.32% public services available to citizens (including cross-border) (DESI data at the end of 2024). Latvia ranks fifth in the country ranking with 93.48% of public services available in the digital environment.

However, the targeted increase of the availability of digital public services does not automatically translate into widespread and meaningful use of them by the citizens. There is a widely recognised gap between digital availability and actual use of public e-services (Csatlós, 2024; Hyytinen et al., 2022).

Contrary to the clear data available in the DESI tool regarding the share of public services provided as e-services, there are no unified statistics on the percentage of the population that utilizes these e-services. DESI e-government users indicator covers any use of government websites or mobile apps, including information search,

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and does not distinguish actual service use. In this study, following Hyytinen et al. (2022), a public e-service is understood as a digitally delivered public administration service that enables users to complete administrative actions remotely with electronic identification. DESI does not show how many citizens use public e-services as defined in our study.

In Latvia, the closest available measure is the share of residents aged 16–74 who used eID for public services during the previous year. Based on the authors' calculations from Central Statistical Office data, this share was 66.9% in 2025. Data are not available for those aged 75 and over.

Studies consistently show that where digital public service provision is already relatively mature, further adoption in society depends not only on technical availability, but also on citizens' willingness to use public e-services (United Nations, 2024). Beyond capability constraints, some citizens deliberately choose not to use public e-services and prefer offline channels – often due to status quo preferences and a perceived need for personal consultation (Distel, 2020).

Consequently, there is a pressing need to better understand the mechanisms related to the utilisation of public e-services to design adequate measures to promote their further diffusion in society. Underutilisation weakens the return on public investment and limits productivity gains from public process redesign. It also partially excludes some groups of society from effective interactions with government. Some studies suggest that non adopters of e-services come from marginalized groups of society (seniors, socially disadvantaged persons, people with disabilities) (Hyytinen et al., 2022; Pethig et al., 2021). This is only partly true, as a much larger share of citizens than only members of marginalized groups still do not use public e-services (as for example in case of Latvia more than 33% of people aged 16–74).

This paper builds on the idea that social influence can be an effective mechanism to encourage uptake – an assumption consistent with technology-acceptance research where social influence affects intentions and behaviour (Venkatesh et al., 2012), and with economic perspectives on positive network externalities where the perceived value of a service increases as more people use it and share experience (Hyytinen et al., 2022; Katz & Shapiro, 1985).

Using evidence from a large-scale survey conducted in late 2024 ($n > 1000$) in Latvia, the authors focus on a specific group of public e-service users categorized as institutionally more competent (e.g., having higher education and professional familiarity with public-sector processes) public e-services users. The rationale for selecting this group for analysis is twofold: (1) these users can be expected to have comparatively strong capability to evaluate service quality and to articulate credible usage narratives; and (2) precisely because of this credibility, their opinions may disproportionately shape the social diffusion of public e-services to non-users.

The aim of the study is to explain continued public e-service use among institutionally more competent users in Latvia by examining their evaluation of their public e-service experiences and the relationships between satisfaction, perceived usefulness, perceived ease of use, service outcome success, and behavioural intensity of use. Accordingly, the study addresses two research questions: (1) How do institutionally more competent users evaluate their public e-services experiences? and (2) How is continued public e-service use among institutionally more competent users related to satisfaction, perceived usefulness, perceived ease of use, and service outcome success?

The study has both scientific and practical relevance. Its scientific relevance lies in examining continued public e-service use among very specific, little studied group – institutionally more competent users. This allowed the authors to test whether commonly used technology-acceptance relationships remain informative in a high-competence, high-availability context. Its practical relevance lies in informing digital government policy in settings where online service provision is already extensive but uptake remains incomplete. The novelty of the paper lies in focusing on competent users as a strategically important broader public e-services diffusion group and in analysing how perceived usefulness, ease of use, and service outcome success relate to satisfaction and continued use behaviour in this group. By combining a social-diffusion lens with a continuance perspective, the paper contributes to the discussion of why improving the experience of advanced, credible user groups may matter for activating positive peer effects and accelerating broader uptake.

The Article is organized as follows: the next section introduces the previous e-government research. The third section describes the data used and the research design. The results of the study are presented in the fourth section. Section 5 provides the discussion and section 6 outlines the main conclusions.

