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Analysis of whatsapp call center WA MAILAKU-based public service through indrajit's e-government model: a case study of the UPTD

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ABSTRACT

This study aims to analyze the public service provided through the WA MAILAKU WhatsApp Call Center using Indrajit's e-government model at the UPTD. Training and Education for Cooperatives, Micro, Small, and Medium Enterprises. It emphasizes that WhatsApp-based service delivery should be critically examined through the e-government framework, particularly in terms of policy support, organizational capacity, and service value. This research employs a qualitative approach with a case study design. Data were collected through interviews, observation, and documentation, and were analyzed using an interactive model involving data reduction, data display, and conclusion drawing. The findings indicate that the implementation of WA MAILAKU is supported by leadership commitment, the existence of standard operating procedures, and the use of WhatsApp as a platform familiar to service users. The study concludes that WA MAILAKU cannot yet be fully understood as a formal e-government system, but rather as a digital public service innovation with strong potential to support fast and inclusive service delivery. Its effectiveness continues to depend on improvements in technical service management, the digital competencies of personnel, and the protection of information privacy and security. This study is limited by its focus on a single organizational unit and by its reliance on qualitative self-reported data from informants.



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Introduction

Digital transformation has encouraged governments to deliver public services that are faster, more accessible, and more responsive. In this context, Indrajit's e-government model becomes important because it emphasizes three key elements, namely support, capacity, and value, which can be used to assess the readiness and usefulness of digital services in public bureaucracy (Charis et al., 2023). At the same time, the use of instant messaging platforms such as WhatsApp has become increasingly widespread because they present low access barriers and align with the communication habits of the public, including cooperative and MSME actors (Sessa Tiara Maretaniandini et al., 2023).

In Indonesia, the digital transformation of public services is supported by SPBE policy through Presidential Regulation No. 95 of 2018, while at the regional level the Province of Bali has also established Governor Regulation No. 44 of 2021 as the legal basis for electronic government administration (Nadhir et al., 2024). However, the existence of these regulations does not automatically guarantee that all digital innovations fully

comply with SPBE technical standards, especially when services are built on third-party platforms such as WhatsApp that are not entirely under government infrastructure control (Fardiah et al., 2024). Therefore, it is necessary to critically examine whether WA MAILAKU truly follows the logic of e-government governance or whether it should more appropriately be understood as a digital public service innovation that supports the direction of SPBE.

The swift evolution of digital technologies has reshaped how governments worldwide deliver public services, pushing bureaucracies toward more agile, inclusive models. In Indonesia, where over 64 million micro, small, and medium enterprises (MSMEs) form the backbone of the economy contributing around 61% to GDP and employing 97% of the workforce the demand for efficient service delivery has never been more pressing (Awasthi, 2020). Yet, traditional face-to-face interactions often fall short, especially in remote areas like Bali, where logistical hurdles and low digital literacy among MSME actors exacerbate access gaps. This study delves into a pragmatic innovation: the WhatsApp Call Center "WA MAILAKU" at Bali Province's UPTD for Cooperative and MSME Training, examining how such tools bridge these divides in real-world public administration (Muhammad Adil & Fajarwaty Kusumawardhani, 2022). Indrajit's (2016) Digital transformation has become a central agenda in public administration, as governments increasingly seek to provide services that are faster, more accessible, and more responsive to citizen needs. In Indonesia, the expansion of e-government has encouraged public institutions to adopt digital communication channels that are familiar to users and capable of supporting everyday administrative interaction. Among the available platforms, WhatsApp has emerged as a particularly practical option because of its wide adoption, low cost, and ease of use across different social groups (Rachman et al., 2025).

