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The impact of creativity and digital leadership on decision-making quality: Implications for public service performance

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C H R O N I C L E

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A B S T R A C T

This study investigates the relationships between creativity, digital leadership, decision-making quality, and public service performance in Sidoarjo Regency. The primary objective is to examine how creativity and digital leadership influence decision-making quality and, subsequently, public service performance. A quantitative approach utilizing a cross-sectional study design was employed. Data were collected from 200 employees of public service institutions in Sidoarjo Regency using Google Forms and direct interviews. The main variables were assessed using Likert scales, measuring creativity, digital leadership, decision-making quality, and public service performance. The analysis involved descriptive and inferential statistics, including regression analysis and mediation analysis. The findings reveal significant positive relationships between creativity, digital leadership, decision-making quality, and public service performance. Creativity and digital leadership were found to positively impact decision-making quality, which in turn influenced public service performance. The implications suggest that fostering a culture of creativity and digital leadership is crucial for enhancing decision-making quality and, consequently, improving public service performance. Public service managers should invest in initiatives to develop creativity and digital leadership skills among employees and prioritize transparent decision-making processes. Furthermore, the study highlights the need for continuous monitoring and evaluation to ensure sustained improvements in public service delivery. The novelty lies in examining the interplay between creativity, digital leadership, decision-making quality, and public service performance within the context of Sidoarjo Regency, providing valuable insights for public service management in the region.

1. Introduction

In the contemporary landscape of public administration and management, the advent of digital technologies has ushered in a new era marked by rapid transformations and unprecedented challenges (Leitner & Stiefmueller, 2019; Sheng et al., 2021). As public sector organizations strive to adapt to these changes, the quality of decision-making emerges as a critical determinant of their ability to deliver effective and efficient services to citizens. In this context, understanding the factors that influence decision-making quality becomes paramount for ensuring the success and sustainability of public service delivery in the digital age (Criado & Gil-Garcia, 2019; Edelmann & Virkar, 2023; Janssen et al., 2017).

Despite the growing recognition of the importance of decision-making quality in public administration literature, there remains a notable research gap concerning the specific roles of creativity and digital leadership in shaping this crucial aspect of organizational performance (Cortellazzo et al., 2019; Kraus et al., 2023; Sayyadi, 2019). While existing studies have explored various factors influencing decision-making processes, there is limited empirical evidence examining the unique contributions of creativity and digital leadership within the context of public service organizations (Godos-Díez et al., 2018; Isen et al., 2014; Sproten et al., 2018). This gap underscores the need for a more nuanced understanding of how these factors interact and influence decision-making quality in the digital era.

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This research seeks to address the aforementioned gap by investigating the interplay between creativity, digital leadership, and decision-making quality in public service organizations. By focusing on these underexplored dimensions, this study aims to contribute novel insights to the existing body of knowledge in public administration and management. Specifically, it seeks to uncover the mechanisms through which creativity and digital leadership impact decision-making processes and, subsequently, public service performance. By doing so, this research aims to advance theoretical frameworks and practical strategies for enhancing decision-making quality in the context of digital transformation.

The significance of this study lies in its potential to inform evidence-based policies and practices aimed at improving decision-making processes and public service delivery in the digital age. By elucidating the relationships between creativity, digital leadership, and decision-making quality, this research can provide valuable guidance to policymakers, public sector leaders, and practitioners seeking to enhance governance effectiveness and citizen satisfaction. The specific objectives of this study include:

1. To examine the influence of creativity on decision-making quality within public service organizations.
2. To investigate the impact of digital leadership on decision-making processes and outcomes.
3. To assess the mediating role of decision-making quality in the relationship between creativity, digital leadership, and public service performance.
4. To propose actionable recommendations for fostering creativity and digital leadership in public sector organizations to improve decision-making quality and enhance service delivery.

By addressing these objectives, this research aims to contribute empirically grounded insights that can inform strategic initiatives aimed at promoting innovation, efficiency, and accountability in public administration practices. Ultimately, the overarching goal is to facilitate the development of more resilient and responsive public sector institutions capable of meeting the evolving needs and expectations of citizens in an increasingly digitalized world.

2. Literature Review and Hypothesis Development

2.1 The Relationship between Creativity and Decision-Making Quality

Baruah & Paulus (2019) define that creativity is the ability of an individual or group to generate new ideas, innovative solutions, or unique approaches to solving specific problems or tasks. It involves associative thinking processes, flexibility of thought, and the ability to think beyond conventional boundaries. Elwyn et al. (2016) state Decision-making quality is the extent to which a decision is made, evaluated, and implemented effectively. This includes accuracy, timeliness, relevance, consistency, and the impact of the decision on the desired goals. The relationship between creativity and decision-making quality reflects how much an individual's or a group's level of creativity influences the outcomes of the decision-making process (Blauth et al., 2014; Curnin et al., 2022; Niepel et al., 2015). Research on this relationship attempts to determine whether higher levels of creativity are associated with improved decision-making quality, or if there is another more complex relationship between these two variables. High levels of creativity can enhance decision-making quality by generating a wider range of alternatives, considering unconventional solutions, and introducing new perspectives in evaluating available options (Jarrahi, 2018; Liedtka, 2015). However, the relationship between creativity and decision-making quality may be influenced by various factors, including organizational context, characteristics of individuals involved in the decision-making process, and the specific needs of the tasks or problems being addressed. Therefore, the proposed hypotheses are as follows:

H_1: *Creativity impacts on Decision-Making Quality.*

2.2 The Relationship between Creativity and Public Service Performance

According to Moura et al. (2019), Public service performance refers to the overall effectiveness, efficiency, and quality of services delivered by government agencies, non-profit organizations, and other entities responsible for providing public services. This includes measures such as citizen satisfaction, service accessibility, responsiveness to community needs, and the achievement of organizational goals and objectives (Pakurár et al., 2019). Higher levels of creativity within public service organizations are expected to lead to improved public service performance by fostering innovation, enhancing service delivery processes, and generating novel approaches to addressing societal problems. Creative solutions have the potential to increase the effectiveness of public interventions, optimize resource allocation, and enhance the overall quality of services provided to citizens (Moro Visconti & Morea, 2020).

Azamela et al. (2022) findings provide insights into how certain factors, such as organizational creativity, innovation capacity, cross-agency collaboration, and institutional leadership, can influence innovation performance. Improved innovation performance, supported by strong creativity and innovation capacity, can directly impact the enhancement of the quality and efficiency of public services. Specifically, organizational creativity is identified as a factor that significantly

and positively influences innovation performance. This indicates that organizations capable of generating new ideas and innovative solutions are more likely to develop better and more responsive public services.

Meanwhile, Jung et al. (2018) finding that public service motivation significantly affects creativity suggests a potential link between individuals' motivation to serve the public and the quality of public service performance in South Korea. When individuals are motivated by factors such as attraction to public interest, civic duty, and sacrifice, they may be more inclined to demonstrate creative problem-solving abilities and innovative approaches in delivering public services (Vogel, 2022). This can lead to improvements in the effectiveness, efficiency, and responsiveness of public service delivery (Andrews & Van de Walle, 2013; Eneanya, 2018). Furthermore, the observation that country differences, rather than gender differences, have a more significant effect on the relationship between public service motivation and creativity underscores the importance of considering cultural contexts and institutional frameworks in shaping public service performance. Different countries may have distinct societal values, governance structures, and policy environments that influence the manifestation of public service motivation and its impact on creativity within public service organizations. Therefore, the following hypotheses are proposed:

H_2: *Creativity impacts on Public Service Performance.*

2.3 The Relationship between Digital Leadership and Decision-Making Quality

Digital leadership refers to the ability of individuals or organizations to effectively navigate and leverage digital technologies, data, and networks to achieve strategic objectives and drive innovation in today's digital age (Schiuma et al., 2022). Digital leaders demonstrate proficiency in using digital tools and platforms to communicate, collaborate, and make informed decisions (Ghamrawi & M. Tamim, 2023). They embrace digital transformation by fostering a culture of digital literacy, innovation, and agility within their organizations. Digital leadership encompasses a range of competencies, including technological proficiency, strategic vision, adaptability to change, and the ability to inspire and empower teams to embrace digital innovation and drive organizational growth (Guinan et al., 2019). Overall, digital leadership plays a crucial role in guiding organizations through the complexities of the digital landscape and harnessing the potential of technology to achieve sustainable success in a rapidly evolving digital world (Petry, 2018; Volberda et al., 2021). Hung et al. (2023) study's findings highlight the crucial role of digital leadership in enhancing decision-making quality within organizations undergoing digital transformation, particularly in the context of cloud-based accounting effectiveness (CBAE) and firm performance in Vietnam. The presence of strong digital leadership amplifies the effects of digital transformation on CBAE and subsequently on decision-making quality (DMQ). This underscores the importance of effective leadership in maximizing the benefits of digital initiatives and ensuring that decision-making processes are informed, strategic, and effective in driving organizational success in the digital age. Furthermore, Winasih et al. (2024) assert that digital leadership exerts a direct influence on decision-making processes within organizations. This suggests that the effectiveness of decision-making is closely tied to the quality of leadership in navigating digital transformation initiatives. Strong digital leadership not only guides organizations in embracing technological advancements but also shapes the decision-making culture, fostering an environment conducive to informed, strategic, and innovative decision-making practices. Thus, the following hypotheses are proposed:

H_3: *Digital Leadership impacts on Decision-Making Quality.*

2.4 The Relationship between Digital Leadership and Public Service Performance

The findings of Yusuf et al. (2023) study unveil a notable correlation between digital leadership and organizational performance, as well as between digital leadership and digital transformation. Meanwhile, Chatterjee et al. (2023) demonstrates that digital leadership plays a pivotal role in driving positive and significant impacts on both organizational performance and digital transformation initiatives. Moreover, the study of Benitez et al. (2022) underscores the interplay between digital leadership and digital transformation, revealing that the presence of effective digital leadership facilitates the successful implementation of digital initiatives, ultimately contributing to enhanced organizational performance. These results underscore the critical importance of cultivating strong digital leadership within organizations to navigate the complexities of digital transformation and achieve sustained success in today's rapidly evolving business landscape. Furthermore, Ringson & Matshabaphala's (2023) study emphasizes the impact of global changes, particularly technological advancements, on leadership and service delivery in the public sector. It explores the evolving roles of human capital as key drivers of leadership and highlights the challenges of leading organizational change in the digital age (Dirani et al., 2020). Consequently, the following hypotheses are posited:

H_4: *Digital Leadership impacts on Public Service Performance.*

2.5 The Relationship between Decision-Making Quality and Public Service Performance

Ocampo et al. (2019) assert that high decision-making quality, characterized by accuracy, timeliness, relevance, and consistency, directly influences the outcomes of public service delivery. When decision-making processes are robust and

well-executed, they contribute to improved public service performance, including higher citizen satisfaction, better service accessibility, and increased responsiveness to community needs. Conversely, poor decision-making quality can lead to inefficiencies, delays, and suboptimal outcomes in public service delivery. Therefore, understanding and enhancing the relationship between decision-making quality and public service performance is critical for ensuring the effective functioning of government agencies and meeting the needs of citizens.

Negulescu and Doval (2014) investigated Romanian managers and employees' perceptions of decision-making quality across various domains and its alignment with organizational objectives. It findings serve as a foundation for further research in understanding the dynamics of decision-making quality and its impact on organizational outcomes. In other hand, Meng et al. (2017) findings on sustainable product recovery decision-making have implications for public service performance, particularly in the context of waste management and environmental sustainability initiatives within public sectors. By optimizing product recovery processes to balance economic, environmental, and societal considerations, public service organizations can enhance their resource efficiency and minimize environmental impact. This can lead to improved public service performance by promoting sustainable practices, reducing waste generation, and fostering a cleaner and healthier environment for citizens (Hui et al., 2023). Additionally, insights gained from the study can inform public policy and decision-making aimed at promoting sustainable practices across various sectors, ultimately contributing to overall public service performance and societal well-being. Hence, the following hypotheses are suggested:

H_5: *Decision-Making Quality impacts on Public Service Performance.*

2.6 Decision-Making Quality as Mediator

In the context of public service performance, decision-making quality acts as a crucial mediator between various organizational processes and outcomes. High-quality decision-making ensures that resources are allocated effectively, policies are formulated efficiently, and services are delivered in a timely and responsive manner. By serving as a mediator, decision-making quality influences the relationship between organizational inputs, such as leadership effectiveness and resource allocation, and outputs, such as service effectiveness and citizen satisfaction. Moreover, decision-making quality mediates the impact of external factors, such as regulatory frameworks and stakeholder expectations, on public service performance outcomes. Thus, understanding and improving decision-making quality are essential for enhancing overall public service performance and achieving organizational goals. In light of this, the following hypotheses are put forward:

H_6: *Decision-Making Quality mediates the relationship between Creativity and Public Service Performance.*
H_7: *Decision-Making Quality mediates the relationship between Digital Leadership and Public Service Performance.*

Based on previous literature and hypothesis development, the conceptual study proposes a model illustrating the relationships among the variables Creativity, Digital Leadership, Decision-Making Quality, and Public Service Performance in the context of public services. This model aims to explain how these factors interact and influence public service performance. The proposed variables in this model are as follows:

1. Creativity: Represents the ability of individuals or organizations to generate new, innovative, and creative ideas in formulating solutions to challenges faced in the context of public services.
2. Digital Leadership: Refers to the ability of leaders or managers to integrate information and communication technology (ICT) with organizational strategy and drive digital transformation in the delivery of public services.
3. Decision-Making Quality: Describes the level of excellence in the decision-making process within public organizations, including clarity, accuracy, and consistency in selecting the best alternatives.
4. Public Service Performance: Represents the end result of public service delivery, encompassing how effective, efficient, and responsive the services provided to the public are.

Based on the hypothesized relationships between these variables, the proposed conceptual model is as follows:

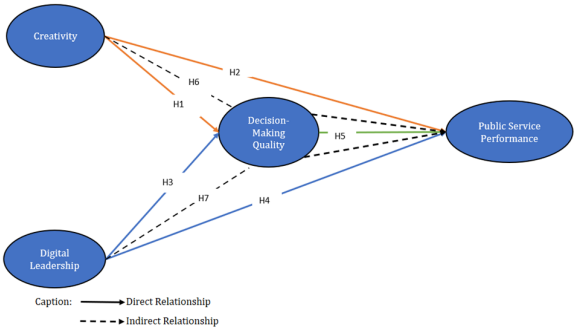

Fig. 1. Conceptual Study

In this model, creativity and digital leadership are expected to influence decision-making quality. Furthermore, decision-making quality is expected to mediate the relationship between creativity and digital leadership with public service performance. Thus, this conceptual model reflects an effort to understand how these factors are interrelated and contribute to enhancing public service performance.

3. Methodology

3.1 Research Design

This study adopts a quantitative approach with a cross-sectional study design to identify the relationship between the variables under investigation. In this design, data is collected from various respondents at a single point in time, allowing researchers to examine relationships between variables without considering temporal developments. This approach enables a broader and more comprehensive analysis of the phenomenon being studied, allowing researchers to identify patterns and relationships among variables that may exist within the population being studied. Thus, the cross-sectional study design is an appropriate choice for exploring the relationship between Decision-Making Quality (DMQ) and Public Service Performance (PSP) within the context of public service organizations.

