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Bridging the Digital Gap: Empowering Women Entrepreneurs through Inclusive Development Communication

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Meranti[1*], Lely Arrianie[2], Isna Silviana[1]
[1]Department of Communication, Universitas Nasional
Jln. Sawo Manila, Pejaten, Pasar Minggu, Jakarta 12520 - Indonesia.
[2]LSPR Institute of Communication and Business
Jln. K.H Mas Mansyur, Kav. 35, Jakarta 10220 - Indonesia
[*]Corresponding author: meranti@civitas.unas.ac.id

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Abstract - The rapid advancement of digital technology has transformed business practices worldwide, yet significant disparities remain in digital access and literacy, particularly among women entrepreneurs in urban Indonesia. This study examines the challenges faced by women-owned Micro, Small, and Medium Enterprises (MSMEs) in South Jakarta, highlighting the persistent gender and digital gaps that hinder inclusive economic development. Utilizing a combination of qualitative methods, including focus group discussions and in-depth interviews, the research investigates the barriers to digital adoption, such as limited digital literacy, cultural norms, and infrastructural constraints. Grounded in the Technology Acceptance Model (TAM) and principles of inclusive development, the study emphasizes the importance of context-specific communication strategies and community-driven solutions to foster empowerment and gender equity in digital transformation. Findings reveal that while government initiatives like the Jakpreneur program have provided essential training and resources, a gap persists in tailored, participatory approaches that address women's unique needs and socio-cultural realities. The research advocates for strengthening community-based digital literacy programs, peer learning models, and mentorship schemes that leverage local knowledge and social networks. By bridging the digital divide, these strategies aim to bolster women entrepreneurs' capacity to leverage digital platforms, expand market access, and sustain business growth. Ultimately, promoting inclusive development communication is vital for transforming digital inclusion from mere policy rhetoric into tangible empowerment outcomes, ensuring that women entrepreneurs in Jakarta Selatan are active agents in Indonesia's digital economy.

Keywords: Digital divide; Gender equity; Micro, Small, and Medium Enterprises (MSMEs); South Jakarta; Technology Acceptance Model (TAM)

Introduction

In recent years, digital technology has emerged as a transformative force that has revolutionized the way businesses operate, market their products, and grow. Afawubo and Noglo (2022, in Anasuya K. Lingapa et al., 2025) state that one of the key factors influencing entrepreneurial demand is technological advancement, which has become the focus of strategic planning through investment in

Information and Communication Technology (ICT). The emergence of e-commerce platforms, social media marketing, mobile applications, and digital financial services has created unprecedented opportunities for micro, small, and medium enterprises (MSMEs) around the world (Kamila et al., 2025).

As the backbone of many economies, especially in developing countries such as Indonesia, MSMEs have the potential to create jobs, drive innovation, and facilitate inclusive growth (Medina & Siregar, 2025). However, despite the increasing availability of digital tools and opportunities, the adoption and utilization of digital technology among MSMEs, especially among women entrepreneurs, remains uneven and faces various challenges. The Organization for Economic Cooperation and Development (OECD) noted in 2023 that MSMEs contribute around 60–70% of total employment and up to 50% of GDP in developed and developing countries. In Indonesia, MSMEs dominate the economic structure, with more than 99% of business units and employing around 97% of the workforce (in Hermansyah et al., 2025). Therefore, MSMEs plays crucial role for Indonesia.

The critical role of women in economic development has been widely recognized. The 2023 Global Gender Gap Report emphasizes that women's empowerment in entrepreneurship correlates with increased economic diversity, social inclusion, and resilience (Vyas-Doorgapersad & Kithatu-Kiwekete, 2017). However, data from Indonesia shows that women entrepreneurs face unique barriers in interacting with digital platforms. These barriers include limited access to digital literacy, cultural norms that restrict women's mobility and autonomy, inadequate infrastructure, and gender inequality in access to resources and networks.

