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THE INFLUENCE OF E-COMMERCE ON THE INCOME OF ULUKARUA WEAVING HOUSE IN BAMBU VILLAGE, MAMUJU REGENCY

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ABSTRACT

The development of digital technology has encouraged Micro, Small, and Medium Enterprises (MSMEs) to utilize e-commerce as a marketing strategy to expand market reach and improve business performance. The traditional weaving industry, as part of the creative industry sector, also has significant opportunities to utilize digital marketing in order to enhance business competitiveness. This study was conducted with the aim of analyzing the influence of e-commerce on the income improvement of Ulukarua Weaving House in Bambu Village, Mamuju Regency. This study employed a quantitative approach by utilizing secondary data in the form of business financial reports from the 2021–2025 period. The data were analyzed using descriptive analysis, simple linear regression analysis, correlation analysis, coefficient of determination analysis, and t-test. The findings indicated that the increase in e-commerce utilization costs was followed by an increase in annual income and net sales. These findings demonstrated that e-commerce utilization provided a positive contribution to income growth through market expansion, improved marketing effectiveness, and transaction efficiency. Therefore, e-commerce became one of the important factors in supporting the development of traditional weaving businesses in the digital era.

Keywords: E-commerce; business income; weaving industry; MSMEs; digital marketing

INTRODUCTION

Micro, Small, and Medium-Size Enterprises (MSMEs) play an essential role in Indonesia's economic development by creating employment opportunities, increasing community income, and supporting regional economic growth. According to the Ministry of Cooperatives and SMEs (2024), MSMEs dominate the number of business entities in Indonesia and employ a large proportion of the national workforce. Therefore, improving the performance of MSMEs is considered one of the key strategies for achieving sustainable economic development. The emergence of e-commerce has not only provided consumers with greater convenience in accessing goods and services but has also created broader opportunities for businesses to promote and market their products without geographical or time constraints. This transformation has encouraged many Micro, Small, and Medium Enterprises (MSMEs) to integrate digital technology into their marketing strategies in order to enhance business competitiveness in an increasingly dynamic market environment (Laudon & Traver, 2024; Kotler et al., 2021).

E-commerce has evolved into an important business strategy for improving marketing effectiveness and expanding market access. Through digital platforms such as online marketplaces, social media, and e-commerce websites, businesses are able to reach a much wider customer base than through conventional marketing channels. In addition to increasing market coverage, e-commerce facilitates transaction processes, accelerates the dissemination of product information, strengthens customer engagement, and improves the efficiency of promotional activities. These advantages enable businesses to increase sales volume and ultimately improve business income (Chaffey, 2022).

One sector with considerable potential to benefit from e-commerce adoption is the traditional weaving industry. As part of Indonesia's creative economy, the traditional weaving industry possesses not only economic value but also significant cultural importance because its products reflect regional identity through distinctive traditional motifs. In many regions of Indonesia, weaving enterprises provide employment opportunities while contributing to the preservation of local cultural heritage. However, many traditional weaving businesses continue to face challenges, including limited market access, inadequate promotional activities, and intense competition from mass-produced textile products (Ministry of Tourism and Creative Economy, 2023). Ulukarua Weaving House, located in Bambu Village, Mamuju Regency, West Sulawesi Province, is one example of a traditional weaving enterprise that has adopted digital marketing to expand its business.

Prior to implementing e-commerce, product marketing relied primarily on direct sales to local consumers and participation in regional exhibitions. Consequently, market coverage remained limited, resulting in relatively slow business growth. With the advancement of digital technology, Ulukarua Weaving House began utilizing various e-commerce platforms as promotional and sales channels to reach customers beyond Mamuju Regency.

Business performance data indicate a steady increase in investment in e-commerce activities during the study period. These trends suggest that the adoption of e-commerce may contribute to improved business performance through increased transaction volume and broader market reach.

From a theoretical perspective, e-commerce can enhance business income through several mechanisms. These include expanding market access, improving promotional effectiveness, facilitating faster and more efficient transactions, and reducing marketing costs. Greater utilization of e-commerce increases the likelihood of attracting new customers, thereby contributing to higher sales volume and business income. Moreover, digital platforms enable businesses to establish stronger relationships with customers through faster communication, more comprehensive product information, and promotional programs that stimulate purchasing decisions (Kotler et al., 2021; Laudon & Traver, 2024).

