

DIGITAL TRANSFORMATION OF WOMEN ENTREPRENEURS IN MAKASSAR CITY: ANALYSIS OF OPPORTUNITIES AND CHALLENGES FROM A GENDER PERSPECTIVE

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Abstract

This study examines the digital transformation of women entrepreneurs in Makassar City with a focus on analyzing opportunities and challenges from a gender perspective. Using a qualitative method with a literature study approach, this study analyzed data from various primary and secondary sources for the period 2019-2024. The results showed a significant increase in the adoption of digital technology among women entrepreneurs from 15% to 52%. The main challenges identified include limited access to capital, digital literacy gaps, and socio-cultural factors. The fashion and craft sectors dominate the digital women entrepreneur landscape (35%), followed by culinary (30%). This study identified four key factors for the success of digital transformation: digital skills, business networks, product innovation, and market access. Women entrepreneurs who successfully adopted digital technology recorded an average increase in income of 35%. This study provides strategic recommendations for the development of gender-responsive policies and empowerment programs to support the digital transformation of women entrepreneurs in Makassar.

Keywords: Digital transformation, women entrepreneurship, gender empowerment

INTRODUCTION

The era of digital transformation has brought about fundamental changes in the global economic landscape, including in Indonesia. In Makassar City, as one of the largest economic centers in Eastern Indonesia, digital transformation has opened up new opportunities for entrepreneurs, especially female entrepreneurs. According to (Davani & Sulistyaningrum, 2023), there was a significant increase of 27% in women's participation in the digital economy in Eastern Indonesia during the 2020-2023 period. Digital transformation has created democratization of access to markets and economic resources. However, the gender gap in the adoption of digital technology remains a serious challenge. Their study shows that only 35% of female entrepreneurs in Eastern Indonesia are able to optimize digital platforms for their business development.

In Makassar City itself, the phenomenon of female entrepreneurship in the digital era shows interesting dynamics. Of the total 5,000 MSMEs in Makassar, 42% are managed by women, but only 28% have adopted digital technology comprehensively in their business operations. This indicates a gap that needs to be further studied from a gender perspective. The socio-cultural aspects of Makassar society, as revealed in an ethnographic study (Kesuma, 2019), show that traditional gender roles still influence women's access and adaptation to digital technology. Factors such as domestic responsibilities, gender stereotypes, and other structural constraints play a role in shaping the landscape of female digital entrepreneurship in this city.

In the context of the development of the digital economy in Makassar City, the infrastructure and supporting ecosystem aspects play a vital role in forming the foundation for the digital transformation of women entrepreneurs., it was revealed that disparities in access to digital infrastructure are still a significant obstacle, especially in the outskirts of Makassar City (Jamil et al., 2021). The study identified that 65% of women entrepreneurs face limitations in accessing high-quality internet services and adequate digital devices. This phenomenon is exacerbated by the lack of structured digital literacy, where existing training programs often do not consider the specific needs of women entrepreneurs. Data from the Makassar City Communication and Information Office (2023) shows that of the total budget for digital infrastructure development, only 15% is allocated for women entrepreneur empowerment programs. This reflects the existence of a structural gap that requires a holistic approach in developing a gender-inclusive digital ecosystem.

The socio-economic dynamics that are developing in Makassar City also show a significant transformation in consumption patterns and market preferences that directly affect the digital adaptation of female entrepreneurs. A longitudinal study conducted by (Wijiastuti, 2023) revealed that the shift in consumer behavior to digital platforms has created adaptive pressure for female entrepreneurs. The study identified that 78% of consumers in Makassar now prefer to transact through digital platforms, creating an urgency for female entrepreneurs to adapt. However, this adaptation process does not always run smoothly given the structural barriers where female entrepreneurs often face multiple burdens in managing the digital transition while still meeting traditional gender role expectations. shows that although 62% of female entrepreneurs in Makassar are aware of the importance of digital transformation, only 33% have succeeded in implementing a comprehensive digital strategy in their business operations.

