



DOI: <https://doi.org/10.38035/dijemss.v7i4>
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Implementation of E-Government through UMKM Clustering in Improving Digitalization in Kutai Timur Regency

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Abstract: The Local Government has created a digital-based UMKM clustering with the aim of facilitating transactions for the community and business actors to enhance the regional economic turnover. This research uses a descriptive qualitative method. This research uses secondary data sources from various trusted sources, including official government documents, scientific journal articles, and case studies on the implementation of digitalization in the public sector. In addition, literature analysis also helps in identifying the challenges faced. The data collection techniques in this study are observation, interviews, and documentation. In this study, the data analysis technique uses the data analysis model according to Miles et al. (2019), which includes data collection, data condensation, data display, and conclusion drawing and verification. The purpose of this research is to assess the implementation of e-government through the UMKM website in East Kutai Regency in enhancing digitalization. This study also identifies the obstacles faced in the implementation of this website, as well as analyzes the role of the local government in the success of UMKM digitalization. The conclusion that can be drawn from this research is that the implementation of e-government is progressing well.

Keywords: UMKM, E-government, Local Government, Implementation

INTRODUCTION

The rapid development of the times encourages the government to adapt to the needs of its society. With the development of information and communication technology, it has influenced the work systems of an organization, one of which is government institutions. (Latanza Indahsari & Jaja Raharja, 2024). Based on this, various public services are currently innovating thru the utilization of information and communication technology. Like the Surabaya City government, which implements e-government in various fields, including city planning with e-budgeting and e-projects, as well as in the personnel sector, such as performance measurement and promotions. (Beshi & Kaur, 2020). This is also mentioned in Sugiono, (2021). E-government is considered a form of innovation that transforms the

governance system toward a more advanced direction due to the creation of efficiency and quality services thru the utilization of information and communication technology. One of the efforts of the local government is to encourage the digitalization of Micro, Small, and Medium Enterprises (UMKM) as a strategic agenda to accelerate economic transformation in the region. (Fadli Akbar, 2025). Micro, Small, and Medium Enterprises (UMKM) play a crucial role in Indonesia's economy as they contribute more than 60% of Indonesia's GDP and are the main providers of employment, as explained by BPS (2020), with more than 97% of Indonesian workers employed in the UMKM sector. However, in Indonesia, UMKM have not fully embraced the digital realm. Such as digital transformation thru e-commerce, digital applications, and online platforms. (Riska Chyntia Dewi & Suparno Suparno, 2022).

According to Ainurrokhim et al. (2024), they explain the importance of digitalization for UMKM in expanding market access and enhancing the business competence of UMKM in the digital era. In East Kutai Regency, the local government has begun implementing UMKM clustering thru a website as part of the e-government program to support the digitalization of micro-enterprises in East Kutai Regency. This is in line with the Decision of the Head of the Regional Research and Innovation Agency of Kutai Timur Regency, which contains innovations in regional devices within the Kutai Timur Regency government for the year 2023-2024. To encourage UMKM digitalization as part of the regional economic empowerment strategy, this is also supported by the East Kutai Regent Regulation No. 32 of 2022, which specifically regulates the empowerment of cooperatives and UMKM in the East Kutai Regency area. This policy regulates the capacity building of UMKM, including facilities such as the provision of websites to promote products and improve business management. Website-based clustering of UMKM in East Kutai Regency is the process of data collection, verification, and grouping UMKM into clusters based on criteria set by the local government, which minimally includes location, sector, business scale, and level of digital adoption to support the distribution of services and digitalization programs. This has great potential to accelerate UMKM digitalization and open broader market access; however, based on initial observations, there are significant challenges that need to be addressed in order to achieve optimal UMKM digitalization development. One of them is the limitation in the utilization of information technology (IT) by UMKM in East Kutai Regency. Many UMKM actors are not yet familiar with digital technology and have not utilized it well to support their business operations and marketing. The lack of knowledge and skills in using IT causes UMKM to lag behind in terms of operational efficiency, broader market access, and higher competitiveness. (Riswati, 2019).

