



A Study on Digital Service Innovation Factors Influencing Organization Performance: Ajman Police Department in UAE

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Abstract: The study presented an analysis of the influence of four digital services innovation groups of factors on organizational performance. It identified 20 digital services innovation factors, which were categorized into four groups namely participation, inter-organizational collaboration, reflexivity, and responsiveness. The study focused on the Ajman Police Department in the United Arab Emirates and collected data through a structured questionnaire survey using a purposeful random sampling technique among the employees of the department that involved 368 completed responses from the employees. Statistical analysis was conducted using SPSS software. The study found that the five highest ranked factors by the respondents, which significantly impact organizational performance, are PP1 (*Customer Feedback and Surveys*), OC1 (*Partnership with Complementary Service Providers*), RF1 (*Ethical Evaluation of Service Offerings and Practices*), PP2 (*Employee Brainstorming Sessions*), and RS3 (*Ongoing Market Research and Competitor Analysis*). Additionally, the study established a mathematical model to predict organizational performance based on the four variables: participation, inter-organizational collaboration, reflexivity, and responsiveness. Furthermore, the study revealed that all five groups of factors, including organizational performance factors, are significantly correlated. This research contributes to the understanding of the impact of digital services innovation on organizational performance, shedding light on the specific factors that play a crucial role in driving organizational success in the digital era. The findings provide valuable insights for organizations seeking to leverage digital services innovation to enhance their performance and competitiveness.

Keywords: Digital services innovation factors, UAE Ajman Police Department

1. Introduction

The public sector is increasingly recognizing the need to enhance its digital service capabilities to improve organizational performance and competitiveness (Ojiako et al., 2022). However, existing research has primarily focused on digital service innovation from a customer perspective, with limited attention to understanding how it contributes to firm performance (Parida et al., 2019; Cueto et al., 2022). Despite substantial investments in digital services, many organizations struggle to realize actual value, impacting their overall performance (Sjödén et al., 2019). Additionally, rapid technological advancements raise questions about organizations' abilities to effectively incorporate the latest technologies into digital service innovation (Sjödén et al., 2020). This complexity often leads to a digitalization paradox where services fail to deliver intended customer value (Bustinza et al., 2018).

To address these challenges and improve performance, organizations are increasingly adopting innovative technologies for service delivery (Martinez-Caro et al., 2020). In the context of government, public sector transformation is driving a shift towards digital service innovations (Oliveira et al., 2020). This transformation has gained momentum in recent years, with a strong focus on using digital services to enhance firm performance (Benbunan-Fich et al., 2020; Mustafa et al., 2020), attracting both researchers and practitioners to explore transformative government topics, particularly in assessing firm performance (Wang et al., 2022).

Several key issues have been identified in past research related to digital service innovation and organizational performance. Firstly, there is a lack of employee participation in generating innovative ideas for digital services (Lusch & Nambisan, 2015). Participation during the development of digital service innovation is crucial, but it has received limited attention in existing literature, especially regarding its impact on firm performance. Secondly, the collaborative efforts of employees in improving digital service innovation and its relationship with organizational performance require more investigation (Wenger-Trayner & Wenger-Trayner, 2020). Thirdly, there is a need for greater reflexivity in the development of digital service innovations, considering not only their value to the community but also reflecting on and adjusting the technology's development goals (de Reuver et al., 2020). Lastly, organizations need to enhance their responsiveness to users' needs when delivering digital services, as this can significantly impact the quality of these services (Jeong et al., 2022).

In the context of the UAE, the ambition is to achieve full automation by 2030 underscores the importance of understanding and addressing issues related to digital service innovation. However, there is a noticeable research gap in this field, particularly in the Middle East. Therefore, this study aims to bridge this gap by investigating how digital service innovation variables influence the performance of UAE organizations, with a specific focus on the Ajman Police Department. It examines digital service innovation variables which are clustered in four groups namely participation, inter-organizational collaboration, reflexivity, and responsiveness that influence/affecting organizational performance.