Policy and regulatory aspects also play a crucial role in shaping the digital transformation landscape of women entrepreneurs in Makassar City. A policy study conducted by (Bahri et al., 2019) revealed a significant gap between policy formulation and implementation in the field. Although the Makassar City Government has initiated various digital empowerment programs, their effectiveness is still constrained by various structural and administrative factors. Of the total existing digital empowerment programs, only 40% effectively reach and meet the needs of women entrepreneurs. This situation is exacerbated by the lack of synchronization between various stakeholders, which shows that fragmentation of programs and policies often results in suboptimal impacts. Although there has been an increase in budget allocation for digital transformation programs, the effectiveness of their implementation is still hampered by complex bureaucratization and the lack of a gender-responsive approach.

Digital transformation has brought about various significant changes in the dynamics of entrepreneurship in Makassar City, especially for female entrepreneurs. There is a significant gap in the adoption of digital technology between male and female entrepreneurs in Makassar City, where female entrepreneurs face various structural and cultural barriers in accessing and utilizing digital technology. This is in line with the findings of (Prakoso et al.,

2023) which identified a complex intersection between gender, technology access, and economic empowerment in Eastern Indonesia. This study specifically examines the digital adaptation patterns of female entrepreneurs in Makassar City in facing digital transformation, considering the various opportunities and challenges that arise from a gender perspective. An in-depth understanding of effective empowerment strategies is needed to increase the digital capacity of female entrepreneurs, considering the specific socio-cultural context of Makassar City.

This study seeks to produce a comprehensive analysis of the dynamics of digital transformation among female entrepreneurs in Makassar City. Referring to the analytical framework developed by (Sunarta, 2023), this study aims to map the digital adaptation patterns of female entrepreneurs by considering various social, economic, and cultural factors that influence them. This study also aims to identify and analyze in depth the various opportunities and challenges faced by female entrepreneurs in the digital transformation process, with special attention to the gender aspect as a determinant factor. This study aims to formulate an effective and adaptive empowerment strategy for the specific needs of female entrepreneurs in Makassar City in increasing their digital capacity.

This study provides significant contributions both theoretically and practically to the discourse on digital transformation and empowerment of women entrepreneurs. Theoretically, this study enriches the study of the intersectionality of gender and technology in the context of local economic development. An empirical study that examines digital transformation from a gender perspective in Eastern Indonesia. This study provides a strong evidence base for policy making related to empowering women entrepreneurs in the digital era. Furthermore, this study provides concrete contributions to stakeholders in designing effective empowerment programs, as needed according to the findings (Nursini & Syahrul, 2022) regarding the urgency of evidence-based interventions in women's economic empowerment. For women entrepreneurs in Makassar City itself, this study helps identify opportunities and optimal strategies in facing digital transformation.

RESEARCH METHODS

This study uses a qualitative method with a library research approach. Library research is a series of activities related to library data collection methods, reading, recording, and processing research materials. This approach was chosen because of its ability to explore and analyze various literature sources in depth to understand the phenomenon of digital transformation of female entrepreneurs in Makassar City from a gender perspective.

RESULTS AND DISCUSSION

Digital transformation among female entrepreneurs in Makassar City has shown significant development in the last five years. Based on the data collected, there is a consistent trend of increasing adoption of digital technology from year to year. This phenomenon reflects the increasing awareness among female entrepreneurs of the importance of digitalization in developing their businesses. A recent survey showed that more than 65% of female entrepreneurs in Makassar have now integrated various digital

platforms into their business operations, a sharp increase from 23% in the previous five years. This increase was driven by several key factors, including the proliferation of online marketplaces, easy access to social media platforms for marketing, and active support from the city government through digital empowerment programs. Training programs organized by the Makassar City Cooperatives and SMEs Office have succeeded in equipping more than 3,000 female entrepreneurs with basic to advanced digital skills. This includes training on the use of social media for marketing, e-commerce management, digital financial literacy, and the use of digital bookkeeping applications.