In this context, the Technical Implementation Unit for Cooperative and MSME Education and Training in Bali Province developed WA MAILAKU as a WhatsApp-based public service channel. The platform was designed to facilitate communication, disseminate training information, and support administrative interaction between the institution and its service users (Lintang et al., 2025). Previous studies have shown that WhatsApp-based services can improve accessibility, reduce response time, and strengthen service coordination in public institutions, particularly in areas that require continuous interaction with citizens and small business actors (Dwi et al., 2025). Nevertheless, the use of WhatsApp for formal public service delivery also raises critical concerns. Because WhatsApp is a third-party platform owned by a private company, its use in government services may create challenges related to data privacy, information governance, and the sovereignty of public communication (Aprilita Firsty Hazdia et al., 2020). These concerns are especially relevant when sensitive service information is transmitted through a platform that is not fully controlled by the government (Arista & Marhaeni, 2018). As a result, the adoption of WhatsApp in e-government cannot be evaluated solely from the perspective of convenience and efficiency, but must also be examined in terms of its risks and operational limitations.

This study was guided by Indrajit's e-government framework, which conceptualizes implementation through three dimensions: support, capacity, and value (Rahartri, 2019). Support refers to policy and institutional backing, capacity refers to human and technical readiness, and value refers to the benefits perceived by users (Fardiah et al., 2024). This framework is useful for examining how a WhatsApp-based service operates in practice and how its effectiveness is shaped by organizational conditions and user experience. Setyabudi Kurniawan (2021) unlike formal apps requiring downloads, WhatsApp's familiarity suits low-literacy users, embodying a "simple e-government" approach seen in villages like Pasiragung, where it cut manual processes dramatically. Strategically chosen over custom apps due to resource constraints, it accelerates Bali's SPBE index while supporting national goals like 30 million digitalized MSMEs by 2023 (largely met via platforms like WhatsApp Business) (Rohmatunisa & Rahmah, 2025). Based on this framework, the present study analyzed the implementation of e-government through WA MAILAKU, with particular attention to its supporting factors, inhibiting factors, and practical implications for public service delivery. The study addressed a gap in the existing literature, which has often highlighted the efficiency of WhatsApp-based services while paying less attention to the operational tensions and governance challenges that arise when a consumer messaging application is used as an official public service platform.

Method

This study employed a qualitative single-case study design to examine the implementation of e-government through the WhatsApp Call Center "WA MAILAKU" at the Technical Implementation Unit for Cooperative, Micro, Small, and Medium Enterprises Education and Training in Bali Province. This design was selected because the study focused on one bounded institutional case and sought to understand how the service was implemented, what factors supported its operation, and what factors constrained its performance in real service settings. The case study approach was considered appropriate for capturing the complexity of organizational

practice, user experience, and digital service governance in a natural context. Data were collected through semi-structured interviews, non-participant observation, and document analysis. Informants were selected using purposive and snowball sampling to ensure variation in institutional roles and user experience. The sample included government officials, technical staff, training participants, and service users who had direct experience with WA MAILAKU. Interviews were conducted using an interview guide aligned with the study objectives and the e-government framework of Indrajit, which includes support, capacity, and value. All interviews were transcribed and analyzed in textual form, while observation notes and institutional documents were used to support triangulation.

The analysis followed a thematic procedure supported by NVivo 14, beginning with open coding to identify meaningful units in the data, followed by axial coding to group related codes into categories, and selective coding to develop core themes that addressed each research question. The coding scheme was organized around the three conceptual dimensions of support, capacity, and value, while additional codes were generated inductively from the data. To improve transparency, the coding structure should be presented in an appendix, including code names, definitions, and illustrative excerpts. Because only one principal coder was involved, the study did not claim inter-coder reliability; instead, trustworthiness was supported through source triangulation, methodological triangulation, and an audit trail of analytical decisions. Ethical considerations were addressed through informed consent, confidentiality, and careful handling of service-related communication data. Participants were informed about the purpose of the study, the voluntary nature of participation, and the protection of their identities. Any WhatsApp-based communication records used in the analysis were treated as sensitive data and were anonymized before interpretation. The study should also state the institutional ethics approval number once it is available, as this is essential for publication in a reputable journal.