2. Theoretical background

The processes through which citizens adopt e-government services have been widely studied mostly to understand how to increase the uptake which remains below the level of the growing digital availability of the services (Csatlós, 2024; Olesen et al., 2021). The literature does not treat use of public e-services as a purely technical outcome (Olesen et al., 2021). It acknowledges that the transition from face-to-face public services to online services requires citizens to acquire new skills and change their habits in using public services (Tokovska et al., 2023).

Most empirical e-government work borrows from general technology acceptance research either in acknowledging distinction between usage phases, either in applicable models.

2.1. Two phases of public e-service use

A widely used analytical lens separates (1) a pre-adoption phase – when citizens form beliefs and intentions before real action and (2) a post-adoption/continuance phase – when citizens already have experience and decide whether and how intensively to continue use. This distinction was originally articulated in technology adoption research and has been explicitly applied in e-service/e-government meta-analytic work, with the consistent conclusion that the importance of determinants differs across the two phases (Karahanna et al., 1999; Olesen et al., 2021).

2.2. Technology acceptance models with pre-usage emphasis

The canonical starting point for the technology acceptance research is the Technology Acceptance Model (TAM), where intention to use and actual use are driven by perceived usefulness and perceived ease of use (Davis, 1989). Over time, TAM was extended (e.g., TAM3) to incorporate additional individual, social, and organisational antecedents of these beliefs (Marikyan & Papagiannidis, 2024; Venkatesh & Bala, 2008).

A second dominant family is Unified theory of acceptance and use of technology (UTAUT) and its expanded versions, which integrates multiple earlier theories and models acceptance through performance expectancy, effort expectancy, social influence, and facilitating conditions, with moderators such as age, gender, experience, and voluntariness (Venkatesh et al., 2003). UTAUT2 further adds hedonic motivation, habit, and value-related considerations (Venkatesh et al., 2012).

TAM/UTAUT are more aligned with pre-usage / early usage phase, even though they are sometimes applied in later stages as well (Karahanna et al., 1999; Olesen et al., 2021).

2.3. Continuance use models

To explain continued use, research commonly relies on models derived from consumer satisfaction logic (Bhattacherjee, 2001; Oliver, 1980). The Expectation-Confirmation Model (ECM) explains continuance by arguing that continued use depends on (i) whether the service confirms expectations, (ii) perceived usefulness after use, and (iii) satisfaction-where satisfaction is a central proximal driver of continuance intention (Bhattacherjee, 2001).

Building on this, Technology Continuance Theory (TCT) explicitly integrates TAM's usefulness/ease logic with ECM's confirmation-satisfaction-continuance mechanism and a cognitive satisfaction tradition (Bhattacherjee, 2001; Davis, 1989; Liao et al., 2009; Oliver, 1980) in a chain where experienced usefulness and ease contribute to satisfaction, which feeds into continuance intention and then into repeated use. TCT provides a direct conceptual bridge between service experience evaluations and continued behavioural engagement (Liao et al., 2009).

Although usefulness and ease of use are well established in technology-acceptance and continuance research, public e-services also are judged by whether they deliver the administratively intended result (Chan et al., 2021).

2.4. Institutional competence as a boundary condition in public e-service continuance

Public e-services are not generic apps – effective use often requires procedural/administrative literacy – understanding what the state is asking for, what documents or declarations mean, and how to complete the process correctly. In e-government contexts, experience is not only ICT experience but also experience with public-sector processes. It is acknowledged in the research that domain/procedural knowledge can be necessary for successful use (Israel & Tiwari, 2011; Safarov, 2024), and institutional experience has been linked to trust and e-service adoption (Warkentin & Pavlou, 2002).

The group analysed in this study (institutionally more competent users) is dominated by highly educated respondents working in public-sector organisations and therefore likely to have higher digital literacy and stronger familiarity with public administration processes and norms. This matters theoretically because the cost of use for such users is less about basic access and more about service performance: they can (a) notice functionality gaps, (b) form sharper satisfaction judgements, and (c) still continue using services due to professional necessity or administrative dependence – creating an empirically interesting setting where continuance may persist even when satisfaction is not high (Safarov, 2024).

