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ORIGINAL SCIENTIFIC PAPER

# Economic and Demographic Drivers of Women Entrepreneurs in the Indonesian Textile Market



Dwi Prasetyani<sup>1</sup>  
Ainina Ratnadewati<sup>2</sup>  
Anisya Nur Widya<sup>3</sup>  
Hilmah Zuryani<sup>4</sup>

Universitas Sebelas Maret, Faculty of Economics and Business, Department of Development Economics, Surakarta, Central of Java, Indonesia

## ABSTRACT

*Women who actively participate in micro, small, and medium-sized enterprises (MSMEs) can gain empowerment, reduce economic disparities, and improve their living conditions, encouraging more women to become involved in economic activities. This study aims to compare the role of women entrepreneurs in the textile sector, examining demographic and economic aspects that influence the turnover of women entrepreneurs in Klewer Market, Surakarta, and Beringharjo, Yogyakarta. The study included 300 sellers, and the data was processed using multiple linear regression, which was then further evaluated utilizing mosaic display orange data mining. The study's findings indicate that demographic and economic factors influencing the turnover of women entrepreneurs differ in both areas. Women entrepreneurs with substantial money, high-quality education, and self-actualization through women's empowerment are*

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<sup>1</sup> Corresponding author, e-mail: dwiprasetyani\_fe@staff.uns.ac.id

<sup>2</sup> E-mail: aininaratna@student.uns.ac.id

<sup>3</sup> E-mail: anisyawidya18@gmail.com

<sup>4</sup> E-mail: hilmahzuryani@gmail.com

*deemed more competitive in terms of sales turnover. Gender equality through women's empowerment is the fifth goal of the Sustainable Development Goals, which can be achieved through active support and collaboration to attain independent and transformative competitiveness.*

**KEYWORDS:** *women entrepreneur, women empowering, traditional market, demographic factors, economic factors, turnover, mosaic display, orange data mining*

## **Introduction**

Women's participation in the economy has increased. This is prompted, first and foremost, by shifts in people's perceptions and attitudes regarding the equal importance of opportunities for men and women to achieve their full potential. Second, women want to be economically independent, which means using their money to meet their own living needs as well as those of their dependents.

Another factor contributing to increased women's engagement in the labour force is improved social standing. Women can socialize with the environment in which they work in various ways, including through individual initiatives. Women handle 60% of Indonesia's micro and small companies. Despite the high female participation rate, women's economic contribution in Indonesia is still regarded as low. In 2021, the contribution of women's income only reached 37.22%, a reduction of 0.04% from the previous year (Table 1), when it reached 37.26% (Sulisto et al., 2023)

*Table 1: Women's Income Contribution (2018-2022)*

<b>Year</b>	<b>Women's Income Contribution (%)</b>
2018	36.70
2019	37.10
2020	37.26
2021	37.22
2022	37.17

*Source: Indonesian Statistic Bureau, 2024*

The Indonesian government implements a mechanism for the development of home industries aimed at reducing poverty rates (Hutajulu et al., 2021). enterprises owned by women frequently confront higher

hurdles than enterprises owned by men. The empowerment program is one of the government's initiatives to support women entrepreneurs who face challenges in running their businesses. Global economic empowerment now focuses on women (Sugiyanto et al., 2024). Women's empowerment and entrepreneurship are inextricably linked concepts. Women's entrepreneurship is one of the most effective ways for female empowerment (Sharma et al., 2024)

Women engaged in MSMEs have the potential to achieve empowerment, reduce economic disparities, and improve women's living standards, encouraging women to be actively involved in economic activities (Sugiyanto et al., 2024). Indonesian According to the national definition of MSMEs, a 2016 World Bank survey revealed that 52.9% of micro-enterprises, 50.6% of small enterprises, and 34.0% of medium enterprises in urban areas are owned by women. Micro, small and medium enterprises are considered to have a simple, effective, and easy concept to be carried out by various levels of society, especially the lower middle class (Rodrigues, 2023). The ability to absorb labour encourages MSMEs to use local natural resources more intensively. This demonstrates the role of MSMEs in decreasing poverty and ensuring equal distribution of community revenue (Bhandari et al., 2024). Micro, small, and medium-sized enterprises contribute Rp 9,580 trillion to Indonesia's GDP, and this industry employs approximately 117 million people, accounting for around 97% of the country's total employment. Most Indonesians' economic lives now include the presence of women entrepreneurs in MSMEs. MSME ownership data shows that women manage up to 44.29% of micro-businesses, while small companies account for 10.28%. According to the Minister of State for Women's Empowerment's report, women make up 60% of Indonesia's micro and small entrepreneurs.