2. Digital Service Innovation and Organisational Performance

Innovation is anticipated to exert a diverse range of effects on an organization's overall performance (Cheah et al., 2022). Previous studies have underscored various performance indicators, encompassing innovation, production, market performance, and financial metrics, as critical facets of organizational performance (Yilmaz et al., 2005). Researchers like Gunday et al. (2011) have delved into the relationship between various forms of innovation and organizational performance. Across industries, it is widely acknowledged that innovation and organizational performance are mutually reinforcing (Islami et al., 2020). Given the pivotal role of innovation in a company's overall performance, its integration throughout the organization is imperative (Gunday et al., 2011). Han et al. (1998) concluded that innovation significantly influences the growth and performance of organizations. Nonetheless, prior studies have predominantly been theoretical or customer-centric, with limited attention devoted to the contributions of employees in fostering digital service innovation for the enhancement of firm performance.

Digital service innovation yields positive outcomes for organizational performance. For instance, as innovative performance escalates, organizations experience amplified financial returns due to an expanded consumer base (Gunday et al., 2011). The success of new products and services resulting from innovative performance prompts heightened emphasis on employing digital service innovation to attain organizational objectives such as competitive advantage and increased returns (Wang & Wei, 2005).

The linkage between organizational performance and innovation has been explored in prior research, particularly in terms of its influence on financial success and its contribution to elevated market share (Sonmez Cakir & Adiguzel, 2023). Enhanced organizational performance through innovation stems from its impact on financial success, market share, competitiveness, and consumer value (Neely et al., 2001; Rajapathirana & Hui, 2018). Despite scholarly interest in the subject, there remains a limited understanding of the associations between distinct innovation characteristics and firm performance (Abidin et al., 2011). In line with findings from Yavarzadeh et al.'s (2015) study, digital service innovation is demonstrated to have a favourable influence on organizational performance. Elevated levels of digital service innovation have been shown to contribute to enhanced performance (Chiang & Hung, 2010; Reed et al., 2012), offering insights into the organizational capabilities required to achieve competitive advantages (Camisón & Villar-López, 2012). Subsequent sections delve into the specific factors of digital service innovation that bolster organizational performance.

2.1 Organizational Performance

Although there are many improvement strategies proposed by researchers on firm performance, this field is still relatively under-researched (Sahut et al., 2021). Most of the research is empirically based, emphasizing the general relationship between supplier practices and outcomes (Bai & Sarkis, 2010). According to Alan et al. (2016), firm performance can be measured using two groups of performance measurement, which is financial and competitive advantage of a company. The financial evaluation system includes profit, return on investment, and the operation cost of the company. The performance measurement using company competitive advantage focus on intangible measures that includes reputation, image, and firm value. All these measurements will help firm in their future business development

using the previous evaluation on firm performance where the poor performance factors will be eliminated and replaced with other improvement strategies. In this research, firm performance will be investigated from the perspective of digital service innovation.

To gauge firm performance effectively, researchers often employ two distinct categories of performance measurement, as articulated by Alan et al. (2016). The first category revolves around financial evaluation, which encompasses metrics such as profit, return on investment, and operational costs incurred by the company. The second category delves into the evaluation of a company's competitive advantage, with a particular emphasis on intangible measures. These intangible measures encompass aspects like reputation, image, and overall firm value.

These performance measurements play a crucial role in shaping organisation's future business development trajectory. It serves as a diagnostic tool, enabling organizations to identify areas where performance falls short and needs improvement. Consequently, underperforming factors can be identified and replaced with more effective improvement strategies. In the context of this research, the focus will be on investigating firm performance through the lens of digital service innovation. Measuring firm performance effectively is a fundamental task for researchers and organizations seeking to understand how well a company is doing in achieving its goals and objectives. To do this, researchers often utilize two broad categories of performance measurement, as outlined by Waggoner, et.al. (1999); Bourne, et.al (2003); Franco - Santos, et.al. (2007) which are;