Previous empirical studies have consistently reported a positive relationship between e-commerce adoption and MSME performance. Apriliana et al. (2025) found that e-commerce significantly influences MSME income, with digital payment serving as a moderating variable. Ardiansyah and Rialdy (2026) concluded that e-commerce contributes to higher business income through expanded market access and improved operational efficiency. Similarly, Laudon (2024) demonstrated that e-commerce adoption positively affects MSME income by increasing the number of customers and sales transactions. Nevertheless, most existing studies have focused on MSMEs in general, while empirical research on traditional weaving enterprises remains relatively limited.

Given this research gap, the present study is important because it investigates the effect of e-commerce on a traditional weaving enterprise, which differs from general trading businesses due to its cultural and creative characteristics. Beyond generating economic benefits, traditional weaving businesses also play an essential role in preserving local cultural heritage. Therefore, successful implementation of e-commerce has the potential not only to increase business income but also to promote traditional woven products to broader national and international markets, thereby supporting the sustainability of local cultural industries.

Accordingly, this study aims to analyze the effect of e-commerce utilization on the business income of Ulukarua Weaving House in Bambu

Village, Mamuju Regency. The findings are expected to provide empirical evidence regarding the effectiveness of e-commerce in improving the performance of culture-based creative industries and to offer practical insights for traditional weaving enterprises seeking to strengthen their competitiveness and achieve sustainable business growth through digital transformation.

LITERATURE REVIEW

E-Electronic commerce (e-commerce) refers to the process of buying, selling, marketing, and exchanging products, services, and information through electronic networks, particularly the Internet. According to Laudon and Traver (2024), e-commerce encompasses all digitally enabled commercial transactions between organizations and individuals. It enables businesses to conduct transactions efficiently while reducing geographical barriers and operational constraints. As digital technology continues to evolve, e-commerce has become an essential component of modern business strategies, particularly for Micro, Small, and Medium Enterprises (MSMEs) seeking to expand their market reach and improve business performance.

Chaffey (2022) explains that e-commerce not only facilitates online transactions but also supports integrated digital marketing activities through websites, social media, online marketplaces, and mobile applications. These digital platforms allow businesses to communicate more effectively with customers, provide product information in real time, and build long-term customer relationships. Consequently, e-commerce has become a strategic tool for increasing market competitiveness and improving organizational performance.

Theoretically explaining why, the allocation of e-commerce marketing budgets or investments (such as social media ads, marketplaces, and digital platforms) directly impacts marketing reach performance and operational efficiency

The implementation of e-commerce offers numerous advantages, including broader market access, lower marketing costs, faster transaction processes, and improved customer satisfaction. Businesses that effectively adopt e-commerce are generally better positioned to respond to market changes and consumer preferences, thereby enhancing their competitive advantage and increasing sales performance.

Business Income

Business income refers to the financial returns generated from business activities within a specific accounting period. It reflects the company's ability to generate revenue from the sale of products or services after considering operational activities. According to Kotler et al. (2022), business performance is commonly evaluated through indicators such as sales growth, profitability, and revenue generation, all of which are closely associated with effective marketing strategies.

For MSMEs, increasing business income is a primary objective because it supports business sustainability, expansion, and competitiveness. Higher income enables businesses to invest in product development, improve production capacity, and strengthen marketing activities. Consequently, business income is frequently used as an indicator for evaluating the effectiveness of digital marketing strategies, including e-commerce adoption.

Several factors influence business income, including product quality, pricing strategy, promotional effectiveness, customer service, innovation, market demand, and economic conditions. Among these factors, digital marketing through e-commerce has emerged as an important determinant of business growth because it enables firms to reach wider markets and increase transaction volumes.

The traditional weaving industry is an important component of Indonesia's creative economy because it combines economic value with cultural heritage. Traditional woven products represent local identities through distinctive motifs, weaving techniques, and cultural symbolism that have been preserved across generations. Besides generating income for local communities, the weaving industry contributes to the preservation of traditional knowledge and regional cultural identity.

Despite its cultural significance, many traditional weaving enterprises continue to encounter challenges in marketing their products. Limited market access, dependence on conventional promotional methods, and competition from mass-produced textile products often restrict business growth. Therefore, adopting digital marketing technologies has become increasingly important for improving the competitiveness and sustainability of traditional weaving enterprises.