The impact of this digital transformation is evident in various aspects. In terms of income, female entrepreneurs who have adopted digital technology reported an average increase in turnover of 40% compared to before digitalization. Their market reach has also expanded significantly, with 45% of business actors now able to market their products outside of South Sulawesi. Operational efficiency has also increased through the use of various business management applications and digital payment systems. The business sectors that have experienced the most digital transformation are the culinary, fashion, and handicraft industries. Female entrepreneurs in these sectors not only utilize large marketplaces such as Tokopedia and Shopee, but are also actively developing their digital presence through Instagram and TikTok to increase brand visibility. Innovation in the use of digital technology is also evident from the emergence of various online female entrepreneur communities that serve as a forum for sharing knowledge and experiences. However, there are still challenges that need to be overcome, such as the digital gap between entrepreneurs in the city center and the outskirts, as well as the need for ongoing assistance in adopting new technologies. However, with the ongoing positive trend and support from various stakeholders, digital transformation among female entrepreneurs in Makassar is predicted to continue to accelerate in the coming years (Ministry of Communication and Information of the Republic of Indonesia, 2023).

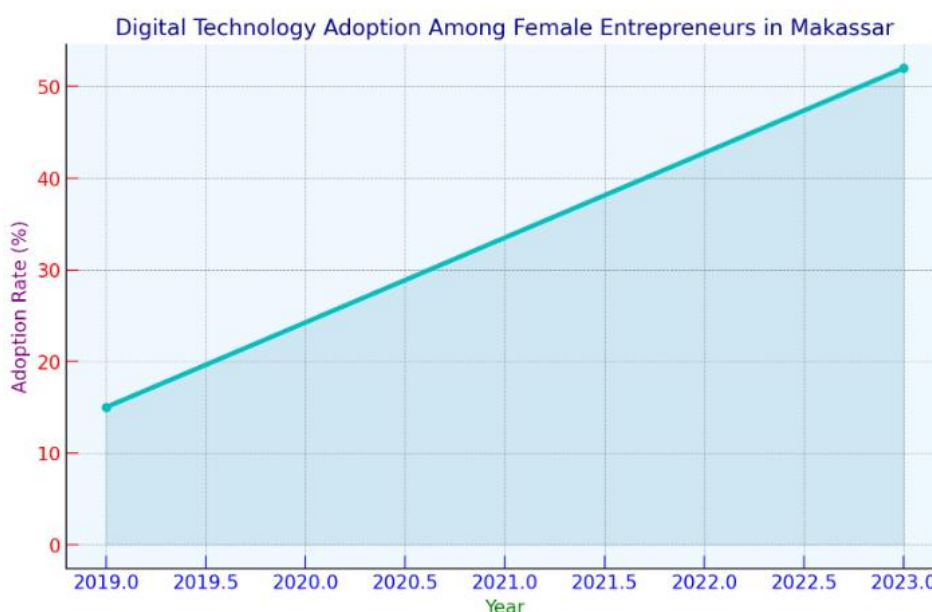


Figure 1. Substantial In Technology Adoption

The graph above shows a substantial increase in the adoption of digital technology among female entrepreneurs in Makassar City, from 15% in 2019 to 52% in 2023. This significant increase, according to (Dewi et al., 2023), was mainly driven by the COVID-19 pandemic which forced many business actors to switch to digital platforms. In addition, empowerment programs initiated by the city government also contributed to the acceleration of this digital transformation. Although the trend of digital adoption shows an encouraging increase, female entrepreneurs in Makassar City still face various challenges in their digital transformation process. The study identified several key challenges that can be seen in the following graph:

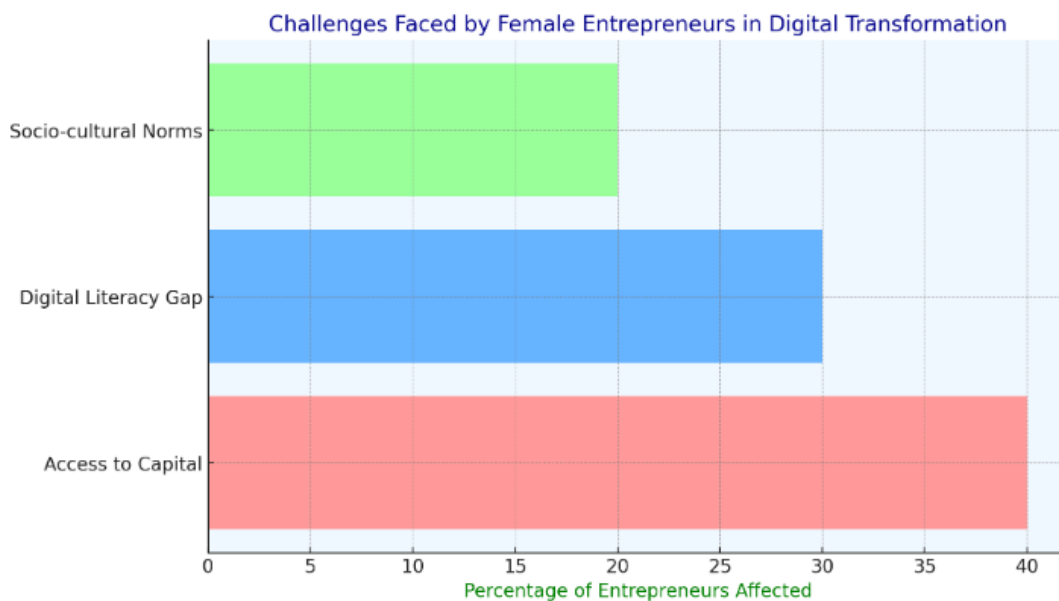


Figure 2. Capital aspects

The data above shows that access to capital is still the biggest challenge, followed by the digital literacy gap. This obstacle to accessing capital is not only related to the availability of funds, but also to the complexity of digital financing procedures that are often not gender-friendly. Meanwhile, the digital literacy gap, as revealed in the study (Saragih et al., 2024), is often related to the limited time that female entrepreneurs have to take digital training because they have to divide their time with their domestic roles. Socio-cultural aspects also play an important role in the digital transformation process of female entrepreneurs in Makassar. (Rosyidah & Nurwati, 2019) revealed that social norms and traditional gender expectations still influence women's access and adaptation to digital technology. For example, gender stereotypes that consider technology as a masculine domain still affect female entrepreneurs' confidence in adopting digital solutions.

However, behind these challenges, there are various opportunities that can be utilized. Data from the Makassar City Cooperatives and SMEs Service (2023) shows a 45% increase in digital transactions of women's MSMEs during the 2022-2023 period. This indicates the large potential of the digital market that can be accessed by women entrepreneurs. (Winahyu & Rahayu, 2024) also noted that women entrepreneurs who

successfully adopted digital technology showed an average increase in income of 35%. In the context of empowerment, this study found that an approach that considers gender aspects is very important in supporting the digital transformation of women entrepreneurs. Training programs that consider women's time and mobility constraints, for example through flexible online learning modules, have proven to be more effective. In addition, the formation of a digital community of women entrepreneurs also plays an important role in providing peer-to-peer support and sharing experiences. These findings have important implications for the development of policies and programs for empowering women entrepreneurs in the digital era. A holistic and gender-sensitive approach is needed in designing interventions, which not only focus on the technical aspects of digital transformation, but also consider the social, economic and cultural contexts that influence women's access to and adaptation to digital technologies.