According to Dewan and Riggins (2005, in Souza et al., 2017), the digital divide can be divided into two types: first, difficulties or impossibility in accessing technology; and second, difficulties in using available technology and obtaining optimal results from its use. As a result, women-owned MSMEs often operate below their full potential, losing access to the vast markets that can be accessed through digital channels (Vyas-Doorgapersad & Kithatu-Kiwekete, 2017). Previous research by Seok and DaCosta (2017; Sobieraj and Kramer, 2020, in Anasuya K. Lingapa et al., 2025) stated that women often view information and communication technology (ICT) as more challenging than men, which can affect their confidence and involvement in using digital tools, ultimately affecting their performance.

Information technology can take the form of knowledge, skills, and tools that assist in collecting, managing, using, and sharing information related to organizational activities, and can be a driving factor in promoting it (Alambaigi, A., & Ahangari, I., 2016). Online platforms and social media have become important tools for business growth, enabling entrepreneurs to reach a wider audience, reduce operational costs, and innovate marketing strategies. According to the United Nations Conference on Trade and Development (UNCTAD), the growth of digital trade offers the promise of economic inclusion but also highlights existing inequalities that prevent marginalized groups from fully enjoying its benefits (United Nations Conference on Trade and Development (UNCTAD), 2020). In Indonesia, efforts such as the "Go Digital" initiative and regional programs such as Jakpreneur aim to facilitate the digitization of MSMEs; however, challenges remain, particularly in empowering women entrepreneurs to use these tools confidently and effectively (Rachmawati et al., 2024).

In the context of South Jakarta, the Jakpreneur community reflects this dynamic. As a program initiated by the local government to encourage entrepreneurship, Jakpreneur provides training, mentoring, and access to resources for aspiring entrepreneurs. However, as observed in recent community studies and discussions, many women in this ecosystem still face barriers that hinder their full participation in the digital economy. These barriers go beyond mere access to devices and internet connectivity; they include skill gaps, confidence issues, and social norms that shape perceptions of women's roles in the digital space.

Research emphasizes that digital literacy is a key foundation for effective digital transformation among MSMEs. A report from the International Telecommunication Union (ITU) stresses that "digital skills are fundamental to harnessing the benefits of the digital economy, especially for marginalized groups, including women." (International Telecommunication Union (ITU), 2022). The inability to acquire these skills leads to suboptimal use of digital tools, limiting women entrepreneurs' ability to expand their markets, optimize operations, or innovate their business models.

In addition, the Technology Acceptance Model (TAM), proposed by Davis (1989, in Alambaigi, A., 2016), provides a useful framework for understanding the factors that influence technology adoption. TAM suggests that perceived usefulness and perceived ease of use are the main determinants of an individual's intention to adopt new technology. Studies in developing environments show that women, especially older women or those with low educational backgrounds, often view digital platforms as complex and less useful, which reduces their motivation to adopt technology (Davis, 1989, in Alambaigi, A., 2016). This perception is exacerbated by cultural and social norms that can inhibit women from interacting with technological innovations openly or confidently.

Cultural constraints further exacerbate digital exclusion. In many Indonesian communities, traditional gender roles assign domestic responsibilities primarily to women, limiting their time or opportunities for digital skills development. Such social norms can also hinder women's autonomy in decision-making related to business investment or technology adoption (World Bank, 2023). Without addressing these fundamental social barriers, efforts to promote digital inclusion risk being superficial or unsustainable.

Infrastructure challenges, such as unreliable internet access and a lack of affordable devices, continue to hinder digital adoption, especially among economically vulnerable women. Although urban centers such as Jakarta generally have better infrastructure, disparities remain, particularly in the informal sector and low-income areas. This digital divide not only limits access but also affects the quality of engagement, causing frustration and discouragement among women seeking to integrate digital tools into their businesses.

Overcoming these multifaceted barriers requires comprehensive strategies that are culturally sensitive, contextually relevant, and inclusive. Literature from global development initiatives shows that successful digital empowerment programs are participatory, leveraging local knowledge and social networks. This emphasizes that sustainable development depends on a comprehensive understanding of social capital and community dynamics to ensure that interventions are truly aligned and responsive to local realities.

In the case of Indonesia, community-based approaches such as peer learning, mentoring, and participatory training show promising results. For example, UNICEF's Digital Literacy Program in rural Indonesia successfully leveraged local leaders and peer educators to improve digital technology skills and confidence among women and youth. Similarly, the concept of "gender-sensitive innovation," as discussed by the United Nations Development Program (UNDP), advocates for tailored interventions that recognize and address specific social norms and gender barriers, rather than applying a one-size-fits-all model.