Surakarta is one of the regions that emphasizes the importance of MSMEs in promoting economic growth, job creation, and poverty reduction. Surakarta City, located in the center of Java, Indonesia, has 43,804 encouraged MSME units, which are supported in terms of technical production, company management, licensing, and administration, as well as product protection (BPS Surakarta City, 2022). More specifically, according to data from the Central Java Office of SMEs, in 2022, women entrepreneurs led MSMEs in Surakarta City, with 11,857 actors. Meanwhile, Surakarta City has 6,108 male entrepreneurs.

Klewer Market is a batik MSME center in Surakarta City. Every day, the circulation of money at Klewer Market surpasses around 5 billion. (Sekar et al., 2024). This figure is expected to quadruple to 10 billion between the holiday season and the start of the school year. The Klewer Market can support over 10,000 workers. As a result, Klewer Market has grown in popularity both nationally and internationally. The presence of women entrepreneurs in the batik industry at Pasar Klewer has the potential to support a variety of economic activities that benefit the household economy and, more broadly, the National Economy. Women may build enterprises, specifically as managers, assistants, and employees.

Yogyakarta places a premium on MSMEs as economic drivers. It is located around southern Indonesia, specifically on the island of Java. According to data from the Yogyakarta Special Region Planning and Development Agency, the number of micro, small, and medium-sized businesses in the Yogyakarta region has climbed year after year since 2022. Yogyakarta City has 342,934 MSME business units. These MSMEs make a vital and strategic contribution to the regional economy (Raja et al., 2023)

Beringharjo Market is one of Yogyakarta City's biggest commerce centers. Women entrepreneurs in the Beringharjo Market make a substantial contribution to the MSME sector, particularly in the clothing and batik fabric industries. Women are often perceived as being more skilled than men at selling and attracting customers. Working as a trader is a public affair because it is tied to interests outside the home that provide financial support for the family. However, the items traded in the market are related to home requirements and household affairs, which women think to comprehend better (Tassya, 2024). Furthermore, Table 2 below presents the differences between the cities of Surakarta and Yogyakarta.

Batik, which is found in Surakarta and Yogyakarta, has been recognized by UNESCO as a heritage site since 2009 and serves as a center for MSMEs. Women play a crucial role in the development of batik in both locations. Since ancient times, women have built a life from their batik abilities (Sugara, 2023). Women in the workplace face the challenge of multiple roles, which require them to perform responsibilities in both the domestic and public realms. Domestic roles include responsibilities as wives, mothers, and household administrators, whereas public roles include their positions as workers, members of society, and participants in social organizations (Septyawati et al., 2023). This also applies to women operating in the Klewer and Beringharjo markets, where women

entrepreneurs must fulfill two tasks, obligations, and responsibilities: managing their households and contributing to family economic growth.

*Table 2. The Difference Between Surakarta and Yogyakarta*

No	Surakarta	Yogyakarta
1. History	Surakarta was the of the Islamic Mataram Kingdom after the Giyanti Agreement in 1755.	Yogyakarta became the capital of the Sultanate of Yogyakarta after the Giyanti Agreement in 1755.
2. Economics	The batik industry sector in Klerwer Market drives the Economy of Surakarta City.	The tourism, education, and batik industry sectors in Beringharjo Market support the Economy of Yogyakarta City.
3. Culture	Surakarta Batik tends to have a darker colour palette, with a predominance of brown and black and a little use of white. Surakarta Batik maintains traditional motifs.	Yogyakarta Batik uses more white and brown colours, making it look brighter. Yogyakarta Batik combines modern motifs.

*Source: Juhafa (2023); Fajar et al. (2024); Sari (2022).*

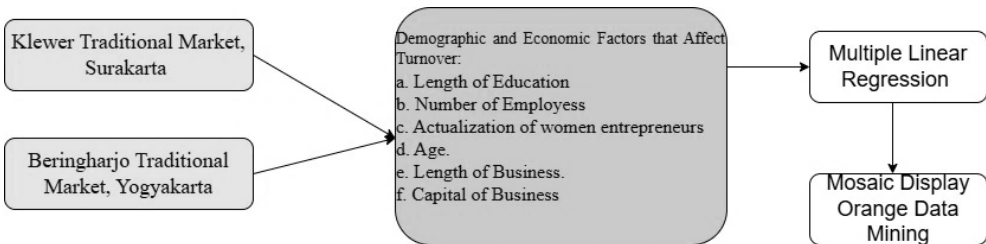
One of these responsibilities is demonstrated by the level of sales or turnover among sellers in both traditional markets. Demographic and economic variables determine how these sellers contribute to increased sales turnover. Based on Nayaka and Kartika (2018), The amount of capital owned has an impact on trader turnover; capital is used to grow inventory, improve product quality, expand marketing efforts, and enhance facilities and services. Furthermore, demographic factors such as trader education level and age have a significant impact on turnover.