1. **Financial Evaluation:** This first category primarily concentrates on assessing a company's financial health and performance. Researchers in this category scrutinize metrics like profit margins, return on investment (ROI), and operational costs incurred by the company. Profit margins reflect how efficiently a company converts its revenue into profits, ROI measures the returns generated from investments, and operational costs provide insights into the efficiency of day-to-day operations. These financial metrics offer tangible and quantifiable indicators of a company's overall financial performance.
2. **Competitive Advantage Evaluation:** The second category shifts the focus towards evaluating a company's competitive advantage. Here, the emphasis lies on intangible measures that are often harder to quantify but hold significant importance in a company's success. These intangible measures encompass elements such as reputation, image, and the overall perceived value of the firm in the market. Reputation and image reflect how the company is perceived by its customers, stakeholders, and the general public. The overall firm value considers not only financial metrics but also factors like brand strength and customer loyalty, which contribute to the company's competitive edge.

These performance measurements are vital for several reasons. First and foremost, they serve as a diagnostic tool, helping organizations identify areas where their performance may be lacking or falling short of expectations. By analysing financial and competitive advantage metrics, organizations gain insights into what is working well and what needs improvement.

Furthermore, these measurements are invaluable for strategic decision-making and planning. Organizations can use them to make informed choices about resource allocation, investment priorities, and business development strategies. If certain areas of performance are underperforming, these metrics help pinpoint those weaknesses and guide efforts to rectify them.

In the context of the specific research under consideration, the primary focus is on understanding firm performance through the lens of digital service innovation. This implies that the researchers are likely to explore how digital service innovations impact both the financial aspects of a firm, such as profitability and operational efficiency, as well as the intangible aspects related to its competitive advantage, such as reputation and brand image. By delving into these areas, the research aims to shed light on how digital service innovation influences a company's overall performance and, in turn, guide strategies for improvement and growth.

3. Digital Service Innovation Variables

This study has identified 25 variables of digital service innovation which are clustered in 4 groups namely participation; reflexivity; inter-organisational collaboration; and responsiveness. The variables in each of the groups are as follows;

3.1 Participation

Participation in the context of this study refers to the engagement and empowerment of diverse stakeholders, including service recipients, with the aim of enhancing digital service innovation. Existing literature emphasizes the necessity of participatory processes, such as negotiations, in the development of digital service innovations within organizations. These processes help break down barriers between different practices, ultimately contributing to improved firm performance (Wenger 1999; Wenger-Trayner and Wenger-Trayner 2015). In simpler terms, agreements play a crucial role in facilitating the transfer and sharing of knowledge, and participatory activities, including negotiations, are regarded as vital in preventing disruptions in interactions among diverse groups.

Practically every workshop designed to enhance organizational performance incorporates some form of negotiation as a participatory activity. The negotiation process typically begins with one practice presenting its ideas, followed by inquiries and feedback from other stakeholders. Over time, a consensus is reached, and the presentation and negotiation cycle continues. This process is particularly relevant for enhancing digital service innovation because the contributions of employees complement the overall picture of services aimed at supporting firm performance. Through participation and negotiations, developers can gain a deeper understanding of the experiences and needs of service recipients, making negotiations essential for overcoming obstacles, avoiding misunderstandings, and resolving conflicts (Wenger 1999). Another aspect of negotiation involves how real-life experiences from one community of practice can benefit another, especially when both practices are part of the same service system.

Another form of participation relevant to digital service innovation involves engaging experts and policymakers. Esmark (2019) notes that the decline in the authority of top-down policymaking and the desire for legitimacy have led to increased involvement of new voices in science and innovation, including digital service innovation. New public deliberative forums addressing science and innovation issues have emerged, extending beyond stakeholder participation to include members of the public (Kudo et al., 2018). Therefore, the participation and involvement of experts and policymakers can support digital service innovation, as the overarching goal of all these activities is to enhance organizational performance, a responsibility shared by all employees.