2.5. Conceptualisation of constructs for the TCT-based path model in this study

Taken together, the literature suggests that the present study should be positioned in the post-adoption domain rather than the pre-adoption domain, because the analysed respondents are already users of public e-services. In this context, Technology Continuance Theory (TCT) provides the main conceptual basis for the model, as it links post-use evaluations of a system to continued use through satisfaction. To operationalise TCT in the context of public e-services among experienced, institutionally competent users, this study maps the survey measures to the established constructs in the previous research (Bhattacherjee, 2001; Davis, 1989; Liao et al., 2009; Oliver, 1980; Venkatesh et al., 2003): perceived usefulness; perceived ease of use and satisfaction as a potentially central post-usage evaluation and a key antecedent of continuance in ECM/TCT. Continued use is represented by two behavioural indicators adapted from available survey data. The first is frequency of use (UF), which reflects how often respondents use public e-services. The second is number of services used (UN), which reflects the breadth of use across the public e-service ecosystem. This distinction is important because continuance in the public sector context may manifest not only in repeated use of digital channels, but also in broader reliance on

multiple digital services. Accordingly, the study treats UF and UN as complementary indicators of behavioural intensity rather than as identical outcomes.

This structure preserves the theoretical core of TCT (usefulness/ease → satisfaction → continuance use). We added the additional construct of Service Outcome Success, assuming that the successful resolution of an administrative need may have additional explanatory value (Bhattacherjee, 2001; Liao et al., 2009).

The next section describes how the theory above was used to develop the research design and the data analysed.

3. Data and methods

The analysis was based on the survey data ron public e-service evaluation in Latvia. The survey took place at the end of 2024 as part of the Riga Technical University (RTU) project "Ceļa karte Latvijas pārvaldības attīstībai" (Roadmap for the development of Latvian governance) (Kellerte et al., 2024). The project's goal was to evaluate the current state of public e-services in Latvia. The questionnaire was made available on RTU website, through social media and was also distributed electronically. Responses were gathered using computer-assisted web interviewing (CAWI), which allowed respondents to complete the survey at their convenience on a computer, tablet, or smartphone. A total of 1,059 respondents participated in the survey. The characteristics of the respondents are presented in Table 1.

Table 1. Respondents characteristics

Item	Cohort	Ratio (% of total respondents)
Education Level	Higher education	92.1
	Unfinished higher education	3.3
	Secondary vocational/special	2.4
	Secondary education	1.7
	Primary education	0.2
	Not specified	0.4
Occupation	Public sector (state/ municipality)	76.1
	Not specified	23.9
Frequency of public e-service usage	Several times a month	62.2
	Once per month	16.6
	Several times a year	19.8
	Once per year or less	1.4

The authors observed that the characteristics of the survey respondents differ from those of the general population in several ways:

1. The frequency of public e-service usage among respondents is higher than that in the general population; specifically, 62.2% of respondents use e-government services several times a month.

2. Most respondents (76%) are public administration employees, who: i) regularly use e-government services as part of their professional duties, and ii) possess a deeper understanding of the institutional and regulatory principles of public administration.

3. A significant 92% of respondents hold higher education degrees, which, according to Van Deursen and Van Dijk (2011) indicates a higher level of digital skills and a greater capacity to acquire and utilize new technologies (Balina et al., 2017).

Given these specific characteristics, the authors categorize this group of respondents as institutionally more competent public e-services users.

Logic for the path analysis

Based on the theoretical mapping explained in the previous part the path analysis follows such steps:

- Perceived usefulness → Satisfaction
- Perceived ease of use → Satisfaction
- Satisfaction → Frequency of Use
- Satisfaction → Number of Services Used
- Service Outcome Success → Satisfaction
- Service Outcome Success → Frequency of Use

The structural model included the operationalizations of the survey data described in Table 2.