Research by Sugiyanto et al. (2024) demonstrates that women's empowerment is affected by their age and education level. The higher a woman's educational level, the more opportunities she has to socialize, gain information, and acquire expertise, particularly in the sphere of entrepreneurship. Other supporting elements, such as the number of workers, the length of business, and actualization through marketing training through women's empowerment platforms, all have an impact on

the increase in turnover among sellers, particularly women (Hendratmi et al., 2024)

Women entrepreneurs play a significant role in advancing the textile industry in Indonesia, particularly within the Klewer and Beringharjo markets, which are the largest textile markets in the region. The income generated by women can substantially influence the growth of the textile sector, thereby enhancing the economic well-being of families and the nation as a whole. Research indicates that women possess superior knowledge and skills in the textile trade compared to their male counterparts (Serrano et al., 2023). Socially, the involvement of women entrepreneurs helps to dismantle the stereotype that income generation is predominantly a male domain. However, in Indonesia, the economic contributions of women remain relatively low due to their dual roles as homemakers and workers. This study examines the role of women entrepreneurs in the textile industry by analyzing the factors that influence the turnover of women sellers in Klewer Market, Surakarta, and Beringharjo, Yogyakarta's largest market. From this background, the concept of this research can be described as follows:

*Figure 1: Research Concept*



Source: *Primary Data Mosaic Display, 2024.*

## Literature Review

### Women's Entrepreneurship

Women's entrepreneurship plays a crucial role both globally and in Indonesia (Jia et al., 2021). Internationally, women entrepreneurs make a significant contribution to economic growth by presenting innovative solutions in various industry sectors (Chakraborty & Chatterjee, 2021). There are numerous international communities and networks, such as the

Modest Fashion & Womenpreneur Summit (MFWS), held in Kuala Lumpur and Turkey, that focus on supporting women's entrepreneurship. However, they also face various challenges, including gender bias, limited access to capital, and the burden of household responsibilities. In Indonesia, around 64% of Micro, Small, and Medium Enterprises (MSMEs) are managed by women, making this sector a key pillar of the national Economy (Luo & Chan, 2021). The Indonesian government has issued various policies to support the development of MSMEs managed by women, including budget allocation and social assistance programs (Welsh et al., 2021). However, women entrepreneurs in Indonesia still face challenges, including limited access to capital and a lack of participation in business networks (Hendratmi et al., 2024). Support from the government and local communities is essential to help them thrive. Women's entrepreneurship not only contributes to economic growth but also encourages positive social change (Sugiyanto et al., 2024). Previous research conducted by Maimuna and Limbong (2024) indicates that female entrepreneurs tend to exhibit strong independence, which is beneficial for the advancement of entrepreneurship. This independence allows women to avoid reliance on others, thereby contributing to family finances and creating job opportunities for many individuals.

### **Female Dual Role**

Female dual roles describe circumstances in which women play more than one or two roles. Women who are married and participate in public activities undoubtedly play a variety of roles. Women serve as spouses and mothers in the home, as well as economic agents in the public sector (Afrizal & Lelah, 2021). Vadya et al. (2023) recommend that women perform a dual function that includes both household and public roles, known as the Triple Function of Women. This concept refers to women having three functions at once: reproduction, production, and social participation. This notion aims to help overcome challenges caused by role preconceptions that have been deeply ingrained in people's minds. Women are expected to make significant contributions in both the domestic and public spheres. Handoko et al. (2024) should highlight that some of the obstacles associated with this dual function include gender ideology in society, particularly work stereotypes and gender-based labour division. Ekawati (2022), in her research, explains that the dual role of women can provide benefits, namely that women can realize the values of life they

believe in, increase family income, and expand opportunities to create jobs for many people.

### **Opportunity Cost for Career Women**

The opportunity cost of a career for women refers to the potential gains or benefits lost when a woman decides to pursue a job over alternative pursuits, such as caring for a family or pursuing further education (Yeni & Marta, 2022). This may encompass revenue that has not been earned, experiences that have been overlooked, or opportunities that have been forfeited due to alternative decisions that were not pursued. For example, a woman who decides to pursue full-time work may have to give up time that would otherwise be spent caring for children or participating in family events. Additionally, there is the emotional strain and pressure that can be felt when trying to balance work and personal life. However, it should be remembered that employment can give major rewards such as skill development, financial success, and personal fulfillment that other hobbies may not deliver. As a result, women must carefully assess the opportunity costs and benefits of each option before making the decision that best aligns with their goals and values. In line with this, previous research conducted by Yeni et al. (2022) stated that women who are married and have children under 5 years of age have a greater chance of leaving the labour market because women have an important role in supporting the growth and development of children at toddler or pre-school age. On the other hand, women with higher education tend to have a lower chance of leaving the labour market after marriage. Women with higher education may choose to work while still fulfilling their responsibilities as housewives.