Various small-group public discussion methods, often referred to as "mini-publics" by Goodin and Dryzek (2006), can facilitate participatory processes. These methods include consensus conferences, citizens' juries, deliberative mapping, deliberative polling, and focus groups. These mechanisms enable public debates to occur early in the scientific and technical processes and are often overseen by quasi-governmental organizations. Additionally, the utilization of multi-stakeholder partnerships, forums, lay representatives on scientific advisory committees, and hybrid structures has been considered to diversify inputs and governance in decision-making processes (Hameduddin et al., 2020). Consequently, participation in digital service innovation may involve not only internal stakeholders but also external public users or experts, a determination that can be made by organizational management. This inclusive approach may lead to the generation of ideas that cater to user needs, ultimately contributing to improved firm performance.

3.2 Reflexivity

Reflexivity and responsiveness encompass various aspects of social engagement and understanding (Lynch, 2000). According to social theorists like Beck et al. (1994), reflexivity is a characteristic of contemporary modernity. Popper (2014) posits that self-referential criticism serves as a fundamental principle within science, often echoed in scientists' interpretations of reflexivity. In the context of this research, reflexivity plays a crucial role in enhancing digital service innovation among both individual actors and institutions, albeit with a complex definition.

Within governance, there is a clear imperative for institutional reflexivity. At the institutional level, reflexivity involves introspection into one's actions, commitments, and underlying assumptions. It also entails recognizing the inherent limitations of knowledge and acknowledging that the framing of an issue may not be universally shared. This represents the second level of reflexivity (Schuurbiens, 2011), which delves into the value systems and theories that shape research, innovation, and governance. Responsiveness imbues reflexivity with a broader significance, extending beyond the realm of scientists' personal self-critique, which they are accustomed to (Wynne, 2011).

To foster this second-order reflexivity that links external value systems with scientific endeavours, mechanisms such as codes of conduct, moratoriums, and the adoption of standards prove invaluable (von Schomberg, 2013). Recent initiatives aimed at cultivating reflexivity have primarily concentrated on the laboratory level, often involving social scientists or philosophers. The premise is that within the self-regulating sphere of science, laboratory reflexivity becomes a pivotal tool for encouraging natural scientists to reflect on the socio-ethical dimensions of their work, thereby expanding their choices (Schuurbiens, 2011, p. 769). Dialogue, as proposed by Owen et al. (2013), serves as another tool for nurturing reflexivity. While this approach has shown promise in initiating reflexivity at the laboratory level, Wynne (2011) asserts that these concepts and practices must be extended to encompass research funders, regulators, and other constituent institutions within the complex landscape of science governance. This notion aligns with conclusions drawn from public debates in fields such as synthetic biology and beyond. These institutions bear a responsibility not only to reflect on their own value systems but also to actively contribute to the development of reflexive capacity within research and innovation practices.

Developing the reflexivity of both actors and institutions necessitates a re-evaluation of longstanding beliefs regarding the ethical division of labour in science and innovation (Kudo et al., 2018; Wang et al., 2020). Reflexivity challenges the notions of scientific amorality and agnosticism directly. It calls upon scientists to blur the boundaries between their professional duties and broader moral responsibilities in the public domain. As a result, transparency and leadership become essential attributes within the cultures of science and innovation.

3.3 Inter-organizational Collaboration

Inter-organizational collaboration stands out as another key element of digital service innovation with the potential to significantly boost organizational performance. The importance of active collaboration across organizational boundaries is underscored by the concept of active inter-organizational collaboration within digital service innovation. This form of collaboration encompasses activities such as designing scenarios, creating prototypes, engaging in debates, and participating in group reflections (Wenger-Trayner and Wenger-Trayner, 2015). It is worth noting that when actors actively engage in collaborative activities, they tend to exhibit greater enthusiasm for subsequent activities and discussions, leading to a more concentrated focus on practice improvement. Developers, who play a pivotal role in digital service innovation, must also be fully engaged in this process, often by sharing real-life anecdotes and being actively inquisitive during workshops.