Table 1
Study Instrument

Variable	Item and Indicators	Reference
Creativity	1. Cre1= I often come up with innovative solutions to complex problems. 2. Cre2= I enjoy exploring new ideas and unconventional approaches. 3. Cre3= I frequently generate original concepts or perspectives in my work. 4. Cre4= I am comfortable taking risks and trying out unconventional methods. 5. Cre5= I actively seek out new experiences and perspectives to inspire my creativity. 6. Cre6= I am not afraid to challenge traditional ways of thinking or doing things. 7. Cre7= I enjoy experimenting with new techniques or methods to achieve better results.	Azamela et al. (2022)
Digital Leadership	1. DL1= I actively embrace and promote the use of digital technologies within my organization. 2. DL2= I prioritize digital innovation and encourage experimentation with new digital tools and platforms. 3. DL3= I effectively communicate the vision and benefits of digital transformation to my team members. 4. DL4= I demonstrate adaptability and agility in navigating digital disruptions and changes. 5. DL5= I empower my team members to take ownership of digital initiatives and projects. 6. DL6= I foster a culture of collaboration and knowledge-sharing through digital channels and platforms. 7. DL7= I continuously seek to enhance my own digital literacy and skills to stay ahead in the rapidly evolving digital landscape.	Hung et al. (2023)
Decision-Making Quality	1. DQM1= I thoroughly analyze all available information before making decisions. 2. DQM2= I consider the potential consequences and risks of each decision carefully. 3. DQM3= I actively seek input and perspectives from relevant stakeholders before finalizing decisions. 4. DQM4= I make decisions in a timely manner without sacrificing thoroughness. 5. DQM5= I ensure that decisions align with organizational goals and values. 6. DQM6= I am open to revising decisions based on new information or changing circumstances. 7. DQM7= I take responsibility for the outcomes of my decisions and learn from both successes and failures.	Hung et al. (2023); Negulescu & Doval (2014)
Public Service Performance	1. PSP1= We consistently meet or exceed the expectations of our service users. 2. PSP2= We demonstrate efficiency in delivering public services within specified timeframes. 3. PSP3= We prioritize transparency and accountability in our service delivery processes. 4. PSP4= We actively seek feedback from service users to continuously improve our services. 5. PSP5= We strive to maintain high standards of professionalism and ethical conduct in all interactions. 6. PSP6= We ensure equitable access to public services for all members of the community. 7. PSP7= We regularly evaluate and assess the impact of our services on the well-being and satisfaction of service users.	Ringson & Matshabaphala's (2023); Jung et al. (2018)

3.2 Population and Sample

The population for this study consists of employees from public service institutions in Sidoarjo Regency. Sampling was performed through a simple random sampling method, resulting in the selection of 400 respondents from diverse organizational units within these institutions. Questionnaires were distributed using Google Forms to respondents across various organizational units, supplemented by direct interviews conducted with a randomly selected subset of respondents. However, only 387 respondents returned the questionnaires, and out of those, only 314 data sets were deemed suitable for analysis.

3.3 Instrument and Variabel Measurement

The primary variables in this study are Decision-Making Quality (DMQ) and Public Service Performance (PSP). DMQ was measured using a Likert scale with questions describing the accuracy, timeliness, and relevance of decisions made by respondents. PSP was measured based on respondents' perceptions of the quality of public services provided by the public service institutions where they work. Additionally, control variables such as job level, education, and work experience were measured to account for factors influencing the study outcomes.

3.4 Data Analysis

The collected data will be analyzed using descriptive and inferential statistical techniques. Descriptive analysis will be employed to provide an overview of respondent characteristics and study variables. Furthermore, linear regression analysis will be used to evaluate the relationship between DMQ and PSP, considering relevant control variables. Additionally, statistical significance tests will be conducted to assess the strength and direction of relationships between the variables under investigation.

4. Result and Discussion

4.1 Descriptive Statistic

During the preliminary stage of the survey, we meticulously collected vital demographic data from respondents, focusing specifically on three key factors: gender, age distribution, and educational credentials. This critical phase was designed to forge a robust comprehension of participants' backgrounds, thus forming the basis for a detailed examination of their viewpoints and contributions in the ensuing sections of the questionnaire (refer to Table 2).

Table 2
Descriptive statistics

Measurement	Latent construct/value	f	(%)
Gender	Male	181	57.64
	Female	133	42.36
		314	**100.00**
Age	< 30	97	30.89
	30 - 40	101	32.17
	41 – 50	63	20.06
	> 50	53	16.88
		314	**100.00**
Education	High school	97	30.89
	D3	39	12.42
	S1	143	45.54
	S2	35	11.15
		314	**100.00**
	Total Respondent	**314**	**100.00**

The descriptive statistics presented in Table 2 offer a comprehensive insight into the demographic composition of the 314 respondents. Gender distribution reveals a slight majority of male respondents, comprising 57.64%, while females account for 42.36% of the sample. Regarding age, the majority falls below 40 years old, with 30.89% aged below 30 and 32.17% between 30 and 40. Additionally, 20.06% are aged between 41 and 50, with 16.88% aged over 50. In terms of educational background, the highest proportion holds a bachelor's degree (45.54%), followed by high school graduates (30.89%), diploma holders (12.42%), and master's degree holders (11.15%). These findings provide valuable insights for researchers, enabling them to understand the demographic makeup of the sample and its implications for interpreting survey results.