Results and Discussions

The visual appearance of WA MAILAKU reflects the main direction of this study, namely the use of a simple but accessible digital channel to strengthen public service delivery for cooperatives and MSMEs in Bali Province. The interface shows that the service is not built as a complex standalone application, but rather as a WhatsApp-based communication platform that combines information delivery, service promotion, contact access, location details, and catalog features in one familiar medium. This is important because the findings of the study indicate that the success of e-government in this case does not depend solely on advanced technology, but on how well the technology fits the habits, needs, and digital literacy of the target users:

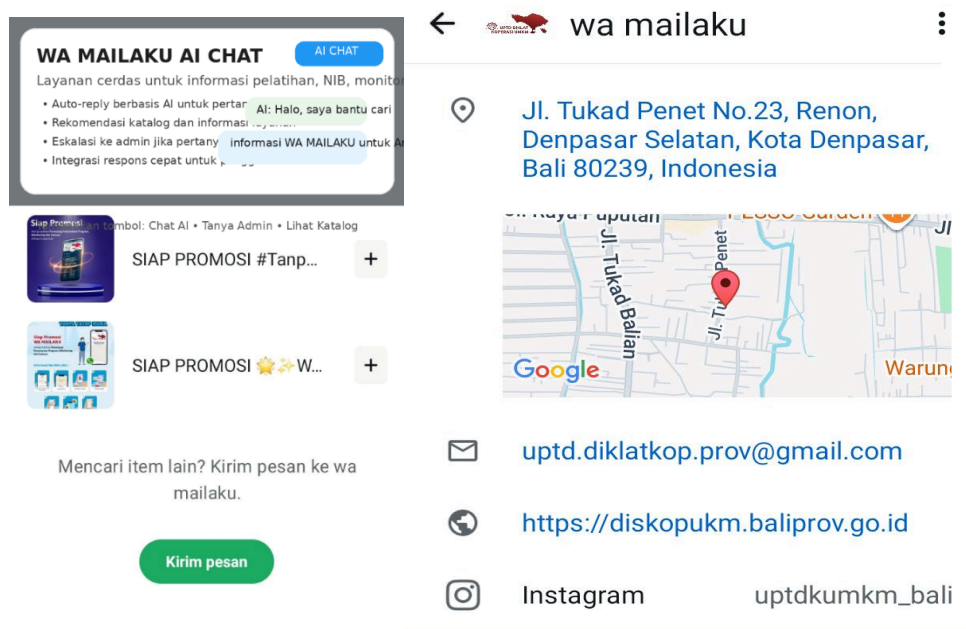


Figure 1. WA MAILAKU Catalog and Menu Display

The screenshots of WA MAILAKU show that the service is designed as a practical and user-oriented digital channel for public service delivery, combining contact access, catalog features, institutional identity, and location transparency in one platform. This visual evidence becomes the starting point for the NVivo 14 analysis because it reflects the actual service environment experienced by users and administrators. In the word cloud results, the most dominant terms can be read as an extension of these interface elements, showing which ideas,

actions, and service experiences were most often mentioned by informants. Word clouds in NVivo are useful at the early stage of analysis because they help highlight the most frequent and salient concepts in the data set. For Example chat box wit AI from WA MAILAKU.



Figure 2. Chat Box WA MAILAKU

The participant chats with the WA MAILAKU chat box illustrate how a digital public service channel can function as an accessible and user-friendly communication tool for citizens seeking practical information. In the first interaction, a participant asks about the requirements for joining a training program, and the system responds with a clear, structured list of documents and eligibility criteria, such as a photocopy of an ID card and family card, a minimum age requirement, online registration, and a business plan, followed by a polite invitation for further questions. In the second interaction, the participant asks for the office address, and the chat box

immediately provides the full office location along with a Google Maps link, showing that the service is designed not only to answer questions but also to reduce access barriers and support user navigation. In the third interaction, the participant asks about office operating hours, and the system responds with a concise schedule for each working day, including lunch break hours and weekend closures, again ending with a courteous closing message that reflects a service-oriented communication style. Overall, these chat exchanges show that WA MAILAKU chat box is used as a responsive front-end service for disseminating standardized information, reducing repeated inquiries, and making public service delivery more practical, accessible, and interactive for participants.