Given the importance of these factors, current research on the Jakpreneur community in South Jakarta aims to identify the main challenges faced by women entrepreneurs in adopting digital technology, by analyzing individual factors and systemic barriers. The study also seeks to identify effective strategies that can bridge the digital divide, contributing to a broader policy discussion on inclusive digital development.

In conclusion, while digital transformation offers Indonesia an opportunity to accelerate economic growth and inclusive development, realizing this potential requires targeted and multifaceted interventions. The unique barriers faced by women entrepreneurs require a gender-sensitive approach that combines capacity building, infrastructure support, social norm transformation, and community engagement. Only through such comprehensive efforts can Indonesia ensure that digital progress is truly inclusive, empowering female entrepreneurs to thrive in the digital economy and driving sustainable development. Therefore, this research aims to explore how obstacles do female entrepreneurs in the UMKM industry in the Jakpreneur community face in adopting digital technology for their business activities.

Theoretical Framework

The ongoing digital revolution has undeniably changed the landscape of micro, small, and medium enterprises (MSMEs), offering unexpected opportunities for market expansion, efficiency, and innovation to the point that the supply chain management landscape has undergone a fundamental transformation (Hitt, 2000; Idris et al., 2023). A dynamic, connected, and digitally supported approach is rapidly replacing conventional, linear, and fragmented processes (Handfield & Linton, 2017).

However, the benefits of digital adoption are not uniformly accessible, especially among women entrepreneurs who face a unique set of barriers rooted in social norms, infrastructural disparities, and limited digital literacy (Siddiq et al., 2022), (Vyas-Doorgapersad & Kithatu-Kiwekete, 2017). These challenges are compounded by systemic issues such as complex licensing procedures, platform restrictions, and infrastructural deficits, particularly within urban marginalized communities in Indonesia (Tambunan, 2019), (World Bank, 2023). This statement underscores the significant impact of digital transformation on MSMEs globally. It is supported by the broad recognition within literature that digital technology enables MSMEs to access new markets, improve operational efficiency, and foster innovation, which are critical for their growth and competitiveness.

To better understand these dynamics, scholars have turned to theoretical models that explain the factors influencing the acceptance and adoption of technology among marginalized groups. One widely adopted framework is the Technology Acceptance Model (TAM), developed by Davis (1989, in Lingappa et al., 2025).). TAM posits that two primary perceptions perceived usefulness and perceived ease of use influence individuals' behavioral intentions to adopt new technologies (Davis, 1989, in Lingappa et al., 2025). In the context of women MSMEs in Indonesia, TAM helps illuminate how perceptions of digital platforms' relevance and accessibility affect willingness to engage with digital tools. For example, if women entrepreneurs perceive digital marketing or e-commerce platforms as too complex or not significantly beneficial, their motivation to utilize these tools diminishes (Vyas- Doorgapersad & Kithatu-Kiwekete, 2017).

It is highlighted that, despite the potential of digital tools, marginalized groups, such as women entrepreneurs, encounter barriers including social norms (e.g., cultural restrictions), infrastructural deficits (e.g., limited internet access), and digital literacy gaps, which hinder them from reaping equitable benefits from digital adoption. These sources provide empirical or theoretical backing for gendered disparities in digital engagement. Nevertheless, the TAM framework alone does not sufficiently account for the social and cultural dimensions that impact digital adoption among women in Indonesia.

Recognizing this gap, this study integrates principles from inclusive development communication, which emphasizes participatory and context-sensitive strategies that address social norms and individual agents (Davis, 1989., in Lingappa et al., 2025); (International Telecommunication Union [ITU], 2022). This integration reflects the understanding that technology adoption is not merely a behavioral choice, but is embedded in social structures and community dynamics. Furthermore, digital innovation can increase motivation and inspire and improve the quality of their economies in order to remain competitive (Tidd & Bessant, 2020). This results in a comprehensive model of digital adoption (illustrated in Figure 1, theoretical framework), which combines individual perceptions of TAM with socio-cultural and systemic influences.