Interestingly, the engagement of one actor often catalyses the involvement of another, creating a virtuous cycle of engagement. This reciprocal engagement not only fosters a collaborative atmosphere but also paves the way for future alignment (Wenger, 1999). Researchers involved in engaged scholarship (Van de Ven, 2007) also exemplify collaboration across different organizations, with both programs emphasizing the importance of well-being. Within human-centered service systems, well-being is prioritized as a core value. Actors within these systems make concerted efforts to align their value perspectives through reciprocal interactions and practices.

3.4 Responsiveness

Responsiveness emerges as another variable capable of enhancing the digital service innovation within a firm, notwithstanding the diverse dimensions that some innovation processes explore (Stilgoe et al., 2013). Stilgoe et al. (2013) contend that certain approaches, including Constructive Technology Assessment, Real-Time Technology Assessment, midstream modulation, and anticipatory governance, embody forms of responsiveness in the context of digital services innovation.

Innovation, by its nature, demands the capacity to adapt to evolving stakeholder and public values, as well as changing circumstances. The role of public involvement in empowering social agencies in technological choices and the adjustment of innovation trajectories has faced criticism. Consequently, it becomes crucial to investigate how innovation systems can be designed to maximize their responsiveness (Hadj, 2020). Pellizzoni describes responsiveness as a comprehensive yet frequently overlooked aspect of innovation (Pellizzoni, 2004). Collingridge (1980) suggests that responsiveness entails altering courses of action while acknowledging the limitations of knowledge and control. The concept of responsiveness is rooted in the dual meanings of the word "respond" – to react and to reply (Pellizzoni, 2004). It involves responding to emerging knowledge, as well as evolving perspectives, opinions, and conventions.

To foster effective innovation, it must operate within a political economy of science governance that considers both goods and purposes, ensuring responsiveness. There is a growing policy interest in addressing 'grand challenges' in the UK, Europe, and beyond, as exemplified by the Lund Declaration in 2009. According to von Schomberg (2013), the primary challenge of responsible innovation lies in becoming more attuned to societal challenges. However, these challenges are neither predetermined nor static. Improved anticipation, reflexivity, and inclusivity can trigger various mechanisms that enable innovation to respond effectively. In certain cases, measures such as the precautionary principle, moratoriums, or codes of conduct may be warranted. Existing technology assessment and foresight methodologies need to be expanded to enhance responsiveness (von Schomberg, 2013). Value-sensitive design, which involves integrating specific ethical principles into technology, is another relevant concept (Gazzaneo et al., 2020). Techniques like stage-gating, as illustrated in the forthcoming case study, can also play a role in establishing new, responsive governance options. Table 1 summarised all variables that were considered in digital service innovation.

Table 1 - Summary of digital service innovation variables

Variables	References
Participation	Wenger (1999), Wenger-Trayner and Wenger-Trayner (2015), Esmark (2019), Kudo et al. (2018), Goodin and Dryzek (2006), Chilvers (2010), Hameduddin et al. (2020)
Reflexivity	Lynch (2000), Beck et al. (1994), Popper (2014), Schuurbiens (2011), Wynne (2011), von Schomberg (2013), Schuurbiens (2011), Owen et al. (2013), Wynne (2011), Wang et al. (2020) Table 1: Summary of digital service innovation variables
Inter-organizational collaboration	Wenger-Trayner and Wenger-Trayner (2015), Wenger (1999), (Van de Ven 2007)
Responsiveness	Stilgoe et al. (2013) (Hadj, 2020) (Pellizzoni, 2004). Collingridge (1980) (Lund Declaration, 2009) von Schomberg (2013) (Gazzaneo et al., 2020)

Based on the digital service innovation variables as in table 1, each of the variables has items and these items depends on the organizations consideration when working on digital service innovation. Depending on the specific context and goals of the organization, additional items and strategies may also be relevant. and these items are as in table 2.