4.2 Validity and Reliability

Validity refers to the accuracy of research results, ensuring that the study measures what it intends to measure. Reliability, on the other hand, assures consistency and stability in the measurements used throughout the research process. Both validity and reliability are critical components in ensuring the credibility and trustworthiness of research findings (See Table 3).

The table presents the results of a Confirmatory Factor Analysis (CFA) for four constructs: Creativity, Digital Leadership, Decision-Making Quality, and Public Service Performance.
For each construct, several items are listed along with their respective outer loadings, Cronbach's Alpha coefficients, rho_A coefficients, Composite Reliability (CR), and Average Variance Extracted (AVE).

1. Creativity: All items (Cre1-Cre7) demonstrate high outer loadings ranging from 0.934 to 0.949, indicating strong relationships with the Creativity construct. The Cronbach's Alpha coefficient of 0.979 suggests excellent internal consistency reliability. The rho_A coefficient of 0.98 and CR of 0.983 further confirm the reliability of the construct. The AVE of 0.889 indicates that 88.9% of the variance in the observed variables is attributed to the construct.
2. Digital Leadership: Similar to Creativity, all items (DL1-DL7) show high outer loadings, ranging from 0.880 to 0.961, indicating strong associations with the Digital Leadership construct. The Cronbach's Alpha coefficient of 0.974 suggests excellent internal consistency. The rho_A coefficient of 0.976 and CR of 0.978 indicate high reliability. The AVE of 0.867 suggests that 86.7% of the variance is accounted for by the construct.
3. Decision-Making Quality: All items (DQM1-DQM7) exhibit high outer loadings, ranging from 0.886 to 0.944, indicating strong relationships with the Decision-Making Quality construct. The Cronbach's Alpha coefficient of 0.967

indicates excellent internal consistency reliability. The rho_A coefficient of 0.969 and CR of 0.972 confirm the construct's reliability. The AVE of 0.834 indicates that 83.4% of the variance is explained by the construct.

4. Public Service Performance: Most items (PSP1-PSP6) demonstrate high outer loadings, ranging from 0.736 to 0.945, except for PSP5. The Cronbach's Alpha coefficient of 0.958 suggests excellent internal consistency reliability. The rho_A coefficient of 0.96 and CR of 0.966 further confirm reliability. The AVE of 0.802 indicates that 80.2% of the variance is explained by the construct.

Table 3
Confirmatory Factor Analysis

Construct	Items	Outer Loading	Cronbach's Alpha	rho_A	CR	AVE
Creativity	Cre1	0.934	0.979	0.98	0.983	0.889
	Cre2	0.948				
	Cre3	0.947				
	Cre4	0.945				
	Cre5	0.940				
	Cre6	0.949				
	Cre7	0.937				
Digital Leadership	DL1	0.880	0.974	0.976	0.978	0.867
	DL2	0.944				
	DL3	0.946				
	DL4	0.923				
	DL5	0.961				
	DL6	0.913				
	DL7	0.947				
Decision-Making Quality	DQM1	0.886	0.967	0.969	0.972	0.834
	DQM2	0.923				
	DQM3	0.944				
	DQM4	0.921				
	DQM5	0.918				
	DQM6	0.897				
	DQM7	0.902				
Public Service Performance	PSP1	0.928	0.958	0.96	0.966	0.802
	PSP2	0.901				
	PSP3	0.945				
	PSP4	0.902				
	PSP5	0.736				
	PSP6	0.925				
	PSP7	0.915				

Furthermore, The Heterotrait-Monotrait Ratio (HTMT) of Correlations function serves as a statistical tool employed to assess discriminant validity within confirmatory factor analysis (CFA) or other measurement models. By comparing the correlation ratios between different constructs (heterotrait) with those of the same constructs (monotrait), HTMT evaluates the extent to which distinct constructs truly differ from one another or conversely, whether there exists redundancy between them. In CFA, HTMT aids in evaluating the model's ability to differentiate between various constructs. If the HTMT values between different constructs exceed a certain threshold (e.g., 0.85), it indicates potential overlap and lack of discriminant validity, underscoring the importance of ensuring unique measurement of constructs for meaningful interpretation and decision-making processes (see Table 4).

Table 4
Heterotrait-Monotrait Rasio (HTMT)

Construct	Cre	DCM	DL	PSP
Creativity	1			
Decision-Making Quality	0.472	1		
Digital Leadership	0.413	0.327	1	
Public Service Performance	0.598	0.502	0.575	1

*) Cre=Creativity; DL=Digital Leadership; DMQ=Decision-Making Quality; PSP=Public Service Performance

Table 4 presents the Heterotrait-Monotrait Ratio (HTMT) between four constructs: Creativity, Decision-Making Quality, Digital Leadership, and Public Service Performance. HTMT is used to assess discriminant validity among different constructs in a measurement model. From the table, it can be observed that each HTMT value lies off the main diagonal, indicating the degree of overlap between different constructs. All HTMT values are less than 1, indicating good discriminant validity between these constructs.

4.3 Hypothesis Testing

To determine the extent of the relationship between the variables Creativity, Digital Leadership, Decision-Making Quality, and Public Service Performance, the next step is to utilize path analysis as depicted in the following table and figure.