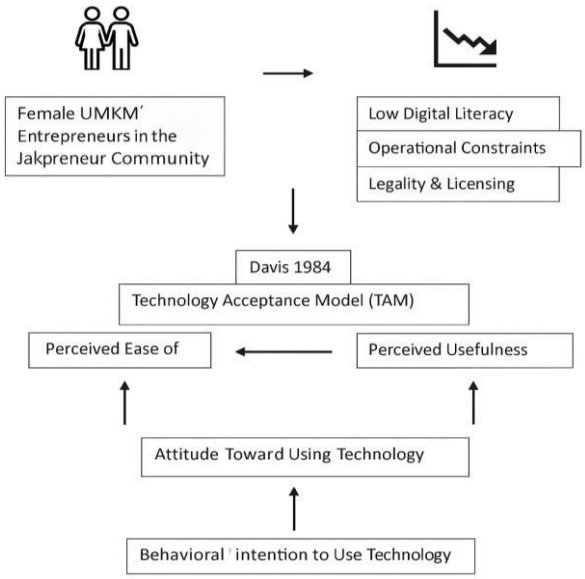

Figure 1. Theoretical framework
Source: Developed by researchers

The model highlights five interconnected domains are: (1) Digital Literacy and Skills – fundamental for understanding and operating digital platforms effectively (ITU, 2022); (2) Perceptions of Usefulness and Ease of Use – influenced by prior experiences, training quality, and community support (Davis, 1989, in Lingappa et al., 2025); (3) Operational Systemic Barriers – including infrastructure reliability, platform policies, and licensing procedures (Tambunan, 2019); (4) Social Norms and Gender Roles – societal expectations that may facilitate or hinder women's engagement with digital tools (Vyas-Doorgapersad & Kithatu- Kiwekete, 2017); (5) Community and Peer Support Networks – vital for fostering confidence, sharing knowledge, and reducing fears associated with digital transformation (Siddiq et al., 2022).

By addressing these domains collectively, the model advocates for a multilayered approach where policy interventions, community participation, and capacity building work synergistically to promote sustainable digital inclusion for women-led MSMEs. Tailoring digital literacy programs through community-driven, participatory methods ensures solutions are culturally relevant and responsive to local realities (Davis, 1989, in Lingappa et al., 2025). In other words, that a comprehensive and multilayered approach is essential for fostering sustainable digital inclusion among women-led MSMEs.

In summary, while digital platforms and infrastructures lay the groundwork for economic participation, it is through understanding and intervening in the social-psychological and systemic factors guided by models like TAM and principles of inclusive development communication that the digital divide can be effectively bridged for women entrepreneurs in Indonesia (ITU, 2022). Specifically, tailoring digital literacy initiatives through participatory, community-driven methods ensures that solutions are culturally appropriate and effectively address local context, ultimately facilitating more meaningful and lasting engagement with digital tools.

Material and Methodology

According to Denzim & Lincoln (1994, in Anggiato, A., & Setiawan, J. 2018:7), qualitative research is research that uses a natural setting with the aim of interpreting phenomena that occur and is carried out by involving various existing methods. Meanwhile, according to Erickson (1968, in Anggiato, A., & Setiawan, J. 2018:7), qualitative research seeks to discover and describe narratively the activities carried out and the impact of the actions taken on their lives.

According to Moleong (2013, in Tarihoran, N. A., & Qurtubi, A. 2023:3), qualitative research can be interpreted as research that aims to understand phenomena experienced by research subjects, such as behavior, perceptions, motivations, actions, and others. Meanwhile, according to Naf'an Tarihoran and Ahmad Qurtubi (2023) in the book Foundations of Qualitative Research Design and Research Techniques in Education, Economics, and Other Social Sciences, qualitative research is holistic in nature, using description in the form of words and language, in a specific natural context and utilizing various natural methods.

This study employs a qualitative research approach to deeply understand the obstacles faced by women MSMEs in adopting digital technology within the Jakpreneur community in South Jakarta. By utilizing systematic data collection and analysis procedures grounded in established qualitative paradigms, the research aims to generate rich, context-specific insights that can inform effective intervention strategies aligned with inclusive development principles.