### **Demographic and Economic Factors**

Women's empowerment in entrepreneurship manifests in numerous forms, including an increase in the turnover rate of businesses owned by women entrepreneurs. Empowered women are more likely to effectively manage their businesses and realize their full potential. Several demographic and economic aspects might influence the amount of business turnover owned by women entrepreneurs, including the quantity of money, the number of personnel, the degree of education, age, length of operation, and actualization through business training (Luo & Chan, 2021; Welsh et al., 2021).



## **Methodology and Data**

The analysis used in this study includes dependent variables, such as women sellers' monthly turnover, as well as several independent variables in the form of demographic and economic factors, such as capital, length of education, number of workers, age, length of business, and actualization of digital technology, as demonstrated by participation in digital economy training. This study utilized a total of 300 respondents, comprising 150 female sellers from the Beringharjo Traditional Market in Yogyakarta and 150 from the Klewer Traditional Market in Surakarta. The sample was gathered using a random sampling procedure in which each member of the population had an equal chance of being chosen as part of the sample (Nurjanah, 2021). The number of samples was obtained based on the computation of the Slovin formula with an error of 10% and the total population of 450 women merchants in the Beringharjo Traditional Market, Yogyakarta, and 454 women sellers in the Klewer Traditional Market, Surakarta, using the equation:

$$N = \frac{n}{1+n(e)^2} \quad (1)$$

Where  $N$  is a population size,  $n$  is a sample size, and  $e$  is a margin of error. Based on the research of Ilczuk et al. (2023), demographic factors are factors that affect the amount of entrepreneurs' turnover, while Budiastuti and Hartati (2022) argue that the capital or economic sector of women sellers influences their turnover. These factors were then studied using a variety of methodologies, including multiple linear regression, with the relevant factors further examined using mosaic display.

This study uses several research methods to determine the influence of demographic and economic factors that affect the turnover of female sellers, namely:

### **1. Multiple linear regression**

This analysis employs a statistical model to determine the relationship between a single dependent variable and multiple independent variables. The fundamental goal is to forecast the value of the dependent variable using the values of the independent variables. This study uses three equations in multiple linear regression. Equation 2 is to determine the demographic and economic factors of women sellers in Klewer Traditional

Market, Surakarta. In contrast, equation 3 was employed for samples from Beringharjo Market, Yogyakarta, and equation 4 was used for comparison in these two locations.

All the equation is written as follows:

$$LnOmzet = a_k + b_{1k}lnModal + b_{2k}Employ + b_{3k}Edu + b_{4k}Age + b_{5k}Years + b_{6k}Course \quad (2)$$

$$LnOmzet = a_b + b_{1b}lnModal + b_{2b}Employ + b_{3b}Edu + b_{4b}Age + b_{5b}Years + b_{6b}Course \quad (3)$$

$$LnOmzet = a_{kb} + b_{1kb}lnModal + b_{2kb}Employ + b_{3kb}Edu + b_{4kb}Age + b_{5k}Years + b_{6kb}Course + b_{7kb}Dummy \quad (4)$$

Where *Omzet* is the amount of turnover of women entrepreneurs in a month, *Modal* is the amount of capital spent on business operations for a month, *Employ* the number of workers owned, *Edu* is the level of education of the owner, who is a women entrepreneur, *Age* the age of the women entrepreneur is the length of business, *Course* experience in participating in business training is measured through a dummy variable where 1 is a women entrepreneur who has participated in business training and zero who has not have followed, in equation 2, *k* is a measurement on women entrepreneurs at Klewer Traditional Market Surakarta, in equation 3, *b* is a measurement at Beringharjo Market Yogyakarta, and equation 4, *kb* is a measurement in both markets.

## 2. Mosaic Display Analisis

The influence of the factors analyzed through OLS regression was further examined in depth using a Mosaic Display. Mozaic Display is a graphical representation of a two-way frequency table or contingency table. This tool is used to visualize data from two or more qualitative and quantitative variables. In addition to being used to observe the relationship and number between each factor that affects the turnover of women entrepreneurs, the level of association is also analyzed through Pearson's residual formula:

$$r_{ij} = \frac{(O_{ij} - E_{ij})}{\sqrt{E_{ij}}} \quad (5)$$

Another metric that can be used is Pearson Standard residue (adjusted), which is calculated by:

$$r_{ij} = \frac{(O_{IJ} - E_{ij})}{\sqrt{E_{ij}(1 - n_{i+})(1 - n_{+j})}} \tag{6}$$

Residu Pearson,  $O_{IJ}$ ,  $E_{ij}$ ,  $Pi+$ , dan  $P+j$  Each describes the numerous components required to calculate and understand the distribution of data in a table. Pearson Residue ( $r_{ij}$ ) shows the difference between the observed values ( $O_{IJ}$ ) and predicted values ( $E_{ij}$ ).  $Pi+$  dan  $P+j$  Each represent the overall proportion of rows and columns in the table.

