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Adoption of Marketing Technology and Its Influence on the Profits of MSMEs in Kauman Batik Village

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A B S T R A C T
The development of technology can support business advancement. Adopting marketing technology makes business production more efficient, so profits are optimal. This study aims to examine the implementation of marketing technology and its impact on the profits of batik MSMEs in Kauman Batik Village. Given that the COVID-19 pandemic crisis is over, the impact on MSMEs has not fully recovered. The analysis uses linear regression with cross-sectional data and accidental sampling techniques. The results show that the adoption of marketing technology, business capital, length of business, number of workers, and business location have a significant positive effect on batik profits. Therefore, it is recommended that business actors can improve the quality of human resources (HR) as workers in implementing marketing technology.

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INTRODUCTION

Technology adoption is considered one of key factors influencing the profitability of micro, small, and medium enterprises (MSMEs). Numerous studies in the literature concur that the adoption of technology serves as a strategic instrument for MSMEs, enabling them to navigate various challenges. Many scholars argue that technology adoption is essential for MSMEs to overcome operational and financial constraints. The use of digital technology has become a crucial requirement for aligning economic activities after crises such as the COVID-19 pandemic. Mishrif, A., & Khan, (2023), in their study, emphasize the critical role of technology in business and economic development, particularly when countries are confronted with economic disruptions caused by crises like COVID-19. These circumstances compelled MSMEs to adopt new strategies that effectively and efficiently add value to their businesses. According to Aji, A. W., & Listyaningrum (2021), technology adoption is a primary factor influencing MSME profitability. Effendi, M. I., Sugandini, D., & Istanto (2020) also found that the adoption of technology significantly affects MSME profitability. Furthermore, research by Khalil et al, (2022) demonstrates that digital technology has empowered MSMEs, strengthened their resilience, and ensured business continuity. This underscores the growing awareness among MSME actors of the benefits and utility of information technology. Technology facilitates product marketing and promotion, enabling sales beyond physical stores through online platforms. As technology advances, MSME operators increasingly recognise the importance of social media in digital marketing, as it allows them to reach consumers more quickly and effectively. Khalil et al, (2022) further explain that technology adoption has contributed to MSME profitability by supporting their ability to survive during the pandemic through digital marketing and online sales strategies.

Rahmah et al, (2020) assert that capital is a fundamental element in supporting income growth, which ultimately leads to increased profitability. Adequate operational capital enhances production capacity and sales volume, thereby contributing to higher profits. Conversely, limited capital significantly constrains business development. Alkumairoh & Warsitasari (2022) found that business experience influences profitability, as the duration of a business contributes to the entrepreneur's accumulated knowledge and understanding of consumer behavior. Similarly, Wulandari & Subiyantoro (2023) revealed a positive relationship between business experience and profitability, indicating that the longer and more experienced entrepreneurs are in their field, the higher their productivity tends to be, which subsequently increases MSME profits. In contrast, Habriyanto et al, (2021), emphasized that improvements in labor productivity can drive increased production, which in turn enhances profitability. As production levels rise, the demand for labor also increases, further supporting business growth and profit generation (Rahmawati & Sutianingsih, 2024).

Various studies have produced differing findings regarding the factors influencing MSME profitability. The varying effects of variables such as technology adoption, operational capital, business experience (business

duration), number of employees, and business location on the profitability of Batik MSMEs are examined in this study, with a specific focus on a case study in Kampung Batik Kauman. This research site was selected due to a noticeable decline in sales turnover among batik MSMEs in the area. In this context, these MSMEs are at risk of bankruptcy or permanent closure. Many business owners have opted to lay off employees due to the inability to pay wages, while productivity continues to decline. MSMEs in Kampung Batik Kauman play a crucial and dominant role in local economic development, functioning as business units initiated and developed by individuals or community groups (Sumarta, N. H., & Supriyono, 2021). Based on field observations, MSMEs in Kampung Batik Kauman encompass a diverse range of enterprises, including batik textiles, food products, handicrafts, and others. The prolonged impact of the pandemic, coupled with the ineffectiveness of recovery efforts, continues to threaten the sustainability and continuity of batik businesses in the area. Therefore, this study aims to examine these issues more deeply and provide recommendations and solutions to help batik MSMEs remain resilient and maintain production.