The thematic table below therefore presents the main themes that emerged from the data, the open codes that formed each theme, the informant groups that referred to them, and the way each theme relates to the theoretical dimensions of e-government. In this way, the table serves as a transition from raw qualitative data to deeper analytical discussion, allowing the reader to see both the pattern of findings and their theoretical relevance.

Table 1. Thematic Table

Theme	Open Codes	Informant Group(s)	Illustrative Meaning	Pillar
Policy support	SPBE, official assignment, internal coordination, formal authorization	Officials, staff	WA MAILAKU operated within a legitimate institutional framework.	Support
Service accessibility	easy access, WhatsApp familiarity, quick contact, user convenience	Staff, users	Users could reach the service through a platform they already knew.	Value
Fast response	quick reply, auto-response, reduced waiting time	Staff, users	The platform improved the speed of routine communication.	Value
Data synchronization	tabulation, record keeping, avoiding duplicate entries, service tracking	Staff	Incoming messages were organized to support administrative order.	Capacity
Organizational readiness	staff rotation, service management, operational continuity	Officials, staff	The service depended on internal human resource arrangement.	Capacity
Query overload	many messages, delayed reply, peak-hour congestion	Staff, users	High message volume reduced responsiveness.	Capacity
Digital literacy gap	difficulty understanding service flow, limited digital skill	Users	Not all users could navigate the service equally well.	Value / Support
Internet instability	weak signal, connection interruption, delayed access	Users, staff	External infrastructure affected service continuity.	Capacity
Privacy concern	data risk, non-official platform, trust issue	Users, staff	Using a third-party app created concerns about data protection.	Support / Capacity
Language mismatch	dialect issues, misunderstood wording, chatbot limits	Users, staff	Local language variation sometimes reduced communication clarity.	Value

Table 2. Indrajit Matrix

Indrajit Pillar	Empirical Findings	Data Meaning	Analytical Conclusion
Support	Formal institutional backing, internal assignment, policy alignment	The service had organizational legitimacy.	WA MAILAKU was supported by governance structures, but trust and privacy issues weakened full support.
Capacity	Staff management, query handling, data tabulation, response workflow	The service had basic operational capacity.	Capacity existed, but it was still constrained by overload, manual handling, and internet instability.
Value	Easy access, fast communication, user convenience, service reach	Users perceived practical benefits.	Value was evident in convenience and speed, but uneven digital literacy limited universal benefit.

Implementation of e-government through WA MAILAKU

The findings show that WA MAILAKU functioned as a practical e-government channel that connected citizens directly with the institution through a familiar communication platform. Rather than operating as a fully automated digital system, the service combined institutional identity, manual coordination, and limited automation to deliver public information and administrative assistance. This indicates that the implementation of e-government in this case was incremental and adaptive, relying on a consumer messaging application to extend the reach of public service delivery. The result confirms that digital public service implementation does not always require a sophisticated stand-alone platform; it may also emerge through the strategic use of a widely adopted application. From the perspective of Indrajit's framework, the strongest evidence appears in the support and capacity dimensions. Support was visible in the formal institutional authorization and the integration of the service into official public administration routines. Capacity appeared in the way staff organized incoming queries, tabulated service needs, and maintained continuity of communication. However, the implementation was not without limitations. The reliance on a third-party platform and the continued need for manual intervention show that the service was functional but not fully mature as an e-government system. This suggests that the value of WA MAILAKU lay not in technological sophistication, but in its ability to make public services more reachable and more responsive within existing institutional constraints.

Supporting factors in WA MAILAKU

The study identified several supporting factors that enabled WA MAILAKU to function effectively as a digital public service channel. The most important support came from the familiarity of WhatsApp itself, which reduced the learning burden for users and made access more immediate. In addition, institutional backing and internal coordination allowed the service to be maintained as an official communication channel rather than an informal messaging account. Staff readiness also contributed to service continuity, especially when queries had to be organized and responded to within limited time.