The implementation of a web-based information system for mapping UMKM clusters not only provides structured data but also encourages digital literacy among UMKM actors. This will open new opportunities for them to innovate, increase productivity, and achieve more sustainable growth. The challenges faced include not only UMKM actors as users of the website but also the incomplete features of the website. The incompleteness of features, such as the lack of Google Maps integration for tagging UMKM locations and the self-registration by business actors that is still done manually by the admin. This has caused many entrepreneurs to not fully utilize the website to develop their businesses. Although there have been several previous studies discussing the adoption of digital technology by UMKM, research on the implementation of e-government thru websites for district-level UMKM is still lacking. Most research focuses on the use of digital technology by UMKM in general and the factors that influence technology adoption. However, research discussing the role of local governments in successfully implementing the digitalization of UMKM and the technical and social challenges faced in the implementation of UMKM websites is still very limited. This research also fills the gap related to the evaluation of UMKM website implementation, particularly in terms of incomplete features and low technology adoption by UMKM actors. Additionally, there has been little research on the role of mentoring and training provided by local governments in

enhancing the use of digital technology in the UMKM sector. Therefore, this study is expected to provide new insights into the implementation of e-government and UMKM digitalization. Based on the above description, this research aims to examine how the implementation of e-government through UMKM clustering in Kutai Timur enhances digitalization in East Kutai Regency, and what challenges are faced in the implementation of UMKM websites in East Kutai Regency. The objective of this research is to assess the implementation of e-government thru UMKM websites in East Kutai Regency in enhancing digitalization. Identifying the challenges faced in the implementation of this website, as well as analyzing the role of the local government in successfully promoting digitalization in UMKM.

METHOD

This research uses a qualitative descriptive method to explore and understand the phenomenon related to the implementation of e-government thru the clustering of UMKM in enhancing digitalization in East Kutai Regency. Descriptive qualitative research is a type of research aimed at detailing and comprehensively understanding phenomena or events. Descriptive qualitative research also focuses on in-depth understanding of a problem, perceptions, attitudes, or experiences of individuals or groups. (Abuhammad et al., 2024) The main focus of the research is on the analysis of secondary data obtained from literature, policy documents, official reports, and relevant journal articles. This approach is carried out without involving interviews, as the main objective is to analyze the already available data to obtain a comprehensive perspective.

This research uses secondary data sources from various reliable sources, including official government documents, scientific journal articles, and case studies on the implementation of digitization in the public sector. In addition, the literature review also helps in identifying the challenges faced. The data collection techniques in this study are using observation, interviews, and documentation. In this study, the data analysis technique uses the data analysis model according to Miles et al. (2019), which includes data collection, data condensation, data display, and conclusion drawing and verification. (Nisak & Hertati, 2024)

RESULTS AND DISCUSSION

To understand the implementation of e-government thru the clustering of UMKM in enhancing digitalization in East Kutai Regency, this research is analyzed using George C. Edwards III's theory, which explains that there are four important variables in implementation: communication, resources, executor disposition, and bureaucratic structure. According to Edwards, this context has tendencies and behaviors that mean the will, desire, and inclination of policymakers to implement earnestly so that the policy goals can be achieved. (Mubarok et al., 2020). This research is outlined with the four indicators as follows:

1. Communication

The communication of a program can only be carried out effectively if it is clear to the implementers. Including the delivery of information, clarity of information, and consistency of the information conveyed. The success of implementation requires that the implementor knows what to do. And effectively communicated to the target group. In this research, the local government, specifically the Cooperatives and UMKM Office of East Kutai Regency, in collaboration with the Regional Research and Innovation Agency, is conducting the clustering of UMKM thru a website. At this stage, the local government has conducted socialization related to the digitalization of UMKM clusters. As a result, approximately 12,097 UMKM have been identified in East Kutai Regency based on the clustering of all its sub-districts. This can be seen as follows:

Table 1. Clustering of UMKM by Sub-District in Kutai Timur Regency

No.	Subdistrict	Distribution of UMKM
1	Batu Ampar	277
2	Bengalon	366
3	Busang	206
4	Kaliorang	376
5	Karangan	259
6	Kaubun	648
7	Kombeng	126
8	Long Mesangat	304
9	Muara Ancalong	635
10	Muara Bengkal	547
11	Muara Wahau	66
12	Rantau Pulung	361
13	Sandaran	66
14	Sanggatta Selatan	2.816
15	Sanggatta Utara	4.074
16	Sangkulirang	303
17	Telen	245
18	Teluk Pandan	422
		12.097

Source : Data processed by the author, 2026

Based on the data presented in the table above, it can be seen that the local government of East Kutai Regency has conducted data collection and socialization in 2024. This shows that the local government is actively communicating regarding the implementation of the UMKM cluster in Kutai Timur Regency. The communication indicators in this implementation are also carried out in the form of meetings from the quality control team to all the involved personnel. This is evident from the invitation to the discussion of the entire team forming the Digital Cluster for UMKM, which involves 22 members, consisting of 5 regional governments and 1 academician.