LITERATURE REVIEW

Digital Marketing Theory

The advancement of internet media, a new paradigm in marketing has emerged namely, the modern conception, market- or consumer-oriented marketing, often referred to as a revolution in the form of electronic marketplace (Arnott, D. C., & Bridgewater, 2002; Chandra, G., Tjiptono, F., & Chandra, 2001). The transformation in the business world, which previously relied on face-to-face interactions, has shifted toward what is now known as digital marketing. This modern marketing model adopts electronic or e-commerce-based interactions, often characterized as "faceless." The fundamental structures of digital marketing include Business to Business (B2B), Business to Customer (B2C), and Customer to Customer (C2C), with primary goal of serving the "Segment of One." In line for this, (Kaufman, I., & Horton, 2014) describe the digital marketing as a form of non-traditional marketing.

The definition of digital marketing based to (Sánchez-Franco, M. J., Peral-Peral, B., & Villarejo-Ramos, 2014), is the result of an evolutionary process in the field of marketing. This evolution occurs when a company or business transitions to using and implementing digital (online) media in its marketing processes. Similarly, Robinson et al, (2007) defined digital marketing as the practice of promoting products, give services, or offerings through digital distribution channels. Digital marketing also commonly referred to as e-marketing and is considered a component of digital advertising. Digital marketing involves the use of internet and interactive technologies to facilitate dialogue between companies and identified consumers. In this context, e-marketing is explained as an integral part of e-commerce (Fawaid, 2017).

Digital marketing is a marketing strategy used to promote products or services to consumers through online distribution channels. It may involve various digital platforms such as social media, marketplaces, and other online media, consumers easily anytime and anywhere to allowing access information

they need it (Sutianingsih et al., 2022). The increasing number social media users and the rapid development of digital platforms provide significant opportunities for MSMEs to enter and compete in markets accessible directly through handheld devices, such as mobile phones and smartphones. According to (Sanjaya, 2009), digital marketing refers to marketing activities, including branding, carried out using various media such as blogs, websites, email, AdWords, and numerous social networking platforms. Several key indicators of digital marketing include accessibility, interactivity, entertainment, credibility, irritation, and informativeness.

Producer Behavior Theory

The theory of producer behavior explains how producers act when creating goods, with the primary goal of achieving efficiency in the production process. The effective allocation of production inputs is aimed at attaining the highest possible level of output. Producer behavior involves actions taken to control the process of production to ensure that the final product meets high-quality standards, gains public acceptance, and generates revenue (Aisyah, F. R., & Diana, 2022). This theory suggests that producers strive to achieve efficiency in all production activities. Business actors continuously optimise the use and management of production factors in order to reach the most efficient outcomes.

Micro, Small, and Medium Enterprises (MSMEs)

The definition of Micro, Small, and Medium Enterprises (MSMEs) varies across literature, depending on the perspective of different institutions, organizations, and legal frameworks. According to Law No. 20 of 2008 concerning Micro, Small, and Medium Enterprises (MSMEs) are businesses operated by individual entrepreneurs, households, or small-scale business entities. The Ministry of Cooperatives and MSMEs, as cited in (Aufar, 2013), defines small enterprises (including micro-enterprises) as business entities with net assets of no more than IDR 200,000,000 (excluding land and buildings used for business activities) and the annual sales of no more than IDR 1,000,000,000. Meanwhile, the Ministry of Industry and Trade defines MSMEs as a group of modern small industries, traditional industries, and handicraft industries with capital investment (including machinery and equipment) of less than IDR 70,000,000, and whose businesses are owned by Indonesian citizens.

According to Halim (2020), MSMEs are characterized by several features, including easy access to raw materials, use of simple technology that facilitates technology transfer, and basic skills that are often inherited across generations. These enterprises are typically labor intensive, absorbing a significant number of workers, and have broad market opportunities. The most of their products are absorbed by local or domestic markets, although some also have potential for export. Additionally, certain commodities produced by MSMEs often reflect distinctive local artistic and cultural elements. MSMEs also tend to involve economically disadvantaged communities, providing them with opportunities to participate in economic activities and generate profit.