The use of e-commerce enables weaving businesses to promote their products beyond local markets, attract new customers, and strengthen brand recognition. Through digital platforms, traditional woven products can be introduced to national and international consumers, thereby increasing sales opportunities while supporting the preservation of local cultural heritage. (Damanik, 2023)

Previous studies have consistently reported a positive relationship between e-commerce adoption and business performance among MSMEs. Apriliana et al. (2025) found that e-commerce significantly improves MSME income, with digital payment serving as a moderating variable that strengthens this relationship. The study concluded that businesses adopting digital technologies generally experience higher revenue growth than those relying solely on conventional marketing methods.

Similarly, Ardiansyah and Rialdy (2026) demonstrated that e-commerce utilization positively affects MSME income by expanding market coverage and improving operational efficiency. Their findings indicate that digital marketing reduces promotional costs while increasing sales opportunities through broader consumer access.

Wijaya et al. (2025) also reported that e-commerce adoption contributes positively to MSME performance by increasing customer acquisition and sales transactions. The study emphasized that digital platforms enable businesses to compete more effectively in increasingly competitive markets.

Although these studies provide strong evidence regarding the benefits of e-commerce for MSMEs, empirical research focusing specifically on traditional weaving enterprises remains limited (Muhajirin, 2024). Most previous studies examined MSMEs from various sectors without considering the unique characteristics of culture-based creative industries. Therefore, this study seeks to address this gap by examining the effect of e-commerce utilization on the business income of Ulukarua Weaving House in Mamuju Regency.

Conceptual Framework

This study is based on the assumption that investment in e-commerce activities contributes positively to business income. E-commerce expenditure represents investments in digital marketing activities, including online advertising, social media promotion, marketplace utilization, and other digital marketing initiatives.

Increased investment in these activities is expected to expand market reach, improve promotional effectiveness, increase transaction volume, and ultimately enhance business income.

Accordingly, the conceptual framework of this study identifies **e-commerce expenditure** as the independent variable (X) and **business income** as the dependent variable (Y). The relationship between these variables is illustrated as follows:

E-Commerce Expenditure (X) → Business Income (Y)

Research Hypothesis

Based on the theoretical background and previous empirical studies, the research hypothesis is formulated as follows:

H_0: E-commerce expenditure has no significant effect on the business income of Ulukarua Weaving House.

H_1: E-commerce expenditure has a positive and significant effect on the business income of Ulukarua Weaving House.

The hypothesis is tested using simple linear regression analysis, Pearson Product–Moment correlation analysis, the coefficient of determination (R^2), and the t-test at a 5% significance level to determine whether e-commerce expenditure significantly influences business income.

RESEARCH METHOD

This study employed a quantitative approach to analyze the effect of e-commerce utilization on the income of Ulukarua Weaving House in Bambu Village, Mamuju Regency. A quantitative approach was selected because the study focused on processing numerical data obtained from the company's financial reports during the research period (Yusuf, 2024). Quantitative analysis enables the relationship between the independent and dependent variables to be measured objectively through statistical testing, thereby ensuring that the research findings are scientifically valid and reliable (Susilo, 2025). This method is appropriate for the study's objective of determining the extent to which e-commerce utilization influences business income.

The research was conducted at Ulukarua Weaving House, located in Bambu Village, Mamuju Regency, West Sulawesi Province, Indonesia. The research site was selected because Ulukarua Weaving House is one of the traditional weaving industries that has adopted e-commerce as a marketing medium, making it relevant to the variables examined in this study. In addition, the business maintains well-documented financial records, which served as a reliable source of research data.

The study used quantitative data in the form of e-commerce expenditure reports and business income records covering a five-year period (2021–2025). These data were secondary data obtained from the administrative documents and financial reports of Ulukarua Weaving House. In addition to the secondary data, supporting information was collected through field observations, interviews with the business owner, and documentation to strengthen the interpretation of the research findings.