Table 2 - Items in related to Digital Service Innovation Variables

Digital Service Innovation Variables	Code	Items related to Digital Service Innovation Variables
Participation	PP1	Customer Feedback and Surveys
	PP2	Employee Brainstorming Sessions
	PP3	Employee and Customer Focus Groups
	PP4	Cross-Departmental Teams for Service Improvement
	PP5	Online Customer Community or Feedback Platform
Inter-Organizational Collaboration	OC1	Partnership with Complementary Service Providers
	OC2	Collaborative Research Projects with Industry Peers
	OC3	Joint Development of Service Offerings with Partners
	OC4	Shared Data and Knowledge Resources with Partner Entities
	OC5	Collaboration Workshops with Industry Partners
Reflexivity	RF1	Ethical Evaluation of Service Offerings and Practices
	RF2	Alignment of Service Values with Organizational Mission
	RF3	Regular Review and Response to Employee and Customer Feedback
	RF4	Continuous Learning from Service Delivery Outcomes
	RF5	Transparent Decision-Making in Service Innovation
Responsiveness	RS1	Rapid Prototyping of Service Enhancements
	RS2	Agile Service Development Methods
	RS3	Ongoing Market Research and Competitor Analysis
	RS4	Iterative User-Centered Service Design and Testing
	RS5	Proactive Monitoring of Regulatory Compliance

4. Results and Analysis

The study collected data through a structured questionnaire survey on the employees of Ajman Police Department in the United Arab Emirates. The population consisted of 1,970 employees, with a focus on middle and top management. The questionnaire was distributed using a purposeful random sampling technique, and the sample size was determined using Krejcie and Morgan's table, with 368 respondents. The questionnaire was designed based on digital service innovation variables that affect organizational performance in the police department. Respondents were required to gauge each variable's impact on organizational performance using a 5-point Likert scale of agreeability.

4.1 Data Reliability Test

Data reliability refers to the consistency and dependability of research measurements, and the extent to which a measuring scale generates consistent results when repeated measurements on the variable of interest are made. Cronbach's alpha is the most used metric of reliability, and its value should be greater than 0.7 to achieve internal consistency. High internal consistency reliability reflects that items are consistent with other items in the set, and that the items are measuring the same construct (Hair et al., 2011; Wong, 2009). Cronbach's Alpha values obtained for the categories of the factors are presented in Table 3

Table 3 - Result of the data reliability test

Groups	No of variables	Cronbach Alpha values
Participation	PP1-PP5	0.895
Inter-Organizational Collaboration	OC1-OC5	0.904
Reflexivity	RF1-RF5	0.882
Responsiveness	RS1-RS5	0.916

Table 3 shows that the Cronbach's Alpha value for all four groups of factors is above 0.7, ranging from 0.882 to 0.916. This indicates that all categories of the factors used in this study have satisfactory internal consistency. Therefore, the data is considered reliable and acceptable for further analysis.

4.2 Data Normality Test

Data normality is a crucial criterion for accurate data analysis, as irregular data can lead to inaccuracies in the outcomes and wrong inferences. Therefore, it is essential to check the normality of the data, which can be univariate or

multivariate. This study used univariate normality tests, examining data distribution at the individual variable level to determine how far the distribution deviates from the normal probability curve. The skewness and kurtosis values for measuring items should ideally fall between -1 and +1 to indicate approximate symmetry (Hair et al., 2010; Aggarwal, 2017; Pituch and Steven 2016 cited in Alneyadi, & Hamid, 2021). The skewness and kurtosis values of items are shown in Table 4.

Table 4 - Result of normality test on the collected data

Variables	N Statistic	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
PP1	368	-3.064	.127	8.597	.254
PP2	368	-2.443	.127	4.729	.254
PP3	368	-2.024	.127	2.934	.254
PP4	368	-2.358	.127	4.987	.254
PP5	368	-2.358	.127	4.987	.254
OC1	368	-2.942	.127	8.479	.254
OC2	368	-2.378	.127	4.929	.254
OC3	368	-2.711	.127	7.021	.254
Oc4	368	-2.162	.127	3.968	.254
OC5	368	-2.534	.127	5.949	.254
RF1	368	-2.812	.127	7.337	.254
RF2	368	-2.456	.127	5.364	.254
RF3	368	-2.201	.127	3.987	.254
RF4	368	-1.936	.127	2.534	.254
RF5	368	-2.218	.127	3.882	.254
RS1	368	-2.184	.127	3.708	.254
RS2	368	-2.054	.127	3.077	.254
RS3	368	-2.443	.127	5.095	.254
RS4	368	-2.270	.127	4.342	.254
RS5	368	-3.419	.127	11.886	.254
Valid N (listwise)	368				