Table 5
Path Analysis

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H1	Cre → DMQ	0.396	0.061	6.478	0.000	Supported
H2	Cre→ PSP	0.337	0.05	6.669	0.000	Supported
H3	DL → DMQ	0.158	0.045	3.544	0.000	Supported
H4	DL→ PSP	0.351	0.046	7.665	0.000	Supported
H5	DMQ → PSP	0.221	0.041	5.336	0.000	Supported

*) Cre=Creativity; DL=Digital Leadership; DMQ=Decision-Making Quality; PSP=Public Service Performance

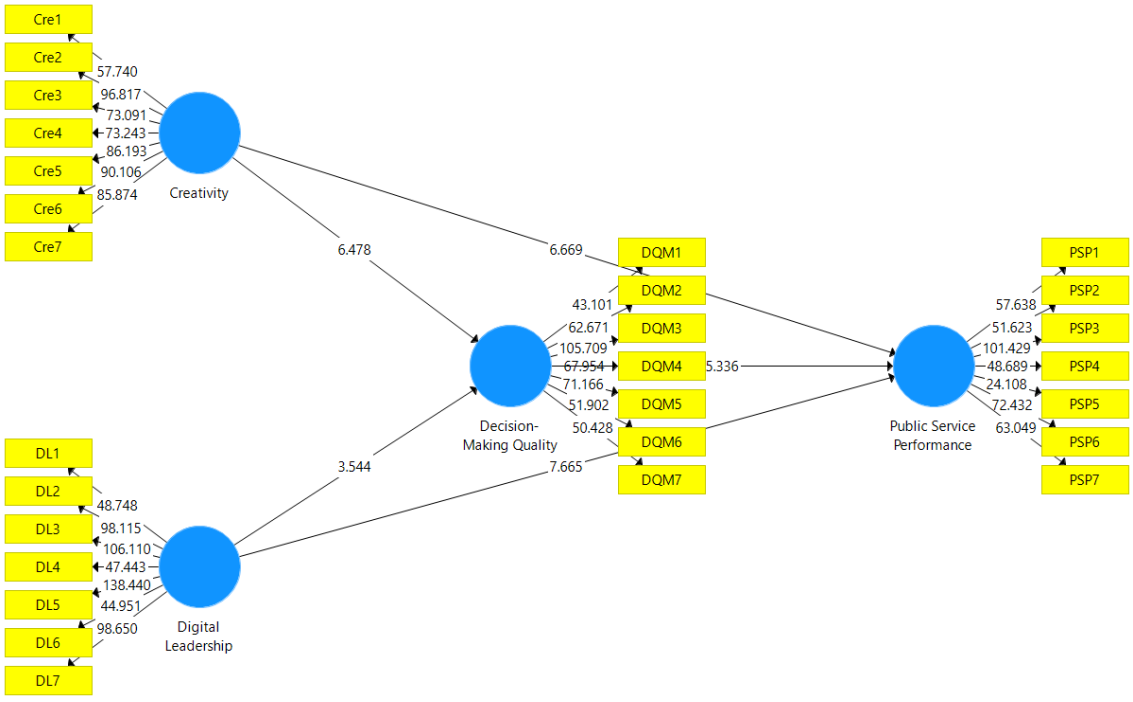

Fig. 2. Smart PLS Bootstrapping Output

Table 5 and Fig. 2 presents the results of a path analysis examining the relationships between the variables Creativity (Cre), Digital Leadership (DL), Decision-Making Quality (DMQ), and Public Service Performance (PSP). Each row represents a specific hypothesis tested, along with the corresponding constructs involved, the values from the original sample, standard deviation (STDEV), T statistics, p-values, and the result of the hypothesis test. The analysis reveals the following:

- Hypothesis H1 and H2: There is a significant positive relationship between Creativity and both Decision-Making Quality (DMQ) and Public Service Performance (PSP), as indicated by the high T statistics and p-values of 0.000. Therefore, both hypotheses are supported, suggesting that higher levels of creativity are associated with improved decision-making quality and public service performance.
- Hypothesis H3 and H4: Similarly, there is a significant positive relationship between Digital Leadership and both Decision-Making Quality (DMQ) and Public Service Performance (PSP), as indicated by the T statistics and p-values of 0.000. Hence, both hypotheses are supported, indicating that stronger digital leadership correlates with higher levels of decision-making quality and public service performance.
- Hypothesis H5: The analysis also demonstrates a significant positive relationship between Decision-Making Quality (DMQ) and Public Service Performance (PSP), supported by the T statistics and p-value of 0.000. This suggests that enhanced decision-making quality is associated with improved public service performance.

4.4 Mediation Testing

Next, mediation testing, which is a statistical method used to explore the mechanisms through which an independent variable influences a dependent variable, can be observed in the following table.