The analysis adopts the framework developed by Miles and Huberman (1994), which offers a structured, step-by-step process for managing and interpreting qualitative data. This methodology allows for rigorous categorization, pattern recognition, and validation of findings to accurately reflect the lived realities of women entrepreneurs facing digital challenges.

Step 1: Data Collection and Organization

The initial phase involves collecting raw data through in-depth interviews, focus group discussions, and field observations. Transcripts of these interactions are carefully compiled and organized by the research team to ensure that all relevant information is systematically captured.

During this stage, researchers pay close attention to contextual details, participant backgrounds, and thematic nuances, establishing a comprehensive data repository. Proper organization facilitates subsequent coding and ensures no critical insights are missed.

Step 2: Initial Coding and Categorization

Following data collection, the research team engages in thorough reading and familiarization with the transcripts. Using open coding techniques, they identify key phrases, sentiments, and recurrent issues expressed by participants, assigning preliminary codes to segments that highlight specific challenges, perceptions, or attitudes towards digital adoption. This process involves breaking down complex narratives into manageable units and grouping similar codes that emerge across different participants. For example, codes such as "age barrier," "lack of digital skills," or "platform fees" might be assigned to relevant segments. This initial coding lays the foundation for constructing broader categories and themes.

Step 3: In-Depth Data Categorization and Pattern Identification

Building upon the initial codes, the research team reviews and refines the categories to discern overarching patterns or main themes related to the challenges of digitization. These categories may encompass digital literacy gaps, operational limitations, legal/licensing hurdles, psychological barriers, or systemic issues within policy frameworks. Through iterative comparison and reflection, the team identifies relationships among categories, such as how confidence problems are linked to age or how platform restrictions reinforce operational constraints. Pattern recognition at this stage enables the identification of core issues impacting women MSMEs' digital engagement.

Step 4: Validation of Findings

To ensure reliability and credibility, the research team conducts validation of the preliminary analysis by cross-checking findings with the Head of Research. This involves comparing the themes identified with participant narratives and facilitator notes to verify consistency and coherence. Their feedback helps refine interpretations, eliminate biases, and confirm that the emergent patterns accurately reflect participant experiences. This collaborative validation process enhances the study's trustworthiness and provides a robust basis for drawing conclusions.

Step 5: Conclusion Verification and Interpretation

In the final stage, the research team synthesizes the validated themes and patterns into comprehensive interpretations that elucidate the conditions faced by women MSMEs navigating digital transformation. These interpretations are articulated through descriptive narratives that capture the complexity and diversity of experiences encountered in the field. The conclusions serve as the analytical backbone for discussing implications and formulating actionable recommendations aimed at bridging digital gaps and fostering inclusive growth, with particular attention to women's socio-cultural contexts and systemic barriers.