Table 4 shows that the skewness and kurtosis value scores of the measured items are between -3 and +3, indicating that the collected data has achieved substantial normality

4.3 Ranking of the Variables

Before proceeding with more advanced data analysis techniques, it is essential to conduct a preliminary examination of the collected data through descriptive analysis. This initial analysis helps provide a comprehensive overview of the data and its key characteristics. Descriptive analysis typically involves calculating basic statistical measures such as means, standard deviations, variances, skewness, and kurtosis for the variables under consideration. These measures offer insights into the central tendencies, variability, and the shape of the data distribution. It helps researchers and analysts understand the nature of the data before delving into more complex analyses. The results of this descriptive analysis are summarized in Table 5, which serves as a concise and informative representation of various statistical measures and insights derived from the dataset.

Table 5 - Results of descriptive analysis on the collected data

Variables	N Statistic	Mean Statistic	Std. Deviation Statistic	Rank
PP1	368	4.56	0.303	1
PP2	368	4.41	0.342	4
PP3	368	3.81	0.391	16
PP4	368	3.86	0.41	15
PP5	368	3.91	0.41	14
OC1	368	4.51	0.363	2
OC2	368	4.16	0.382	9
OC3	368	4.31	0.388	6
Oc4	368	3.72	0.422	18

OC5	368	3.96	0.431	13
RF1	368	4.46	0.338	3
RF2	368	4.21	0.377	8
RF3	368	4.01	0.394	12
RF4	368	3.76	0.398	17
RF5	368	4.26	0.377	7
RS1	368	4.11	0.381	10
RS2	368	4.83	.389	11
RS3	368	4.86	.361	5
RS4	368	4.84	.389	19
RS5	368	4.90	.324	20
Valid N (listwise)	368			

Table 5 displays the ranking of the 20 factors of digital service that influence organizational performance. The ranking is based on the mean score value, and if the values are tied, the factor with a lower standard deviation is ranked higher. The five highest ranked factors by the respondents are PP1 (Customer Feedback and Surveys), OC1 (Partnership with Complementary Service Providers), RF1 (Ethical Evaluation of Service Offerings and Practices), PP2 (Employee Brainstorming Sessions), and RS3 (Ongoing Market Research and Competitor Analysis). These factors have a significant impact on organizational performance, according to the respondents.

4.4 Correlation Analysis

Correlation analysis quantifies relationships between variables, aiding prediction, variable selection, and decision-making across diverse fields. In this study, the interpretation of Pearson correlation coefficient (r value) is as follow; Strong Correlation when r value is ≥ 0.7 ; Moderate Correlation is where r value is between 0.3 and 0.6. While, weak correlation is where r value is less than 0.3. Result of the correlation analysis is as in table 6.

Table 6 - Results of correlation between variables

Variables		Participation	Inter-Organizational Collaboration	Reflexivity	Responsiveness	Organisational Performance
Participation	Pearson Correlation	1	.701**	.502**	.316**	.279**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	368	368	368	368	368
Inter-Organizational Collaboration	Pearson Correlation	.701**	1	.723**	.432**	.297**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	368	368	368	368	368
Reflexivity	Pearson Correlation	.502**	.723**	1	.590**	.387**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	368	368	368	368	368
Responsiveness	Pearson Correlation	.316**	.432**	.590**	1	.416**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	368	368	368	368	368
Organisational Performance	Pearson Correlation	.279**	.297**	.387**	.416**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	368	368	368	368	368

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the results of the relationships between five variables namely Participation, Inter-Organizational Collaboration, Reflexivity, Responsiveness, and Organizational Performance. The results indicate that Participation has a strong positive correlation with Inter-Organizational Collaboration (0.701). It also shows moderate correlations with Reflexivity (0.502), Responsiveness (0.316), and Organizational Performance (0.279). Inter-Organizational

Collaboration exhibits a strong positive correlation with Participation (0.701) and Reflexivity (0.723). It also has moderate correlations with Responsiveness (0.432) and Organizational Performance (0.297).