Table 6
Mediation Result

Hypothesis	Construct*)	Original Sample	STDEV	T Statistics	P Values	Result
H6	Cre → DCM → PSP	0.088	0.021	4.126	0.000	Supported
H7	DL → DCM → PSP	0.035	0.013	2.722	0.007	Supported

*) Cre=Creativity; DL=Digital Leadership; DMQ=Decision-Making Quality; PSP=Public Service Performance

Table 6 presents the results of mediation testing, specifically examining the mediating effect of Decision-Making Quality (DMQ) on the relationship between Creativity (Cre) and Public Service Performance (PSP), as well as between Digital Leadership (DL) and Public Service Performance (PSP). The analysis reveals the following:

- Hypothesis H6: There is a significant indirect effect of Creativity on Public Service Performance through Decision-Making Quality, as indicated by the T statistics of 4.126 and a p-value of 0.000. Therefore, Hypothesis H4a is supported, suggesting that Decision-Making Quality partially mediates the relationship between Creativity and Public Service Performance.
- Hypothesis H7: Similarly, there is a significant indirect effect of Digital Leadership on Public Service Performance through Decision-Making Quality, with T statistics of 2.722 and a p-value of 0.007. Thus, Hypothesis H4b is supported, indicating that Decision-Making Quality partially mediates the relationship between Digital Leadership and Public Service Performance.

Overall, the results suggest that Decision-Making Quality plays a mediating role in the relationship between both Creativity and Digital Leadership with Public Service Performance. This underscores the importance of Decision-Making Quality as a mechanism through which Creativity and Digital Leadership influence the performance of public services.

4.5 Discussion

The acceptance of Hypothesis 1, which suggests that creativity significantly influences decision-making quality, holds significant managerial implications for Sidoarjo Regency. This finding underscores the importance of fostering a creative organizational culture within public service institutions in Sidoarjo, as it directly impacts the quality of decision-making processes undertaken by leaders and employees. Embracing creativity cultivates an environment where innovative solutions to complex problems are more likely to emerge, enhancing the overall effectiveness and efficiency of decision-making processes (Curnin et al., 2022). Consequently, public service managers in Sidoarjo Regency should prioritize initiatives aimed at nurturing creativity among their workforce, such as encouraging brainstorming sessions, providing training on creative thinking techniques, and recognizing and rewarding innovative ideas (Himmatul et al., 2024; Himmatul & Junaedi, 2024; Lisaria et al., 2024). By doing so, decision-makers can harness the power of creativity to drive positive outcomes in service delivery, ultimately contributing to the improvement of public service performance and the overall well-being of the community in Sidoarjo Regency (Kharis et al., 2024; Saeri et al., 2024; Shofwa et al., 2024).

The confirmation of Hypothesis 2, which suggests that creativity has a significant impact on public service performance, carries substantial managerial implications for Sidoarjo Regency. This finding underscores the pivotal role of creativity in enhancing the quality and effectiveness of public service delivery within the region. By fostering a culture of creativity among employees and leaders, public service institutions in Sidoarjo Regency can unlock innovative approaches to addressing complex challenges and meeting the diverse needs of the community. Managers should actively encourage and support initiatives that promote creative thinking and problem-solving skills among their workforce (Basrowi & Maunnah, 2019; Basrowi & Utami, 2023; Soenyono & Basrowi, 2020). This may include organizing workshops, providing resources for experimentation, and creating platforms for idea sharing and collaboration. Furthermore, recognizing and rewarding creativity can serve as a powerful incentive for employees to actively contribute their innovative ideas towards improving public service performance (Moro Visconti & Morea, 2020). Ultimately, by harnessing the power of creativity, public service managers in Sidoarjo Regency can drive positive changes in service delivery, leading to higher levels of citizen satisfaction, increased efficiency, and greater overall community well-being (Basrowi & Utami, 2020; Marwanto et al., 2020a, 2020b; Suwarno Basrowi, 2020).

The validation of Hypothesis 3, which posits that digital leadership significantly influences decision-making quality, carries profound managerial implications for Sidoarjo Regency (Alexandro & Basrowi, 2024b; Junaidi, Masdar, et al., 2024; Miar et al., 2024). This finding underscores the critical role of digital leadership in shaping the effectiveness and outcomes of decision-making processes within public service institutions in the region. Digital leaders are pivotal in leveraging technological advancements and digital tools to facilitate informed, data-driven decision-making (Hung et al., 2023; Winasih et al., 2024). By embracing digital leadership practices, managers in Sidoarjo Regency can foster a culture of innovation, collaboration, and efficiency in decision-making processes. Digital leaders should prioritize initiatives aimed at enhancing digital literacy among employees, promoting the adoption of digital platforms for data analysis and communication, and integrating technology into decision-making frameworks (Alexandro & Basrowi, 2024a; Hamdan & Basrowi, 2024; Z. F. A. Yusuf et al., 2024). Moreover, digital leaders should lead by example, demonstrating adaptability and agility in navigating digital transformations and harnessing the power of technology to drive positive outcomes (Junaidi, Basrowi, et al., 2024; Kittie & Basrowi, 2024; Mulyani & Basrowi, 2024; Purwaningsih et al., 2024). By investing in digital leadership capabilities, public service managers in Sidoarjo Regency can enhance decision-making quality, leading to more effective and responsive governance, improved service delivery, and ultimately, greater public trust and satisfaction.