Technology

According to Hosaain et al, (2023), the adoption of information and communication technology in marketing has become a powerful source of inspiration within society. Electronic commerce transactions have increased dramatically (Insani, 2023). Gao et al, (2023) state that during the pandemic crisis, MSMEs were encouraged to adopt e-commerce to maintain profitability and sustain their businesses. Many small enterprises utilized technological platforms to reach their customers amid the pandemic. Kumar and Ayedee (2021) argue, technology adoption in MSMEs can assist in resolving problems encountered during crises. This is made possible through use of e-commerce effectively, social media, and various other technological platforms. Social media tools include Facebook, LinkedIn, blogs, Twitter, YouTube, and Instagram; e-commerce channels comprise platforms such as Alibaba, Magento, Shopify, and Weebly; while other technological platforms involve Industry 4.0 technologies such as artificial intelligence, 3D printing, machine learning, robotics, drones, cloud computing, and other forms of technology. The marketing technology adoption emphasized in this study specifically refers to the adoption of technology for product sales and marketing (Valentina et al., 2024).

Business Profitability

According to Mankiw (2021), profit is an important concept because it motivates companies to produce goods and services, as businesses that generate profits are more likely to sustain their operations. Monthly business profit is total revenue minus total cost (TR - TC), expressed by the following formula:

$$\pi = TR - TC \quad \text{...(1)}$$

Notes: π = Advantage TR = Total Revenue TC = Total Cost (explicit costs)

Profitability is a ratio used by a company to assess its ability to generate profit or earnings within a certain period (Kasmir., 2019). Besides using total cost, profit can also be calculated on a per-unit basis by comparing average production cost (AC) with output selling price (P). Total profit is profit per unit multiplied by total quantity of output sold. Profit can also be evaluated using marginal profit analysis, which involves comparing marginal cost (MC) and marginal revenue (MR). Maximum profit is achieved when MR equals MC, which represents the point of equilibrium.

METHODOLOGY

In this study uses a quantitative approach. This study tests the hypothesis that analysis the causal relationship between independent variables and dependent variables in the study using an econometric model. This study aims to test the relationship between the adoption of marketing technology and other variables such as operational capital, business experience (length of business), number of workers, and location/location of the business on the profits of batik MSMEs in Kauman Batik Village after the pandemic crisis. The data sources in this study use primary data and secondary data. Primary data by conducting direct interviews with respondents, namely Batik MSME business actors in Kauman Batik Village to obtain the required data, while secondary data is used

to support the research results. The use of the interview method is expected that the informants can be more open in providing opinions and responses related to research problems. In addition to the interview method, data mining was also carried out in the form of filling out a guided questionnaire which aims to find out more about the research problem in more detail. Secondary data was collected through literature study activities or information searches. Secondary data is used as support were obtained from the Batik Kauman website, official government sites/websites, book references, articles, and scientific journals related to the adoption of marketing technology and the profits of MSMEs.

This study utilizes cross-sectional data. The population consists of all batik MSMEs in Kampung Batik Kauman, with total 67 enterprises. Based on the sample size calculation, minimum required sample is 40 MSME respondents. However, in this study includes 43 MSMEs, exceeding the minimum requirement, which is considered sufficient to serve as a representative sample and to adequately reflect the population for the purpose of hypothesis testing.

Research Hypothesis

Based on previous studies and conceptual framework described above, the research hypothesis is as follows: it is hypothesized that marketing technology adoption, operational capital, business experience (business duration), number of employees, and business location have a positive and significant effect on the profitability of batik MSMEs in Kampung Batik Kauman in post-pandemic crisis period.

Technique of Data Analysis

1. Multiple Linear Regression Models

The analysis of regression in this study involves five independent variables and one dependent variable, using form of a multiple linear regression function as follows:

$$LNKU = \alpha + \beta 1AT + \beta 2LNMO + \beta 3PU + \beta 4TK + \beta 5LU + e \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where: KU = Profit; α = Constant; $\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$, = Regression coefficient; LN = Natural Logarithm; LU = Business Location (Dummy coefficient); AT = Marketing Technology Adoption (Number of media usage); MO = Operational Capital (Rupiah); PU = Business Experience (Year); TK = Number of Workers (People); and e = Error.