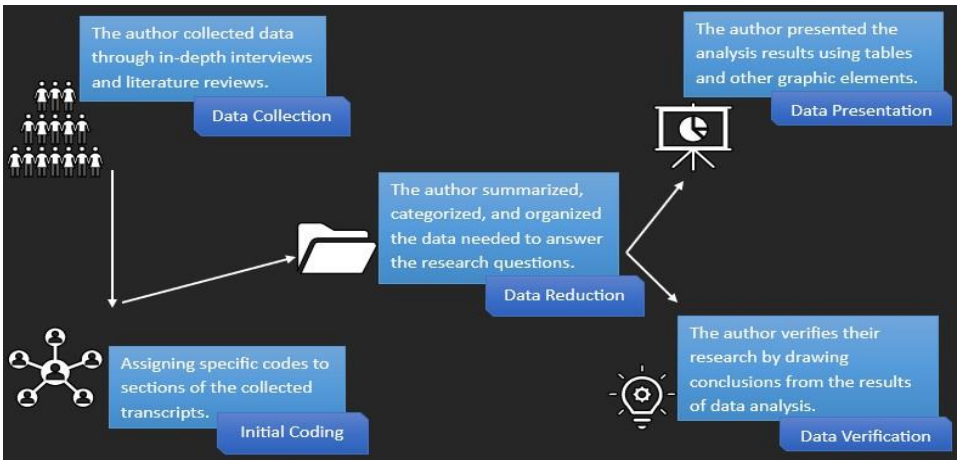

Figure 2. Model of Data Analysis

Source: Developed by researchers

Result and Discussion

This section presents the key findings derived from the qualitative data gathered through in-depth interviews, focus group discussions, and participant observations within the Jakpreneur community in South Jakarta. The analysis aims to identify the multifaceted challenges faced by women MSMEs in adopting digital technology, elucidate the underlying social, operational, and systemic barriers, and interpret how these factors influence digital engagement and business growth. By connecting empirical observations with relevant theoretical frameworks, particularly the Technology Acceptance Model (TAM) and principles of inclusive development communication, the discussion offers insights into practical strategies for fostering greater digital inclusion among women entrepreneurs in Indonesia.

Figure 3. Focus group discussion with women MSMEs under Jakpreneur of South Jakarta
Source: Documentation of Researchers, 2025

Table 1. Obstacles in Adopting Digital Technology by Women MSMEs

No	Participant Personal Data	Kind of Business	Category of Constraints	Testimonials
	Digital Literacy			
1	Ina Ayu Irastina Danur (55, F)	Bakery, Cake & Cookies	Literasi Digital	"My age limits my ability to understand the features of marketplaces such as Shopee and Tokopedia."
2	Richard Jonson (-. M)	Pastry	Literasi Digital	"I only rely on sales at the store and word-of-mouth promotion because I don't understand digitalization."
3	Siti Fitroh (46, F)	Grocery & Herbal shop	Literasi Digital	"I need marketing literacy. TikTok Shop is difficult because there is a minimum requirement for followers."
4	Henru Dianika (45, M)	Fried onions and steamed rice	Literasi Digital	"Confused about creating interesting content, lazy, and inconsistent posting due to busyness."
5	Mutiara Kurniawati (48, F)	Fashion	Literasi Digital	"Still lacking understanding of features and marketing strategies, e-commerce has not been maximized."
6	Jihan Azzaki (26, F)	Frozen pempek	Literasi Digital	"I know I need to do digital marketing, but I'm not sure where to start."

7	Tri Sutrisna (-, F)	Culinary	Literasi Digital	"It's more convenient to sell directly. Online, I often get confused clicking this and that, afraid of pressing the wrong button."
Operational				
8	Ade (40, F)	Culinary	Operational	"Live streaming on TikTok is effective, but the minimum requirement of 1,000 followers is quite difficult to achieve."
9	Afifah (25, F)	Fashion	Operational	"No employees, even though sales increased by 200% after going live on social media."
10	Murniati (50, F)	Culinary	Operational	"The money from sales on the marketplace is not immediately available; you have to wait for the buyer's review."
11	Ana Rosma Sofia (50, F)	Culinary	Operational	"High taxes on ShopeeFood, GrabFood, and GoFood. Customers choose to buy directly instead."
Legality & Licensing				
12	Rosmailita (54, F)	Black onion	Legality & Licensing	"Obtaining halal certification, BPOM certification, and intellectual property rights is difficult, and the process is complicated."
13	Mohamad Rifqi (40, M)	Catering	Legality & Licensing	"Taking care of legalities such as Halal and BPOM certification is difficult, and is often made difficult by the authorities."

Source: Focus group discussion & in-depth interview with informants stated, 2025

The data presented in Table 1 reveal core dimensions of the digital challenges confronting women MSME actors in Jakarta Selatan. Prominent among these are issues of digital literacy and confidence, with several participants citing age and educational background as significant determinants of their perceived ability to navigate online platforms effectively. For instance, Ina's statement underscores how age-related factors contribute to apprehension and a perceived lack of competence in digital skills, which aligns with previous research indicating psychological barriers such as technological intimidation as critical aspects of digital exclusion. Richard's reliance on traditional sales methods due to limited understanding of digital tools further illustrates how knowledge gaps directly impede the transition to online business models.

Additionally, the testimonials highlight operational constraints such as limited operational capacity and technological familiarity that restrict the scale and scope of digital engagement. These insights support the necessity of tailored capacity-building interventions grounded in participatory, community-based approaches, emphasizing peer learning, mentorship, and locally relevant training. The narratives also reflect an overarching need for supportive policies and infrastructural improvement to bridge the digital divide, especially for marginalized groups with limited prior exposure to digital platforms. Overall, the data underscore the intertwined nature of psychological, operational, and systemic barriers, emphasizing that effective digital inclusion requires multifaceted, culturally sensitive strategies.