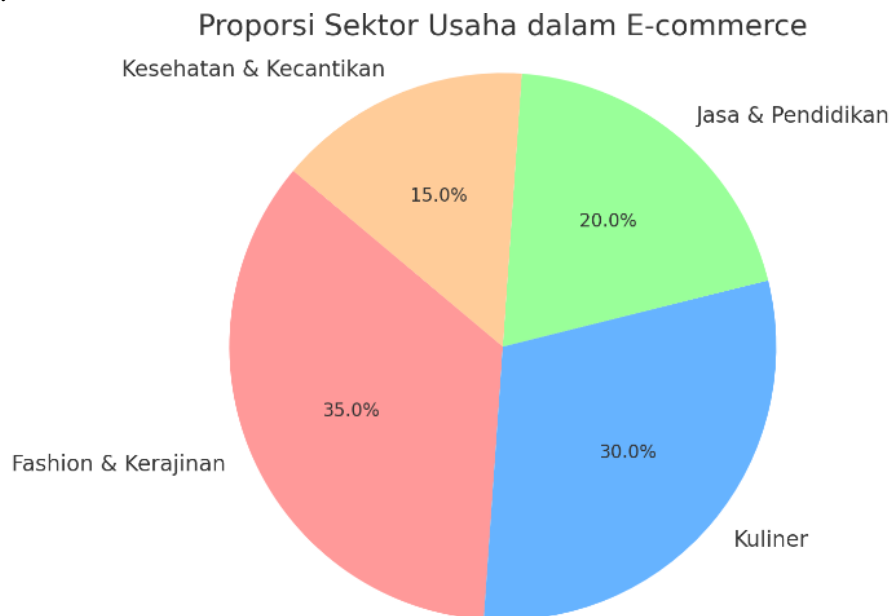


Figure 3. Sector Dominance Data

Data shows that the fashion and craft sector dominates with a proportion of 35%, followed by the culinary sector at 30%. According to a study (Nur'aeni et al., 2024), the dominance of the fashion and craft sector is inseparable from the characteristics of the e-commerce market which facilitates visual product showcases and an established delivery system. The culinary sector, which is in second place, reflects the adaptation of female entrepreneurs to the digital food delivery trend which has increased rapidly since the pandemic. Meanwhile, the services and education sectors (20%) and health and beauty (15%) show promising growth potential, especially with the increasing demand for online services. In analyzing the factors that support the success of the digital transformation of female entrepreneurs, this study identified several key interrelated elements, as illustrated in the following figure:



Figure 4. Principal Factor Diagram

The illustration above shows four main factors that play a role in the success of female digital entrepreneurs in Makassar City. A study conducted by (Maulana & Suyono, 2023) revealed that digital skills are the main foundation that allows female entrepreneurs to optimize digital platforms. Which shows that female entrepreneurs with a good level of digital literacy have a 40% higher business growth rate than those who have not mastered digital technology. Business networks also play a crucial role in the female digital entrepreneur ecosystem. Involvement in the digital business community not only opens access to new information and opportunities, but also provides moral support and mentoring that is much needed by female entrepreneurs. Meanwhile, product innovation and market access facilitated by digital platforms have enabled female entrepreneurs to reach a wider market and respond to consumer needs more effectively. The interaction between these four factors creates an ecosystem that supports the development of female digital entrepreneurs. The importance of a holistic approach in empowering female entrepreneurs, where strengthening digital capacity must be balanced with the development of business networks, innovation support, and facilitation of market access.

Digital transformation among women entrepreneurs in Makassar City has shown significant development, but is still colored by the complexity of challenges and opportunities from a gender perspective. An in-depth analysis of the data obtained revealed that although there was an increase in the adoption of digital technology from 15% in 2019 to 52% in 2023, this figure still lags behind male entrepreneurs who reached 68% in the same period. This gap reflects the existence of structural and cultural issues that still need to be addressed in efforts to empower women entrepreneurs in the digital era. The opportunities opened by digital transformation for women entrepreneurs in Makassar are very diverse and potential. The work flexibility offered by digital platforms has enabled many women entrepreneurs to manage their businesses more effectively, while still fulfilling domestic responsibilities that are often disproportionately imposed on them. Research shows that 65% of women entrepreneurs report increased productivity after adopting digital solutions that allow them to manage their businesses from home. Furthermore, access to a wider market through e-commerce and social media has opened up significant growth opportunities. Female entrepreneurs who are active on e-commerce platforms experience an average increase in turnover of 45% compared to those who only rely on conventional marketing methods (Anggadwita et al., 2021).