## Discussion

### Economic Characteristics and Demographics of Women Entrepreneurs

The two places considered, the Klewer Traditional Market in Surakarta and the Beringharjo Traditional Market in Yogyakarta, have several contrasts and similarities in terms of female businesses. The difference can be observed in Table 3.

*Table 3: Economic Characteristics and Demographics of Women Entrepreneurs*

Economic and Demographic Indicators	Women Entrepreneurs	
	Beringharjo	Klewer
1. Age (years)		
18 – 24	9	7
25 – 33	21	43
34 – 42	45	30
43 – 51	48	28
52 – 60	23	32
>61	4	10
2. Level of Education		
Elementary School	3	11
Junior High School	18	18
Senior High School	105	55
Diploma	6	16
Strata-1	17	49
Strata-2	1	0

<b>Economic and Demographic Indicators</b>	<b>Women Entrepreneurs</b>	
	<b>Beringharjo</b>	<b>Klewer</b>
Strata-3	0	1
3. Capital (Indonesian Rupiah)		
35.000 – 499.999	0	6
500.000 - 13.000.000	115	112
13.000.001- 25.500.000	24	24
25.500.001 – 38.000.000	7	2
38.000.001 – 50.000.000	3	4
50.000.001 – 62.500.000	0	0
62.500.001 – 75.000.000	0	1
75.000.001 – 87.500.000	1	0
>87.500.000	0	1
4. Number of Workers		
1 – 3	134	138
4 – 6	15	10
7 – 9	1	0
>9	0	1
5. Length of Business (Years)		
1 – 8	39	52
9 – 17	64	39
18 – 26	36	37
27 – 35	9	13
36 – 44	0	7
>44	2	2
6. Turnover (Indonesian Rupiah)		
100.000 – 499.999	0	5
500.000 - 13.000.000	89	97
13.000.001 - 25.500.000	48	32.
25.500.001 – 38.000.000	4	11
38.000.001 – 50.000.000	3	4
50.000.001 – 62.500.000	3	0
62.500.001 – 75.000.000	1	0
75.000.001 – 87.500.000	0	0
>87.500.000	2	1
7. Participating in Business Training		
Yes	23	22
No	127	128

*Source: Primary data processed (2024)*

Women entrepreneurs in the Klewer Traditional Market, Surakarta, and the Beringharjo Traditional Market, Yogyakarta, exhibit significantly different characteristics. The bulk of women entrepreneurs in both marketplaces are of productive age. However, the academic level of women entrepreneurs in Beringharjo Market is primarily high school, whereas those in Klewer Market are mainly graduates from Strata-1. Furthermore, the majority of women entrepreneurs in the two regions have monthly capital ranging from Rp 500,000 to Rp 13,000,000, which is used for operational expenses and purchasing goods.

### Comparison of Factors Affecting the Turnover of Women Entrepreneurs

There are 150 women entrepreneurs in each of the two traditional markets. The differences in demographic and economic features also shape the factors that influence women's empowerment, as evident in the high turnover among women entrepreneurs. The factors impacting turnover were examined using multiple linear regression analysis. The findings of the investigation reveal that the turnover of women entrepreneurs in Klewer Traditional Market, Surakarta, is influenced by capital, education level, and the actualization of women entrepreneurs through participation in digital training. The results are presented in Table 4.

*Table 4: Factors Affecting the Turnover of Women Entrepreneurs in Klewer Traditional Market, Surakarta*

No	Variable	Coefficient	Probability	Description
1.	C	13.60	0.00	-
2.	LNMODAL	0.15	0.00	Affected
3.	EDU	0.03	0.02	Affected
4.	EMPLOY	0.03	0.24	No Effect
5.	AGE	0.001	0.71	No Effect
6.	YEARS	0.003	0.46	No Effect
7.	COURSE	0.16	0.09	Affected

*Source: Primary Data processed, 2024.*

$$\ln Omzet = 13.60 + 0.15 \ln Modal + 0.03 Employ + 0.03 Edu + 0.001 Age + 0.003 Years + 0.16 Course \quad (6)$$

The amount of cash available for a month, the level of education of women entrepreneurs, and the concept of self-actualization through entrepreneurship training for women all have an impact on their turnover at Klexer Traditional Market, Surakarta—a 1% increase in capital results in a 0.15% increase in turnover. Furthermore, increasing the education level of women entrepreneurs by one level increases turnover by 0.03%. Women entrepreneurs in the Klexer Traditional Market who participated in the implementation of women empowerment and entrepreneurship training had a higher turnover of 0.16%. Women entrepreneurs at Yogyakarta's Beringharjo Traditional Market face a different situation. Table 5 shows that additional factors influencing the turnover of women sellers include capital, education level, number of staff, length of operation, and the self-actualization of women entrepreneurs through women's empowerment and entrepreneurship training.