Digital Literacy Constraints: The Most Pressing Barrier

The research reveals that digital literacy remains the most significant and widespread constraint among women entrepreneurs in South Jakarta. Out of thirteen informants, more than half (7 out of 13) cited challenges related to understanding or applying digital tools and platforms.

Older participants, such as Ina Ayu Irastina Danur (55), expressed that age-related factors hindered their ability to navigate features in popular marketplaces like Tokopedia and Shopee. This finding resonates with the Technology Acceptance Model (TAM), wherein perceived ease of use directly influences technology adoption. Similarly, Jihan Azzaki (26), although younger, admitted a lack of clarity on how to initiate digital marketing— indicating that age is not the sole factor, and gaps in education and exposure play critical roles.

Participants like Siti Fitroh and Tri Sutrisna emphasized user-interface anxiety—fear of "pressing the wrong button" or not meeting platform-specific requirements (e.g., minimum TikTok followers). This points to a psychological barrier: technological intimidation, a less frequently acknowledged but critical aspect of digital exclusion. These findings align with inclusive development communication theory, which stresses the need for participatory and context-aware educational interventions.

Moreover, several participants echoed frustration with content creation. Henru Dianika, for instance, cited the time-consuming nature of consistent content production, showing that digital literacy is not merely about technical skills but also about media strategy and time management—areas often overlooked in generic government trainings.

Operational Constraints: Growth Meets Practical Challenges

Four participants detailed operational issues that arose once they began or considered adopting digital tools. Afifah (25) experienced a 200% increase in sales after live- streaming on social media, yet she struggled to scale due to a lack of staff. This indicates that digital success can paradoxically generate new burdens, especially for MSMEs with limited labor capacity.

Others, like Ade and Murniati, pointed to platform-imposed limitations, such as delayed disbursement of payments and follower thresholds to enable live features. This illustrates how platform algorithms and policies, while neutral on the surface, can disproportionately disadvantage small and informal sellers—a form of systemic digital exclusion.

Ana Rosma Sofia brought attention to high platform fees, which make digital food delivery services economically unsustainable for micro-entrepreneurs. Customers' preference for offline purchases further reflects a disconnect between digital promotion and real-world conversion, highlighting the importance of offline-online integration in marketing strategy.

Legality and Licensing: The Invisible Gatekeepers

Legal and licensing challenges were mentioned by Rosmailita and Mohamad Rifqi, both of whom found the process of obtaining halal certification, BPOM licensing, and intellectual property rights to be prohibitively complex. Notably, they perceived bureaucratic inefficiencies and lack of clarity as major deterrents.

This suggests that formalization of MSMEs through legal means, while beneficial in theory, often adds a layer of exclusion for women with limited time, connections, or familiarity with administrative systems. The findings here advocate for decentralized, localized legal aid services and simplified, gender-sensitive regulatory communication, as supported by inclusive development paradigms.

Discussion

This discussion synthesizes the qualitative findings from interviews and observations within the Jakpreneur community in South Jakarta. The insights reveal a multifaceted landscape of barriers faced by women MSMEs in adopting digital technology. These barriers encompass individual-level challenges such as digital literacy and confidence, operational limitations like resource inadequacy, and systemic issues rooted in policies, infrastructure, and socio-cultural norms. By contextualizing these findings within broader theoretical frameworks and existing literature, the discussion provides a nuanced understanding of the pathways to fostering inclusive digital transformation among women entrepreneurs. To better understand the multifaceted challenges faced by women entrepreneurs in adopting digital technologies, the study conducted in-depth interviews and focus group discussions within the Jakpreneur community.

The following table summarizes the key empirical findings derived from these qualitative interactions, highlighting the main obstacles related to digital literacy, operational constraints, and systemic barriers encountered by participants.