Table 2. Variables and measurement

Variable	Code	Question in the survey
Perceived usefulness	PU	How do you personally evaluate the overall functionality of Latvian e-services? (0–10 scale)
Perceived ease of use	PEU	Mean of Qs - How easy is it for you to access e-services? - How easy do you find it to use e-services on average? - How easy is it for you to use e-services on mobile devices? - How easy is it for you to locate the necessary functions within e-services? (1–7 scale)
Satisfaction	SQ	Mean of service experience ratings (Please rate your experience using particular services (list of 33 services). (1–5 scale)
Frequency of Use	UF	How often do you use e-government services? (1–4 scale, reverse-coded so that higher values indicate more frequent use)
Number of Services Used	UN	Sum of Qs (count of services used in the last 12 months) Which of these e-services have you used in the last 12 months (list of 35 services)?
Service Outcome Success	SO	Did the last e-service you used completely resolve your problem or need? (1–7 scale)

After listwise deletion of missing values on these model variables, the final analytical sample consisted of 1,043 complete cases.

Missing values per variable are presented in Table 3. The proportion of missing data was low across all model variables, ranging from 0 cases (UN) to 17 cases (SO). Given the low proportion of missing data relative to the total sample size, complete-case analysis was applied.

Table 3. Missing values per variable

Variable	Missing (n)
PU	12
PEU	10
SQ	10
SO	17
UF	13
UN	0

4. Results

Descriptive statistics

Descriptive statistics for all model variables are presented in Table 4.

Perceived Usefulness (PU) showed a relatively high mean (M = 6.43, SD = 1.72 on a 0–10 scale), indicating generally positive evaluations of system functionality. Perceived Ease of Use (PEU) also demonstrated favorable ratings (M = 5.07, SD = 1.06 on a 1–7 scale).

Satisfaction (SQ), computed as the mean of service experience ratings (1–5 scale), averaged 3.77 (SD = 0.63), suggesting moderately positive overall experiences.

Service Outcome Success (SO) showed a high mean (M = 5.88, SD = 1.26 on a 1–7 scale), indicating that most respondents reported that their issue was successfully resolved.

Frequency of Use (UF), reverse-coded so that higher values indicate more frequent usage, had a mean of 3.40 (SD = 0.85 on a 1–4 scale). The Number of Services Used (UN) averaged 6.31 (SD = 2.74), with a right-skewed distribution (Skewness = 0.96).

Skewness and kurtosis values suggested mild deviations from normality for some variables (notably SO and UN), supporting the use of Spearman correlations in subsequent analyses.

Reliability analysis

Perceived Ease of Use (PEU)

The four-item PEU scale demonstrated good internal consistency (Cronbach's $\alpha = 0.80$). Composite Reliability (CR = 0.88) exceeded recommended thresholds (≥ 0.70), and Average Variance Extracted (AVE = 0.64) was above 0.50, indicating satisfactory convergent validity.

Item-total correlations ranged from 0.53 to 0.75, and deletion of any single item did not substantially improve reliability.

Satisfaction (SQ)

Due to varying applicability of specific services, reliability was assessed using the five most frequently answered service experience items (Q7.3, Q7.2, Q7.1, Q7.12, Q7.4).

The resulting five-item scale demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.67$). Composite Reliability (CR = 0.80) met acceptable thresholds, whereas AVE (0.44) fell slightly below the recommended 0.50 threshold, suggesting moderate but not strong convergent validity.

Single-item constructs

Perceived Usefulness (PU), Service Outcome Success (SO), and Frequency of Use (UF) were measured with single items; therefore, internal consistency metrics are not applicable. The Number of Services Used (UN) represents a formative count indicator.

Correlation analysis

Spearman rank-order correlations were calculated due to ordinal scaling and minor deviations from normality.

PU and PEU were strongly correlated ($\rho = 0.595$, $p < .001$). Satisfaction (SQ) showed substantial positive correlations with PU ($\rho = 0.603$, $p < .001$) and PEU ($\rho = 0.560$, $p < .001$), indicating that higher perceived functionality and ease of use are associated with higher satisfaction.

SQ demonstrated small but significant positive correlations with Frequency of Use ($\rho = 0.091$, $p < .01$), whereas its association with Number of Services Used ($\rho = -0.002$) was negligible and non-significant.