*Table 5: Factors Influencing Women Entrepreneurs' Turnover in Beringharjo Market, Yogyakarta*

No	Variable	Coefficient	Probability	Description
1.	C	13.70	0.00	-
2.	LNMODAL	0.12	0.01	Affected
3.	EDU	0.03	0.09	Affected
4.	EMPLOY	0.10	0.01	Affected
5.	AGE	0.002	0.56	No Effect
6.	YEARS	0.01	0.01	Affected
7.	COURSE	0.25	0.02	Affected

Source: Primary data processed (2024)

$$LnOmzet = 13.60 + 0.15lnModal + 0.03Employ + 0.03Edu + 0.001Age + 0.003Years + 0.16Course \tag{6}$$

A 1% increase in capital for women entrepreneurs at Yogyakarta's Beringharjo Traditional Market is expected to result in a 0.12% rise in turnover. A one-level increase in education will result in a 0.03 percent rise in turnover. The number of female employees owned by the company also influences the turnover of women entrepreneurs, which is 0.10% for each extra female employee. Furthermore, the length of time in business has significant impact on turnover; for every year in business, turnover increases

by approximately 0.01%. Finally, women entrepreneurs who pursue self-actualization through training have a 0.25% higher turnover rate.

The differences in factors influencing the turnover of women entrepreneurs demonstrate that women entrepreneurs and women's empowerment play a critical role. Women entrepreneurs at the Beringharjo Traditional Market have a more diverse demographic than those at the Klewer Traditional Market. Male dealers dominate the Klewer Traditional Market, deciding distribution from both producers and purchasers. The significance of women's empowerment in the traditional market is similarly underappreciated, as seen by the lack of desire to see women entrepreneurs succeed there. Table 6 describes these discrepancies in detail.

*Table 6: Differences in The Characteristics of Women Entrepreneurs at Beringharjo and Klewer*

No	Demographic and Economic Characteristics	Women Entrepreneurs in Traditional Markets	
		Klewer, Surakarta	Beringharjo, Yogyakarta
1.	Age	Tend to be older, even though many are no longer of productive age (over 64 years old)	The majority are of productive age.
2.	Gender	A significant proportion of its male entrepreneurs are primarily owners.	The majority are women entrepreneurs.
3.	Education Level	The level of education is more even; many are in stratum one, but many also have limited education, typically to basic education.	Having a higher level of education, the majority in upper secondary education.
4.	Access to technology	More conservative in using technology	Many have actualized with marketing through social media and e-commerce.

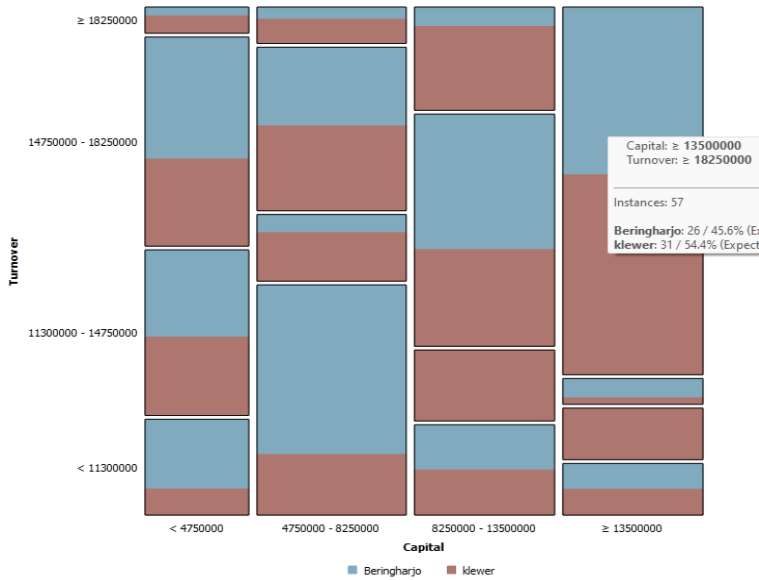
*Source: Primary data (2024)*

Entrepreneurs' turnover rates vary depending on their demographic and economic characteristics. Women entrepreneurs in the Beringharjo Traditional Market have a higher turnover rate of 0.14% compared to

women entrepreneurs in the Klerwer Traditional Market, Surakarta, as indicated by the dummy variable in equation 7.

$$\ln Omzet = 13.63 + 0.15 \ln Modal + 0.05 Employ + 0.03 Edu + 0.0003 Age + 0.0007 Years + 0.21 Course - 0.14 dummy \tag{7}$$

*Figure 2. Composition of Data on The Relationship Between Capital and Turnover*



Source: Primary data processed using Mosaic Display (2024).