The approval of Hypothesis 4, indicating that digital leadership significantly impacts public service performance, holds significant managerial implications for Sidoarjo Regency. This finding underscores the crucial role of digital leadership in

driving positive outcomes in public service delivery within the region. Digital leaders play a pivotal role in leveraging technology to enhance service quality, efficiency, and effectiveness (Alexandro & Basrowi, 2024b; Hadi et al., 2019; Junaidi, Masdar, et al., 2024; Miar et al., 2024). By embracing digital leadership practices, managers in Sidoarjo Regency can harness the power of digital tools and platforms to optimize service delivery processes, improve citizen engagement, and enhance overall service performance. Digital leaders should prioritize initiatives aimed at fostering a culture of innovation, collaboration, and continuous improvement in public service institutions (Ringson & Matshabaphala, 2023). This may include investing in digital infrastructure, providing training on digital tools and technologies, and promoting the use of data analytics for evidence-based decision-making. Additionally, digital leaders should champion initiatives to enhance digital literacy among employees and stakeholders, ensuring widespread adoption and effective utilization of digital solutions. By embracing digital leadership, public service managers in Sidoarjo Regency can drive positive changes in service performance, leading to higher levels of citizen satisfaction, increased operational efficiency, and ultimately, a more resilient and responsive public service sector.

The recognition of Hypothesis 5, which suggests that decision-making quality significantly influences public service performance, carries substantial managerial implications for Sidoarjo Regency. This finding underscores the critical importance of effective decision-making processes in driving positive outcomes in public service delivery within the region. Managers in Sidoarjo Regency must prioritize initiatives aimed at enhancing decision-making quality across all levels of the public service institutions. This may include investing in training programs to improve analytical skills and critical thinking among employees, implementing transparent decision-making frameworks, and fostering a culture of collaboration and communication (Meng et al., 2017). By improving decision-making quality, managers can ensure that resources are allocated efficiently, risks are mitigated effectively, and policies and programs are implemented in a manner that maximizes their impact on public service performance. Additionally, managers should regularly evaluate and monitor decision-making processes to identify areas for improvement and implement corrective measures as necessary. By emphasizing decision-making quality, public service managers in Sidoarjo Regency can enhance service delivery effectiveness, leading to greater citizen satisfaction, trust, and confidence in government institutions (Purwaningsih et al., 2018, 2022; Purwaningsih & Suhaeri, 2019).

The admission of Hypotheses 6 and 7 carries significant managerial implications for Sidoarjo Regency, as they shed light on the mediating role of decision-making quality in the relationship between creativity, digital leadership, and public service performance. With Hypothesis 6 suggesting that decision-making quality mediates the relationship between creativity and public service performance, it becomes imperative for managers to foster a work environment that nurtures creativity among employees. By encouraging innovative thinking and idea generation, managers can indirectly enhance decision-making quality, leading to improved public service performance. Additionally, Hypothesis 7 indicates that decision-making quality serves as a mediator between digital leadership and public service performance. Therefore, managers in Sidoarjo Regency must prioritize the development of digital leadership capabilities among their workforce. By leveraging digital tools and technologies effectively, digital leaders can streamline decision-making processes, optimize resource allocation, and enhance service delivery efficiency (Purwaningsih, 2020; Purwaningsih et al., 2019; Purwaningsih & Rahmanto, 2013). Moreover, by emphasizing the importance of decision-making quality, managers can ensure that digital initiatives translate into tangible improvements in public service performance. Overall, the acceptance of these hypotheses underscores the need for a holistic approach to managerial practices in Sidoarjo Regency, one that emphasizes creativity, digital leadership, and decision-making quality as key drivers of enhanced public service performance and citizen satisfaction.

5. Conclusion

This study sheds light on the intricate relationships between creativity, digital leadership, decision-making quality, and public service performance in Sidoarjo Regency. The acceptance of hypotheses underscores the pivotal role of creativity and digital leadership in shaping decision-making processes and ultimately influencing service delivery outcomes. By fostering a culture of creativity and digital leadership, public service managers can indirectly enhance decision-making quality, leading to improved public service performance and greater citizen satisfaction. These findings highlight the importance of investing in initiatives aimed at developing creativity and digital leadership skills among employees, as well as prioritizing decision-making quality as a key determinant of service delivery effectiveness in Sidoarjo Regency's public service institutions. The implications of this research are profound for public service managers in Sidoarjo Regency. They emphasize the need to invest in initiatives that promote creativity and digital leadership among employees. By nurturing these qualities, managers can indirectly enhance decision-making quality, leading to improved public service performance and greater citizen satisfaction. Additionally, the study underscores the importance of prioritizing decision-making quality as a key determinant of service delivery effectiveness.

5.1 Limitation and Recommendation

Despite its contributions, this study is not without limitations. One limitation is the cross-sectional nature of the research design, which restricts the ability to establish causal relationships between variables. Additionally, the study focused solely on public service institutions in Sidoarjo Regency, limiting the generalizability of the findings to other contexts.

Furthermore, the reliance on self-reported data may introduce response bias and affect the validity of the results. Based on the findings, several recommendations can be made for public service managers in Sidoarjo Regency. Firstly, they should invest in training programs and workshops aimed at fostering creativity and digital leadership skills among employees. Secondly, managers should implement transparent decision-making frameworks and processes to enhance decision-making quality. Additionally, there is a need for further research utilizing longitudinal designs and larger sample sizes to confirm the causal relationships identified in this study. Lastly, public service managers should continuously monitor and evaluate their efforts to promote creativity, digital leadership, and decision-making quality to ensure sustained improvements in public service performance over time.

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