Frequency of Use and Number of Services Used were moderately correlated ($\rho = 0.406$, $p < .001$), suggesting

Table 4. Descriptive statistics

	N	Mean	SD	Min	Q1	Median	Q3	Max	Skewness	Kurtosis
PU	1043	6,432	1,722	0	5	7	8	10	–0.592	0.396
PEU	1043	5,070	1,058	1	4.5	5.25	6	7	–0.609	0.132
SQ	1043	3,7726	0,632494	1	3,333	3,8333	4,2	5	–0.3254	0,2554
SO	1043	5,88303	1,2643	1	5	6	7	7	–1,48038	2,55393
UF	1043	3,3988	0,8450	1	3	4	4	4	–0,99512	–0,4764
UN	1043	6,3048	2,7372	1	4	6	8	22	0,957567	1,9940

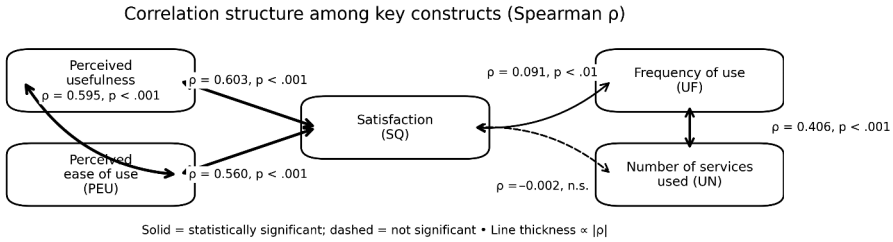

Figure 1. The correlation results

that more frequent users tend to utilize a larger number of services.

Figure 1 visualizes the correlation results.

Structural Equation Modeling (SEM)

Structural relationships were estimated using maximum likelihood estimation in *semopy*. The specified structural model included the following direct paths: PU → SQ, PEU → SQ, SO → SQ, SQ → UF, SO → UF, and SQ → UN.

Model fit

The model degrees of freedom were 12. The chi-square test was statistically significant (χ^2 = 181.36, p < .001), indicating some discrepancy between the model and the observed covariance matrix. Incremental fit indices were below conventional cutoffs (CFI = 0.89; TLI = 0.84; NFI = 0.88), and the RMSEA value was 0.116, suggesting poor overall model fit according to commonly recommended thresholds (CFI/TLI ≥ 0.90–0.95; RMSEA ≤ 0.08).

Thus, while individual paths may be statistically significant, the global fit indices indicate that the structural model does not fully reproduce the observed data structure and should be interpreted with caution.

Structural paths

The structural coefficients closely mirrored the previous regression-based estimates.

Perceived Usefulness significantly predicted Satisfaction (B = 0.154, z = 13.64, p < .001), as did Perceived Ease of Use (B = 0.170, z = 9.18, p < .001). Service Outcome Success did not significantly predict Satisfaction (B = 0.013, z = 0.97, p = .331).

Satisfaction had a small but statistically significant positive effect on Frequency of Use (B = 0.127, z = 2.92, p = .004). Service Outcome Success did not significantly predict Frequency of Use (B = 0.035, z = 1.60, p = .110).

Satisfaction did not significantly predict the Number of Services Used (B = 0.158, z = 1.18, p = .237).

Figure 2 visually illustrates the above-described relationships, where solid lines indicate significant paths and dashed lines indicate non-significant paths.

Explained variance

Residual variances indicated that substantial unexplained variance remained in behavioral outcomes (UF and UN), consistent with the weak structural effects observed. In contrast, Satisfaction was strongly predicted by cognitive evaluations (PU and PEU), confirming the central role of perceived functionality and ease of use in shaping user satisfaction.

5. Discussion

The findings of the study confirm that core public e-service experience evaluations (functionality and ease of use) are robust predictors of satisfaction. These results are similar to those reported in other studies on technology use (Bhattacherjee, 2001). As suggested by previous research, satisfaction should translate into behavioural intensity; in the present study, however, this expectation receives only weak support, since satisfaction is weakly related to frequency of use and not significantly related to breadth of use.