2. Resources

The quality of human resources is a very important element in implementing a policy. (Setianto et al., 2021). The availability of human resources in the implementation of UMKM clustering in East Kutai Regency is very important in carrying out its duties and functions. This can be seen as follows:

Table 2. Human Resources in the Implementation Team for the Digitalization of the UMKM Cluster in Kutai Timur Regency

No.	Categories	Amount
1	Quality Control Team	7 People
2	Implementing Unit	9 People
3	Resource Person / Expert / Academic	6 People

Source : East Kutai Regional Research and Innovation Agency, 2024

Based on the table above, the quality control team consists of 7 members from different regional agencies in East Kutai Regency, namely the Regional Research and Innovation Agency (Brida), the Investment and One-Stop Integrated Services Office (DPMPTSP), the Cooperatives Office (DISKOP), the Trade and Industry Office (DISPERINDAG), the Communication and Information Office (DISKOMINFO), the Government Administration Secretariat (STAPER), and Mulawarman University (UNMUL). Each has specific tasks, with

the quality control team serving as a guide to ensure that regional research and innovation are conducted in accordance with the National Medium-Term Development Plan (RPJMN) and the Ministry of Home Affairs' Strategic Plan, as well as supporting the achievement of the city/regency government's vision and mission. Next, the duties of the implementing unit or expert resource persons include preparing reports, analyzing data, compiling discussion forum reports, and reporting each stage of activities to the person in charge. As for the supporting staff who function as assistants in distributing, collecting, and uploading researcher statements, as well as other administrative needs.

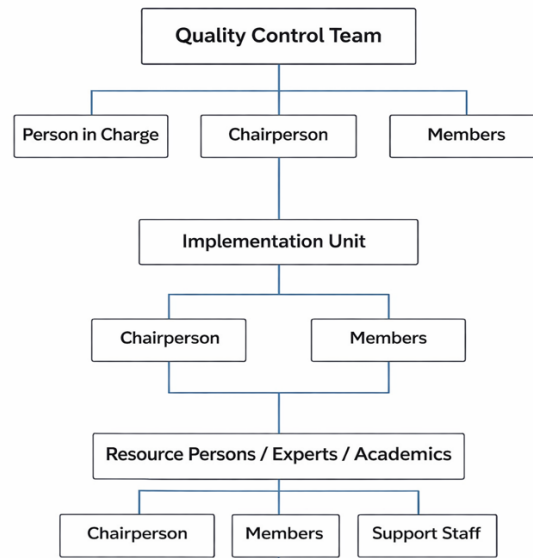
3. Executor's Disposition

In this indicator, it refers to the attitudes, intentions, and capabilities of the groups or organizations involved in the implementation of the policy. George C Edward III emphasizes that the disposition of the implementers is very important in determining the success of a policy. (Yildiz et al., 2025). This factor is related to the motivation, commitment, and trust of the implementers toward the policy being implemented. This indicator is very important because it determines the success of the policy and how the response to challenges is (Wardhana, 2025). In this study, the local government, particularly this drafting team, is committed to the digital clustering of UMKM because this development can support the advancement of literacy and the more optimal use of digital technology within the local government and the community of East Kutai Regency. In its implementation, the East Kutai Regency Local Government, particularly the team responsible for the UMKM cluster, conducted knowledge transfer activities such as socialization related to mapping to support the operation of the UMKM cluster website more effectively and optimally.

In addition, the coverage of beneficiaries from the digitalization of the UMKM cluster reached 12,097 registered UMKM, and approximately 501 beneficiaries from the general public. Furthermore, it is known that there are 3 methods of complaint service information provided by BRIDA Kutim as the responsible party, namely face-to-face administrative services, complaint services thru the website, and services based on social media such as Instagram. Therefore, based on these implementation disposition indicators, BRIDA Kutim and the team forming the digital-based UMKM cluster are performing their duties and roles quite effectively. This can be seen in how they establish commitments, implement programs, and respond to community complaints.