Reflexivity shows a strong positive correlation with Inter-Organizational Collaboration (0.723) and moderate correlations with Participation (0.502), Responsiveness (0.590), and Organizational Performance (0.387). Responsiveness has a moderate positive correlation with Reflexivity (0.590) and Inter-Organizational Collaboration (0.432). It has a weaker positive correlation with Participation (0.316). Organizational Performance demonstrates moderate positive correlations with Reflexivity (0.387), Responsiveness (0.416), Inter-Organizational Collaboration (0.297), and Participation (0.279). These correlations are statistically significant at the 0.01 level (2-tailed), and the dataset includes 368 observations for each variable.

4.5 Multi Linear Regression Model

Multiple linear regression is a statistical method used to predict the outcome of a variable based on the values of two or more other variables. It helps to understand and quantify the relationship between the dependent variable and multiple independent variables. The technique assumes a linear relationship between the variables and aims to make predictions about the dependent variable based on the independent variables. It is important to ensure that the independent variables are not highly correlated with each other to avoid issues with the model. The goal of multiple linear regression is to model the linear relationship between the explanatory (independent) variables and response (dependent) variables. In essence, multiple regression is the extension of ordinary least-squares (OLS) regression because it involves more than one explanatory variable. Result of the multi linear regression analysis is as in table 7

Table 7 - Result of the multi linear regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.133	.243		4.663	.000
	Responsiveness	.342	.069	.284	4.926	.000
	Participation	.144	.071	.133	2.039	.042
	Inter-Organizational Collaboration	-.067	.090	-.061	-.742	.459
	Reflexivity	.212	.081	.196	2.606	.010

a. Dependent Variable: Organisational Performance

Based on the results in table 7, the Multiple linear regression model formula is as follow;

$$\text{Organisational Performance} = 0.342 (\text{Responsiveness}) + 0.144 (\text{Participation}) - 0.067 (\text{Inter-Organizational Collaboration}) + 0.212 (\text{Reflexivity}) + 1.133$$

This mathematical model can be used to predict the Organisational Performance provided that the other four variables are known.

5. Conclusion

This paper has presented a study on four digital services innovation variables that have influence of organisational performance. The study identified 20 digital services innovation factors which are clustered into four variables namely participation, inter-organizational collaboration, reflexivity, and responsiveness. While, the dependent variable is the organizational performance. Data for this study was collected through structured questionnaire survey on the employees of Ajman Police Department of United Arab Emirates using a purposeful random sampling technique. A total of 368 completed respondents were in this analysis. The data was analysed statistically using SPSS software. For ranking analysis, it was found that the five highest ranked factors by the respondents that have a significant impact on organizational performance are PP1 (Customer Feedback and Surveys), OC1 (Partnership with Complementary Service Providers), RF1 (Ethical Evaluation of Service Offerings and Practices), PP2 (Employee Brainstorming Sessions), and RS3 (Ongoing Market Research and Competitor Analysis). For correlation analysis, the five variables which are Participation, Inter-Organizational Collaboration, Reflexivity, Responsiveness, and Organizational Performance, found that all the variables are significantly correlated. Finally, the study established a mathematical model that can be used to predict the Organisational Performance based on four variables namely participation, inter-organizational collaboration, reflexivity, and responsiveness. The study's findings provide valuable insights for organizations seeking to leverage digital services innovation to enhance their performance and competitiveness. The study's focus on the public sector is particularly relevant, given the increasing importance of digital services innovation in this sector. The study's

methodology, including the use of a purposeful random sampling technique and descriptive analysis, provides a useful framework for future research in this area.

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