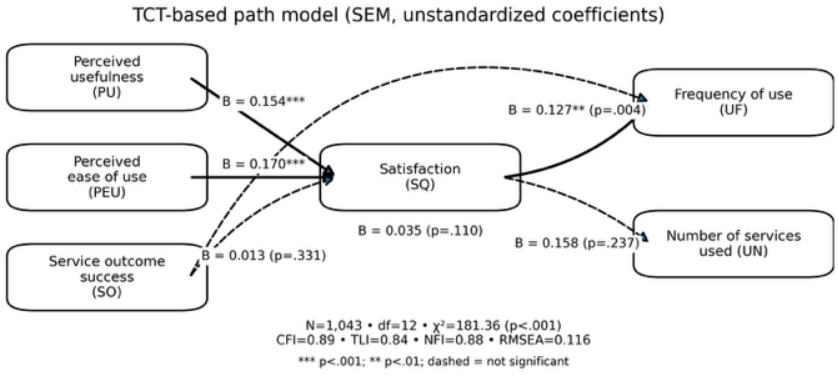

Figure 2. Structural path results of the study

5.1. Why did service outcome success not predict satisfaction or frequency of use?

A counterintuitive result of the study is that Service Outcome Success (SO) ("the last e-service completely resolved my need") did not significantly predict either Satisfaction (SQ) or Frequency of Use (UF) in the structural model once PU and PEU were included. The authors believe that there are three complementary explanations for that. First, the non-significant SO effects may be methodological/measurement-related. SO is a *single-item* measure focused on the *last service episode*, whereas SQ aggregates experience ratings across multiple services. This mismatch in time frame and referent (last-transaction outcome vs. overall service experience) can attenuate structural relationships even when both measures are conceptually related. In addition, SO shows a high mean and strong negative skewness, indicating a potential ceiling effect and restricted variance, which reduces the ability to detect predictive relationships. Second, the result suggests a substantive "hygiene factor" logic: for competent users, "my issue was resolved" may be treated as a baseline expectation, not a driver of satisfaction (Lin et al., 2017). In such settings, satisfaction differentiates more strongly on how the service works (effort, clarity, functionality, friction) than on whether it ultimately resolves the need – because resolution is assumed and only becomes salient when it fails. This interpretation is consistent with the strong PU/PEU → SQ paths observed in the model. Third, and most importantly for theory development, the result is compatible with the idea that usage is not primarily "pulled" by positive outcomes but "pushed" by necessity. That is, even the last e-service episode is successful (SO) or only partially successful – this may not materially change competent users' frequency of use (UF), because digital interaction with public administration can become routinized and institutionalized (embedded in recurring administrative tasks and workflows), which reduces discretion over whether to use the system and weakens the behavioural impact of episode-level outcomes on satisfaction (SQ) and use intensity (Hsieh & Wang, 2007; Kasaj, 2016; Orlikowski, 2000).

That is, even if the last service was successful, this does not change how often users must engage with public e-services; and even if it was not fully successful, competent users may still need to continue using the digital channel because it is increasingly embedded in administrative routines. This points to a potentially missing construct in the model – perceived necessity/obligation to use e-services.

5.2. "Voluntary" e-services may become "mandatory" for competent users

Much of the technology acceptance literature models public e-services as a voluntary option (and treats voluntariness as a boundary condition shaping determinant importance). However, the empirical profile of this sample – dominated by public-sector employees, frequent users, and highly educated respondents – suggests that for these users the "choice set" may be qualitatively different. For institutionally competent users, public e-services may become a de facto mandatory channel: either because services are structured to be most efficient digitally, because time constraints make offline visits impractical, or because professional duties require repeated interaction with administrative systems. In this scenario, need (or "lack of viable offline alternative") can dominate behavioural intensity, weakening the observed links from post-use evaluations (SO, SQ) to use (UF, UN).

This mechanism also helps interpret the broader pattern in the results: satisfaction significantly predicts frequency of use but only weakly, and it does not predict the number of services used; meanwhile, frequency and breadth of use are moderately correlated, suggesting that behavioural intensity is driven by underlying administrative demand rather than by satisfaction-driven expansion of usage. In other words, competent users may use more services because they encounter more administrative needs, not because they are more satisfied.

From a model-development perspective, adding a construct such as perceived necessity / perceived lack of alternatives / administrative dependence could plausibly improve fit and explanatory power. The poor global fit indices (CFI/TLI below recommended thresholds; RMSEA above) provide empirical support for the claim that the current specification omits relevant drivers of continued use in this context.