Capital, education level, and the actualization of women entrepreneurs, particularly in the fields of women's empowerment and company development, are among the demographic and economic characteristics that influence women entrepreneurs in the two places. Capital is one of the most critical factors in business development. Capital management by women entrepreneurs is seen as playing an essential role in creating an atmosphere conducive to boosting turnover. Srhoj et al. (2022) assessed that women's creativity in terms of business development can be one of the efforts to survive the recession. The greater the capital that women entrepreneurs possess and cultivate, the more extensive the potential for business development, which has an impact on business turnover for women entrepreneurs (Alenda-Demoutiez, 2022; Hendratmi et al., 2024; İcen & Çil,

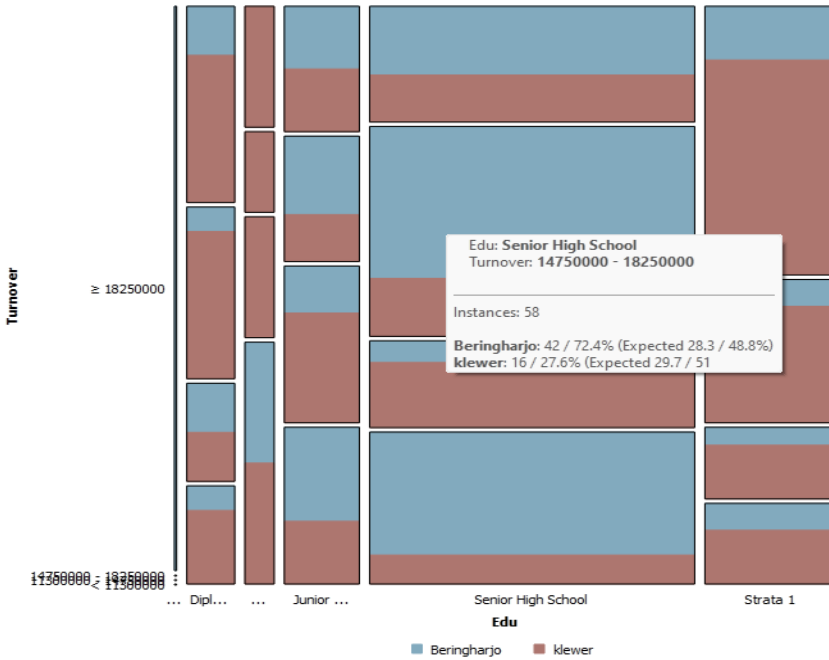


2023). The analysis of the mosaic display illustrates the correlation between business capital and turnover among women entrepreneurs operating in traditional market settings.

Figure 2 shows that the majority of women entrepreneurs with a monthly revenue exceeding Rp 18,250,000 have a monthly capital of more than Rp 13,500,000. This is consistent with the initial capital theory, which states that having more capital enables women entrepreneurs to undertake a variety of activities that support business growth, including investing in inventory, enhancing product quality, promoting and marketing, business development, and technological innovation. Women's entrepreneurship is inextricably linked to the setting in which the initial capital theory is particularly relevant, as access to capital is frequently the most significant difficulty faced by women entrepreneurs. Programs that aim to empower women by providing access to financial resources can play a crucial role in overcoming these barriers, enabling women entrepreneurs to expand their businesses and increase their income (Luo & Chan, 2021; Miranti et al., 2022; Welsh et al., 2021).

In addition to the financial resources owned by women entrepreneurs, another crucial aspect is their level of education, which also plays a significant role in business development, as evidenced by an increase in turnover. Research conducted by Dewi & Suci (2023) found that the level of education has an influence on business development among women entrepreneurs, with a relationship that the higher the education possessed by women entrepreneurs, the more likely they are to innovate in their businesses. Figure 3 supports the fact that as many as 42 women entrepreneurs in the Beringharjo Traditional Market and 16 women entrepreneurs in the Klewer Traditional Market, who have completed their high school education, have a total turnover of Rp 14,750,000 – Rp 18,250,000. In addition, women entrepreneurs with the last S1 education also have an average turnover of more than Rp 18,250,000.