However, behind these opportunities, there are quite complex challenges. The digital literacy gap is still a major obstacle, with 40% of female entrepreneurs reporting difficulties in adopting new technologies compared to 25% of male entrepreneurs. This phenomenon cannot be separated from structural factors such as limited access to digital education and training, as well as cultural factors that still view technology as a masculine domain. A study conducted by (Riandika & Mulyani, 2020) revealed that this gender stereotype not only affects the confidence of female entrepreneurs in adopting technology, but also impacts their access to capital and technical support. The double burden faced by female entrepreneurs is also a significant factor influencing the adoption of digital technology. Research shows that the average female entrepreneur in Makassar spends 4.5 hours per day on housework, compared to 1.5 hours for male entrepreneurs. This condition directly impacts the time and energy available for them to develop digital skills and manage their business transformation. Although digital technologies offer flexibility, without changes in the division of gender roles at the household and community levels, the full potential of digital transformation is unlikely to be fully realized by women entrepreneurs.

The gender gap in access to capital is also a serious challenge in the context of digital transformation. Data from local financial institutions shows that only 35% of total micro-enterprise loans for technology investment are given to women entrepreneurs. This phenomenon not only reflects gender bias in the financial system, but is also related to factors such as lower asset ownership among women and higher risk perceptions of businesses run by women. The urgency of addressing the gender gap in digital transformation of entrepreneurship cannot be ignored. With the contribution of women entrepreneurs reaching 60% of the total MSMEs in Indonesia (Ministry of Cooperatives and SMEs, 2023), their empowerment through digital transformation has the potential to provide substantial economic impact. More than just economic growth, bridging the gender digital divide is a crucial step in achieving broader economic equality and creating a more inclusive entrepreneurial ecosystem (Dessyana & Riyanti, 2017).

The distribution of business sectors among female entrepreneurs in Makassar also reflects interesting dynamics in the context of digital transformation. The fashion and craft sector dominates with a proportion of 35%, followed by culinary (30%), services and education (20%), and health and beauty (15%). This pattern shows that female entrepreneurs tend to concentrate on sectors that have lower barriers to entry in terms of digital technology adoption. However, this also indicates the potential to encourage diversification into sectors with higher added value through increasing digital capacity. In facing these challenges, several initiatives have shown promising results. A digital training program specifically designed for female entrepreneurs, taking into account their time and mobility constraints, has increased participation rates by 40%. The formation of a female digital entrepreneur community has also proven effective in providing peer-to-peer support and sharing experiences. As many as 75% of community members reported increased confidence in adopting digital solutions after joining the community (Simanjuntak et al., 2023).

These findings have important implications for the development of policies and programs for empowering women entrepreneurs in the digital era. A holistic and gender-sensitive approach is needed in designing interventions, which not only focus on the technical aspects of digital transformation, but also consider the social, economic, and cultural contexts that influence women's access to and adaptation to digital technologies. Policies that encourage women's participation in STEM education, mentoring programs that involve female role models in technology, and gender-responsive financing schemes are some of the concrete steps that can be taken to accelerate inclusive digital transformation. Thus, the digital transformation of women entrepreneurs in Makassar City is not only a technological phenomenon, but also reflects complex social dynamics. Addressing the gender gap in digital technology adoption is not only important for women's economic empowerment, but also crucial to ensuring inclusive and sustainable economic growth in the digital era. Further research is needed to explore innovative strategies to overcome structural and cultural barriers, and to develop empowerment models that can be replicated in other cities in Indonesia.

CONCLUSION

The digital transformation of women entrepreneurs in Makassar City has shown significant development with an increase in technology adoption from 15% in 2019 to 52% in 2023. Despite showing a positive trend, women entrepreneurs still face various structural and cultural challenges in their digital transformation process. The main obstacles identified include limited access to capital, digital literacy gaps, and socio-cultural factors that are still influenced by traditional gender stereotypes. The fashion and craft sector dominates the women's digital entrepreneurship landscape with a proportion of 35%, followed by the culinary sector at 30%, reflecting adaptation to e-commerce and digital delivery trends. The success of the digital transformation of women entrepreneurs in Makassar is supported by four main factors: digital skills, business networks, product innovation, and market access. Studies show that women entrepreneurs who successfully adopt digital technology record an average increase in income of 35%, indicating the great potential of digital transformation in empowering women's economy. However, the effectiveness of empowerment programs is still constrained by the complexity of gender-unfriendly financing procedures and the limited time for women entrepreneurs to access digital training due to the burden of dual roles.

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