5.3. Competent users as diffusion agents: why "moderate" satisfaction may be insufficient

The study is motivated by a diffusion argument: competent users can act as credible opinion leaders whose experiences shape social influence and therefore broader uptake. In this light, the observed satisfaction level – not low, but only moderate – is strategically ambiguous. If competent users' satisfaction is merely "acceptable," they may not generate strong positive word-of-mouth; instead, they may communicate a mixed message (it works, but it is inconvenient), which is unlikely to overcome the inertia, perceived risks, or preference for personal consultation that characterizes many non-users. This is particularly relevant because the literature shows that some non-use is voluntary (status quo preference, desire for in-person contact). In such cases, only clearly positive experience narratives may be persuasive enough to shift behaviour.

A concrete implication is that future research should move beyond asking whether competent users are "satisfied" and instead estimate what level of satisfaction (and what specific experience dimensions) is necessary to trigger positive recommendation behaviour and observable peer effects. Empirically, this could be operationalised by adding measures such as intention to recommend, modelling potential non-linearities/threshold effects, and

comparing how the same satisfaction level translates into diffusion outcomes for different audience groups (e.g., seniors, low-skill users, or citizens with strong offline preferences).

6. Conclusions

The present study set out to explain continued public e-service use among institutionally more competent users in Latvia (a sample dominated by highly educated respondents and public-sector employees who use public e-services relatively frequently). The study used a TCT-inspired model linking perceived usefulness (PU), perceived ease of use (PEU), service outcome success (SO), satisfaction (SQ), and two behavioural indicators: frequency of use (UF) and number of services used (UN). The findings show that, in this user group, core experience evaluations (functionality and ease of use) are robust predictors of satisfaction, whereas satisfaction translates only weakly into behavioural intensity, and the model leaves substantial variance in use unexplained.

An additional observation regarding behavioural intensity is that more frequent users tend to utilize a larger number of services.

A counterintuitive result of the study is that Service Outcome Success (SO) (the last e-service completely resolved my need) did not significantly predict either Satisfaction (SQ) or Frequency of Use (UF) in the structural model once PU and PEU were included, implying that within this competent user group – general experience evaluations (functionality/usability) account for most of the explainable variance captured by the model, while the single-item "resolved my need" measure adds little incremental explanatory power in the specified structure.

The study makes several contributions to the literature on digital government and public e-service use. First, it extends the focus of analysis from the general population to a specific group of experienced and institutionally more competent users whose perceptions may be particularly relevant for understanding the consolidation and diffusion of digital public services. Second, it demonstrates that, within this group, satisfaction is shaped primarily by usability- and functionality-related perceptions rather than by whether the most recent service interaction successfully resolved a concrete need. Third, the findings suggest that continued use among competent users may be influenced less by episodic service outcomes and more by administrative necessity, habitual interaction, or the limited practicality of offline alternatives. This implies that continuance models developed in more clearly voluntary settings may require adaptation when applied to public e-services that increasingly function in semi-mandatory or routine administrative contexts.

The results also have practical implications for digital government policy and service design. The consistent importance of perceived functionality and ease of use indicates that efforts to improve clarity, usability, and technical reliability remain essential for strengthening user satisfaction. At the same time, the weak link between satisfaction and behavioural intensity suggests that service improvement alone may not substantially increase usage among already competent users. For policymakers, this means that digitalisation strategies should combine user-centred design with broader attention to administrative processes, procedural simplicity, and the institutional conditions under which citizens interact with public e-services. Moreover, even if satisfaction does not act as a strong behavioural driver within this user group, it may still matter indirectly for wider diffusion, since competent users can serve as credible reference points for less experienced or more hesitant citizens.

Several limitations should be acknowledged. The analysis relies on survey data originally collected for a broader research purpose rather than designed specifically for the present theoretical model. In addition, the explanatory power of the model remains limited with regard to behavioural outcomes, indicating that relevant determinants of continued use were not fully captured. Future research should therefore test enriched models incorporating such factors as perceived necessity, administrative dependence, and habitual use, while also comparing competent users with broader citizen groups and examining more directly the role of satisfaction in the wider diffusion of public e-services.

The findings should be generalized to other countries with caution, recognizing that cultural and various specific factors could lead to different outcomes if there are substantial differences from Latvia (Hyytinen et al., 2022; Kalamatianou, 2018).

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