4. Bureaucratic Structure

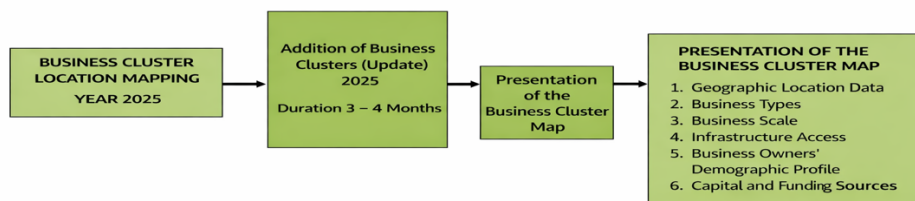
Local bureaucracy performs its service function by prioritizing public information transparency, accountability, and active community participation, which will be more capable of realizing social justice and increasing public trust in the local government. (Pratiwi et al., 2025). The Bureaucratic Structure is a formal authority of work within an organization. This structure can be visually represented as an organizational structure, which also serves many purposes. (Julia & Jiddal Masyuroh, 2022). Organizational strategic change is a new influence on the evolution of organizational development. The increasingly complex organizational structure and technology, organizational strategy, and social environment drive the rise of organizational change. An organization will experience development if it can be deemed successful when progressing in a positive direction. (Supriyadi et al., 2023). Based on the explanation above, here is the bureaucratic structure possessed by the team responsible for the Digital UMKM Clustering:



Source : East Kutai Regional Research and Innovation Agency, 2024

Figure 1. Structure of the Team for Digital UMKM Clustering in Kutai Timur Regency.

Based on the image 1 above, it shows the team forming the digital-based UMKM clustering that implements good bureaucratic structure indicators. With a clear division of tasks so that the individuals within it can work at their best. This division of tasks has also been regulated in the Regent's Decree titled the establishment of the research and development team for cooperatives, small, and medium enterprises in East Kutai Regency in 2024. Thus, the position of each individual in this bureaucratic structure has a clear and administratively valid status. Additionally, the Standard Operating Procedure (SOP) for the Digitalization of the UMKM Cluster is also attached as image 2 below :



Source : East Kutai Regional Research and Innovation Agency, 2024

Figure 1. SOP Digitalization of the UMKM Cluster

The image above, related to Standard Operating Procedures (SOP), shows that the implementation of e-government thru the clustering of UMKM continues to improve, such as the addition of clusters every 3-4 months and the addition of new features on the website. This can be seen from the planned updates such as the type and scale of the business, access to infrastructure, demographic profile of the business owners, as well as the capital and funding sources of the UMKM.

CONCLUSION

E-government is considered a form of innovation that transforms the governance system toward a more advanced direction due to the creation of efficient and quality services thru the utilization of information and communication technology. In its implementation in East Kutai Regency, the Local Government created a digital-based UMKM clustering with the aim of facilitating transactions for the community and business actors to boost the regional economic

turnover. The conclusion drawn from this research is that the implementation of e-government is proceeding well. This research uses 4 indicators from Edward III, which consist of:

1. The communication that occurs between the local government and UMKM entrepreneurs is quite active. In addition, in the preparation of this digital-based UMKM clustering program, the local government involves 5 regional agencies and 1 academician.
2. Resources, which are recorded in this program, include 12,097 UMKM actors. As for human resources in the digitalization implementation team for the UMKM cluster in East Kutai Regency, there are 22 people, divided into quality control teams, implementation units, and resource persons/expert staff/academics.
3. The Executor's Disposition refers to the tasks assigned to each individual within an organization. The local government, particularly the team responsible for the UMKM cluster, conducts knowledge transfer activities such as socialization related to mapping to support the operation of the website. The coverage of beneficiaries from the digitalization of the UMKM cluster reaches 12,097 registered UMKM, with 501 beneficiaries as the general public. Next, it is known that there are 3 complaint service methods, namely face-to-face service, thru the website, and social media (Instagram).
4. The bureaucratic structure, held by the local government regarding the implementation of this program, is regulated in the Regent's Decree titled the establishment of the research and development team for cooperatives, small, and medium enterprises in East Kutai Regency in 2024. Then there are Standard Operating Procedures (SOP) for the implementation of this UMKM cluster digitalization program, which outline plans to add features to the website that are expected to improve its quality and make it more beneficial for the public.

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