These supporting factors are best explained through the support and value pillars of Indrajit's model. Support was expressed through policy alignment, staffing arrangements, and organizational commitment, while value was expressed through convenience, accessibility, and the perceived usefulness of the service by users. The findings suggest that the success of WA MAILAKU was not only technical, but also organizational and social. In other words, the service worked because it fit the communication habits of users and was backed by a structure capable of sustaining it. This demonstrates that e-government value increases when the technology used is both familiar to citizens and embedded in an accountable institutional setting.

Inhibiting factors in WA MAILAKU

The study also found a number of barriers that limited the effectiveness of WA MAILAKU. The most prominent constraints were query overload, delayed replies, digital literacy gaps, unstable internet connections, privacy concerns, and occasional communication mismatches caused by language variation. These barriers show that the platform's accessibility did not automatically guarantee smooth service delivery. While the service was useful, it remained vulnerable to operational pressure and contextual limitations. The use of WhatsApp also introduced trust-related concerns because users were aware that the platform was not fully controlled by the government.

Within Indrajit's framework, these barriers were concentrated in the capacity and support pillars. Capacity was weakened by the high volume of incoming queries and the dependence on manual response processes. Support was undermined by concerns about data protection and the institutional risks of relying on a third-party platform. These findings are important because they show that digital public services are not only judged by how

fast they operate, but also by how safely and consistently they operate. The barriers identified in WA MAILAKU therefore reveal the limits of platform-based e-government when organizational readiness, infrastructure quality, and data governance are not fully aligned.

Taken together, the findings suggest that WA MAILAKU embodied both the promise and the constraints of platform-based e-government. On one hand, it expanded access, shortened communication distance, and made public services more approachable for MSME-related users. On the other hand, it remained dependent on human labor, internet stability, and the trustworthiness of a commercial messaging platform. This dual character is analytically important because it shows that digital public service innovation can improve accessibility without eliminating structural weaknesses.

The study therefore extends Indrajit's model by showing that support, capacity, and value are not fixed achievements but negotiated conditions that can strengthen or weaken one another in practice. Support without privacy assurance remains fragile. Capacity without automation remains vulnerable to overload. Value without digital literacy remains uneven. In this sense, WA MAILAKU should be understood not as a completed digital transformation, but as an evolving form of e-government whose effectiveness depends on continuous institutional refinement.

Conclusions

WA MAILAKU showed that a WhatsApp-based service can improve access to public information, shorten communication distance, and support faster interaction between the institution and MSME-related users. In this study, the service was effective in a practical sense because it worked within a familiar platform, used an official institutional identity, and enabled users to reach the UPTD without needing to learn a separate digital system. However, its effectiveness was limited by query overload, delayed responses, uneven digital literacy, internet instability, and privacy concerns, which meant that the service was useful but not yet fully reliable as a stand-alone public service channel. This study had several limitations that should be considered when interpreting the findings. First, it examined only one UPTD service setting, so the results are context-specific and cannot be generalized broadly. Second, the number of service users interviewed was very small, which limited the depth of user-side comparison. Third, the study relied primarily on self-reported experiences and did not include objective performance indicators such as measured chatbot response time or service completion time. Fourth, because of these constraints, the study reflects perceptions and operational observations rather than a full effectiveness evaluation. For UPTD Bali, the most useful next step is not to replace WA MAILAKU, but to supplement and strengthen it. The service should be maintained because it clearly improves accessibility, but it needs specific operational improvements to reduce its weaknesses. The UPTD should implement an auto-reply scheduler for peak hours, assign a fixed short-cycle staff rotation for query handling, and create a simple escalation flow for complex questions that the chatbot cannot answer. It should also add a basic response-time monitoring log, provide short digital-literacy guidance for users, and develop clearer privacy notices so users understand how their data are handled. In short, WA MAILAKU should be scaled cautiously as a supplementary public service channel, not treated as a complete replacement for direct human service. Its value lies in extending access, but its limitations show that human support, governance controls, and technical monitoring remain necessary for sustainable public service delivery.

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