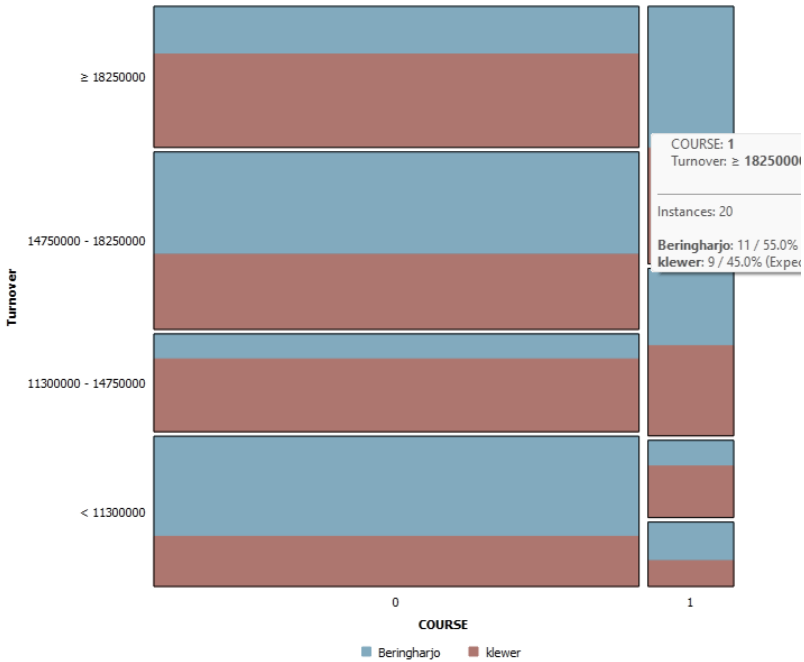
*Figure 3. Composition of Data on The Relationship Between Capital and Length of Education*



Source: Primary data processed using Mosaic Display, 2024.

The third factor influencing the turnover of women entrepreneurs in the two traditional markets is self-actualization through participation in women's empowerment and entrepreneurship programs. The actualization achieved through these trainings has a significant impact on women entrepreneurs. Specifically, it has the potential to enhance the knowledge base of women entrepreneurs, as well as their abilities, efficiency, discipline, and work ethic. Furthermore, women's empowerment training can boost competitive competitiveness by teaching abilities in product marketing via social media, e-commerce, and digital financial applications. High actualization might pique the interest of women entrepreneurs in the efficacy of capital allocation and marketing technologies. The composition of the data given in the mosaic display analysis below reveals facts concerning actualization through training for women entrepreneurs.

Figure 4. Composition of Data on the Relationship Between Actualization of Woman Entrepreneurs and Turnover



Source: Data primer diolah menggunakan Mosaic Display, 2024.

Figure 4 shows that as many as 11 women entrepreneurs in Beringharjo Traditional Market, Yogyakarta, and nine women entrepreneurs in Klewer Traditional Market, Surakarta, had a larger turnover of more than Rp 18,250,000 than women entrepreneurs who do not receive training. Women's empowerment plays an essential impact in raising the turnover of women entrepreneurs (Kiruthika & Geetha, 2024; Serrano et al., 2023; Sugiyanto et al., 2024; Wood et al., 2024). Enhanced access to financial resources, educational opportunities, and professional networks enables women entrepreneurs to strengthen their management and marketing skills, as well as expand the reach of businesses.

Empowerment initiatives typically include skills training, mentoring, and financial support, enabling women to run their businesses more efficiently and innovatively. Furthermore, women's empowerment strengthens their confidence and resolve to expand their businesses. With these conditions, women entrepreneurs may offer more high-quality and diverse products, attract more customers, and significantly increase their

entire turnover. Support from communities, governments, and financial institutions is crucial to maximizing the benefits of empowerment.

## **Conclusion**

Digitalization has a crucial role in empowering women entrepreneurs in traditional markets, such as Beringharjo Market and Klewer Market, through digital bookkeeping applications, e-commerce marketing, promotions on social media, and digital payment methods. These findings indicate that increasing access to and use of digital technology can significantly increase revenue and business management efficiency, which is in line with the achievement of the Sustainable Development Goals, especially SDGs 5 and 8. Policy implications that can be drawn from this study include the need to develop digital-based entrepreneurship support initiatives by the government and related institutions. Digital literacy training programs, expanding access to technology, and forming strategic partnerships with digital platforms must be priorities to create an ecosystem conducive to the growth of women's businesses. Supportive policies, such as fiscal incentives and regulations that facilitate technology adoption, are expected to facilitate digital transformation in the MSME sector managed by women.

On the other hand, the study has limitations, including geographical coverage limited to only two traditional markets and methods dominated by quantitative approaches, which may not fully describe the complexity of the experience of women entrepreneurs. Recognition of these limitations is important to increase transparency and encourage critical reflection on research results. For future research directions, it is recommended to expand the scope of the area and use alternative methodological approaches, such as in-depth qualitative studies or mixed methods, in order to explore more diverse contextual factors and gain more comprehensive insights into the impact of digitalization on women's empowerment. This further research is expected to provide a stronger basis for formulating policies that support inclusive and sustainable economic growth.

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