Table 1 Operationalization Variable

Variable	Indicator
Business Income (Kotler, 2022)	a. Sales of product
E-Commerce (Chaffey, 2022)	a. Expense Social Media Promotion b. Online Marketplace c. Digital Advertising d. Operational Cost

The independent variable (X) in this study was e-commerce expenditure, defined as all costs incurred by the business to support digital marketing activities, including expenses for social media promotion, online marketplaces, digital advertising, and operational costs related to electronic transactions. The dependent variable (Y) was business income, defined as the revenue earned by Ulukarua Weaving House from the sale of woven products during an accounting period. The relationship between these two variables was analyzed to determine whether increased investment in e-commerce was followed by an increase in business income.

Data were collected through three techniques: observation, interviews, and documentation. Observation was conducted by directly examining the digital marketing activities implemented by Ulukarua Weaving House. Interviews were carried out with the business owner to obtain information regarding the development of e-commerce utilization, marketing strategies, and changes in business income after adopting digital platforms. Documentation involved collecting financial reports, sales records, and other relevant documents related to e-commerce expenditure and business income throughout the research period.

The data were analyzed using descriptive statistical analysis and inferential statistical analysis. Descriptive statistics were used to describe the annual development of e-commerce expenditure, business income, and net sales. Furthermore, simple linear regression analysis was employed to examine the effect of e-commerce expenditure on business income using the following equation:

$Y = \alpha + \beta . X$

where:

Y = Business Income

X = E-Commerce Expenditure

α = Constant

β = Regression Coefficient

In addition to regression analysis, the study employed the Pearson Product–Moment correlation test to determine the strength of the relationship between e-commerce expenditure and business income. The contribution of the independent variable to the dependent variable was measured using the coefficient of determination (R^2), while hypothesis testing was conducted using the **t-test** at a 5% significance level (Sulung, 2024). All statistical analyses were performed in accordance with quantitative statistical procedures as outlined in the research proposal.

RESULT AND DISCUSSION

Based on the financial data of Ulukarua Weaving House during the 2021–2025 period, the development of e-commerce expenditure, business income, and net sales is presented in table 2.

Table 2. Development of E-Commerce Expenditure and Business Income of Ulukarua Weaving House (2021–2025)

Year	E-Commerce Expenditure (IDR)	Business Income (IDR)	Net Sales (IDR)
2021	1,500,000	12,690,000	11,190,000
2022	1,700,000	23,075,000	21,375,000
2023	1,750,000	23,665,000	21,915,000
2024	2,900,000	55,900,000	53,000,000
2025	3,200,000	81,220,000	78,020,000

Source: Ulukarua Weaving House Financial Data (2025).

Table 2 shows that e-commerce expenditure increased consistently throughout the study period. In 2021, e-commerce expenditure amounted to IDR 1,500,000 and increased to IDR 1,700,000 in 2022, representing an increase of 13.33%. In 2023, the expenditure increased slightly to IDR 1,750,000. A substantial increase occurred in 2024, reaching IDR 2,900,000 (65.71% higher than the previous year), followed by a further increase to IDR 3,200,000 in 2025.

The increase in e-commerce expenditure was accompanied by a continuous increase in business income. Business income rose from IDR 12,690,000 in 2021 to IDR 23,075,000 in 2022 (an increase of 81.84%). It further increased to IDR 23,665,000 in 2023, followed by a significant increase to IDR 55,900,000 in 2024 and IDR 81,220,000 in 2025.

A similar trend was observed in net sales. Net sales increased from IDR 11,190,000 in 2021 to IDR 21,375,000 in 2022, then to IDR 21,915,000 in 2023. In 2024, net sales reached IDR 53,000,000 and further increased to IDR 78,020,000 in 2025. These findings indicate that higher investment in digital marketing was associated with higher business income and net sales.

Descriptive Analysis

The descriptive analysis indicates that Ulukarua Weaving House continuously increased its investment in e-commerce activities during the five-year observation period. This increase is reflected not only in higher digital marketing expenditure but also in the consistent growth of business income. These findings suggest that digital marketing strategies have contributed positively to business development.

The adoption of e-commerce has enabled the company to expand its market beyond Mamuju Regency by introducing its woven products to a broader customer base. Easy access to product information through digital platforms has encouraged more transactions, resulting in gradual increases in business income. Although descriptive analysis does not establish causality, the observed trend indicates a positive relationship between e-commerce expenditure and business income.