Table 2. Key Empirical Findings

Empirical Finding	TAM Link	Inclusive Development Communication Link

Digital tools (e.g., e- commerce, TikTok Shop) not used due to confusion, fear of error (e.g., Tri, Ina, Jihan)	Low Perceived Ease of Use → weak Behavioral Intention	Lack of localized, experiential learning and safe spaces for trial & error
Entrepreneurs don't understand marketing features or content strategies (e.g., Siti, Mutiara)	Low Perceived Usefulness of digital marketing due to limited results or poor understanding	Need for dialogic training rooted in everyday experiences
Operational constraints after initial digital success (e.g., Afifah's scaling issue, Ana's platform fees)	Increased use → experience friction → reduced positive attitude	Absence of feedback loops in policy/programs to adapt to user realities
High barriers in legal licensing (e.g., halal, BPOM) impede formalization	Not part of TAM directly, but external variables that affect technology adoption	Top-down communication = inaccessible; lacks decentralized legal support
Government programs like Jakpreneur are too generic	Do not enhance perceived relevance (usefulness/ease) due to one-size-fits-all content	Lack of community-driven program design and peer-to-peer empowerment

Source: Developed by Meranti, Arrianie, Silvana, 2025

This table illustrates the various dimensions of difficulties experienced by women MSMEs, offering a nuanced view of how social, operational, and systemic factors intersect to influence digital engagement. These insights reinforce the importance of tailored, community-driven interventions and highlight areas where targeted support can facilitate greater digital inclusion and business growth among women entrepreneurs.

Building on these empirical findings, it is evident that government initiatives such as Jakpreneur serve as critical entry points for digital capacity building among women MSMEs. However, despite their usefulness, these programs often fall short in addressing the more nuanced cultural, social, and systemic barriers that hinder full participation. The following discussion explores the role of government policies, the gaps in current participation strategies, and the broader systemic challenges that must be overcome to foster more inclusive digital development for women entrepreneurs.

This study shows that government initiatives such as *Jakpreneur* have opened valuable entry points for women MSMEs by providing training and digital access. Yet, participants consistently expressed that these programs often felt uniform—one-size-fits-all—without sufficient attention to their diverse backgrounds, business contexts, or community realities. Such feedback highlights the enduring limitations of top-down development approaches that overlook women's lived experiences and everyday challenges.

What emerged clearly from the field is that empowerment cannot be sustained through technology or training alone. Women entrepreneurs thrive when they learn from peers, when they have mentors to turn to, and when they operate within communities that value learning as a shared journey. Many participants described the importance of emotional safety—the freedom to ask questions, make mistakes, and grow at their own pace—as a crucial foundation for meaningful digital participation.

These insights reaffirm that digital empowerment is ultimately a communication issue. It requires designs and practices grounded in participation, empathy, and contextual understanding. Guided by the Technology Acceptance Model (TAM) and principles of inclusive development, the study identifies several pathways forward: (1) developing tiered digital literacy programs responsive to women's age, experience, and business type; (2) fostering peer-led learning circles supported by local champions; (3) linking government initiatives with NGOs and universities to deliver mobile digital literacy clinics; (4) simplifying the language and processes of legal certification; and (5) collaborating with technology platforms to ease algorithmic barriers for micro-entrepreneurs.

Adopting these approaches means moving beyond policy slogans of "inclusion" toward practices that genuinely empower. It shifts the narrative from women as recipients of aid to women as creators, innovators, and active contributors to Indonesia's digital future.

Conclusion

This study advances understanding of women's digital empowerment by reframing it as a communication process rather than a purely technological one. The research reveals that inclusion cannot be achieved through infrastructure or standardized training alone, but through communication practices that are participatory, empathetic, and contextually grounded. Programs such as Jakpreneur demonstrate the potential of government support, yet their top-down models often neglect the emotional and social realities of women entrepreneurs. By introducing a human-centered and inclusive communication framework, this study contributes new knowledge on how digital literacy can evolve into a relational, adaptive, and community-based process.

The societal benefit of this approach lies in transforming women entrepreneurs from passive program beneficiaries into active digital citizens who co-create value within Indonesia's evolving economy. Theoretically, this research expands the Technology Acceptance Model (TAM) by integrating principles of inclusive development communication, positioning communication not merely as a support tool but as the core mechanism of empowerment. In doing so, it bridges the gap between digital policy and lived experience—offering a model that other developing societies can adapt to build more equitable, human-centered digital futures.

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