Simple Linear Regression Analysis

Simple linear regression analysis was conducted to determine the effect of e-commerce expenditure (X) on business income (Y) during the 2021–2025 period. The estimated regression equation is:

Y = -51,520,000 + 40.27X

where:

Y = Business Income

X = E-Commerce Expenditure

The regression coefficient of **40.27** indicates that every additional IDR 1 spent on e-commerce activities is associated with an estimated increase of IDR 40.27 in business income, assuming other factors remain constant.

For example:

An increase of IDR 100,000 in e-commerce expenditure is estimated to increase business income by IDR 4,027,000.

An increase of IDR 500,000 is estimated to increase business income by IDR 20,135,000.

An increase of IDR 1,000,000 is estimated to increase business income by IDR 40,270,000.

Although the intercept is negative (-51,520,000), , that fixed operational costs for traditional weaving production continue to be incurred even when e-commerce expenditure is zero (X=0). Therefore, interpretation focuses primarily on the regression coefficient.

Overall, the regression results demonstrate a positive relationship between e-commerce expenditure and business income, suggesting that greater investment in digital marketing contributes to higher business income.

Pearson Correlation Analysis

Pearson Product–Moment correlation analysis was conducted to examine the strength of the relationship between e-commerce expenditure and business income.

Table 3. Pearson Correlation Result

Variable	Value
Correlation Coefficient (r)	0.986

The correlation coefficient of 0.986 falls within the range of 0.80–1.00, indicating a very strong positive relationship between e-commerce expenditure and business income. This finding suggests that higher investment in digital marketing is closely associated with higher business income.

Coefficient of Determination (R^2)

The coefficient of determination was used to measure the contribution of e-commerce expenditure to business income.

Table 4. Coefficient of Determination

Description	Value
R	0.986
R Square (R^2)	0.972
Contribution	97.20%

The coefficient of determination (R^2 = 0.972) indicates that 97.20% of the variation in business income can be explained by e-commerce expenditure, while the remaining 2.80% is explained by other factors, including product quality, design innovation, pricing strategy, purchasing power, economic conditions, offline promotion, and customer loyalty.

These findings indicate that e-commerce expenditure is the dominant factor influencing business income during the study period.

Hypothesis Testing (t-test)

Hypothesis testing was performed using the t-test.
The hypotheses were formulated as follows:

H_0: E-commerce expenditure has no significant effect on business income.
H_1: E-commerce expenditure has a significant effect on business income.

Table 5. Hypothesis Testing Results

Description	Value
Correlation Coefficient (r)	0.986
Sample Size (n)	5
Calculated t-value	10.17
Degrees of Freedom	3
Critical t-value (α = 5%)	3.182
Significance	0.002

Since t calculated = 10.17 > t table = 3.182 and the significance value (0.002 < 0.05), H_0 is rejected and H_1 is accepted.

These findings indicate that e-commerce expenditure has a **positive and statistically significant effect** on the business income of Ulukarua Weaving House.

CONCLUSION

Based on the findings of this study on the effect of e-commerce utilization on the income of Ulukarua Weaving House in Bambu Village, Mamuju Regency, it can be concluded that the utilization of e-commerce has a positive effect on increasing business income.

This is evidenced by the increase in e-commerce expenditure, which was accompanied by growth in business income and net sales during the 2021–2025 period. The results of the simple linear regression analysis indicate that e-commerce expenditure has a positive relationship with business income, implying that the greater the investment in digital marketing activities, the higher the income generated by Ulukarua Weaving House.

The correlation analysis revealed that the relationship between e-commerce expenditure and business income is **very strong**, while the coefficient of determination indicates that a substantial proportion of the variation in business income can be explained by e-commerce utilization. Therefore, the research hypothesis stating that e-commerce has a significant effect on the income of Ulukarua Weaving House is accepted. Nevertheless, business income is influenced not only by e-commerce utilization but also by other factors, including product quality, design innovation, pricing strategy, customer service, and market conditions.

Overall, this study provides empirical evidence that e-commerce utilization is an effective strategy for increasing the income of traditional weaving businesses. The adoption of digital platforms expands market reach, enhances promotional effectiveness, accelerates transaction processes, and strengthens the competitiveness of local woven products. Consequently, e-commerce plays an important role in supporting the sustainability and development of traditional weaving enterprises in the digital era.

Research limitation has seeing with the amount of variable and times series investigation for more data explicit. Beside government policies has been supported more to MSME.

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