There is a dummy variable in the multiple linear regression test above, namely the business location variable. The business location variable will be stated as strategic and non-strategic. The business location variable uses code 1 for businesses that are strategically located and code 0 for businesses that are not strategically located.

2. Statistical Test (Hypothesis)

Statistical test or hypothesis test is used to prove each hypothesis be accepted or rejected. Hypothesis test consists of:

a. Determination Coefficient Test (R Square)

The determination coefficient (R-Square) is an analysis the magnitude of variation proportion in dependent variable explained by the independent variable. The determination coefficient also be used to measure, how good the regression line we have. The determination coefficient value is between zero and one. The closer the R square value is to 1, the more suitable it is for use.

b. The test of Simultaneous Significance (F Test)

The F test in research is used to test overall significance of the influence of independent variables to dependent variable. The F test is conducted to see influence of independent variables simultaneously or together on the dependent variable. The conclusion of the F test can be done by finding the calculated F and then comparing it with the F table value. The provisions for assessing simultaneous tests are explained as follows: 1) Independent variables have a simultaneous and significant influence on the dependent variable if the F-statistic or calculated F value is > F table. 2) Independent variables not have a simultaneous and significant influence on the dependent variable if the F-statistic or calculated F value is < F table.

c. Partial Significance Test (t-Test)

The t-test conducted to see effect of the independent variable partially on the dependent variable. The conclusion of the t-test can be done by comparing the calculated t with the t-table value and by looking at the Prob-value results using the following hypotheses: 1) Determining the Hypothesis a) $H0$: $\beta 1 = 0$, meaning that the independent variable has no significant effect on the dependent variable b) $H0$: $\beta 1 \neq 0$, meaning that the independent variable has a significant positive effect on the dependent variable 2) Determining the Significance Level (Sig) a) If the calculated t value <t table and Prob. > 0.05, it means that H0 is accepted b) If the calculated t value > t table and Prob. < 0.05, it means that H1 is accepted.

Classical Assumption Tests

The classical assumption tests in this study consist of the following:

a. Normality Test
   The normality test is used to evaluate whether the residuals follow a normal distribution. In this research, the test is conducted using the Jarque-Bera method through the E-Views 12 software.
b. Multicollinearity Test
   The multicollinearity test used to measure the presence of a perfect or non-perfect linear relationship among two or more independent variables. A goodness of fit in the regression model should exhibit no correlation among independent variables. The presence of multicollinearity can lead to invalid significance levels and coefficient estimates that contradict theoretical expectations.
c. Heteroskedasticity Test
   This test is carried out to assess whether there is inconsistency in the variance of residuals from one observation to another within the regression model. In this study, the Breusch-Pagan-Godfrey approach is employed to conduct the heteroskedasticity test.

d. Autocorrelation Test
The autocorrelation test aims to determine whether the residuals are correlated over time. This test is employed to detect the presence or absence of autocorrelation within the model. In this research, the Breusch-Godfrey method is utilized for the testing procedure.

RESEARCH RESULT AND DISCUSSION

Batik in Indonesia serves both formal and informal purposes, making it popular among adults and youth alike. It is commonly worn for various events and ceremonies, reinforcing the importance of its preservation. The batik tradition that has developed in Kauman is not merely a commercial product or industrial commodity, but rather a form of traditional batik (*batik pakem*) that embodies a high degree of artistic value and creativity. Historically, batik production in Kauman was pioneered by royal court servants (*abdi dalem*), including Khotib Trayem IV, Khotib Trayem V, Khotib Arum (R.Ng. Pringgokusumo), Khotib Anom (R.Ng. Jogodipuro), and Khotib Iman (R.Ng. Wongsodipuro), who played a significant role in its development. Originally, the people of Kauman earned their livelihood as religious court officials (*abdi dalem ulama*), but over time, they also became batik entrepreneurs, contributing to the economic advancement of the Kauman community. The batik-making skills taught by the royal court spurred entrepreneurial growth in Kauman, driven by evolving times and emerging societal needs.

The data in this study collected through interviews, using the accidental sampling technique. A total of 43 respondents were selected, consisting of batik MSME owners. The respondents' answers, based on the adoption of technology, ranged from 0 to 7 types of digital media used in their business activities. These were then categorized into three levels of technology adoption: low, moderate, and high.

Table 1. Respondent Characteristics Based on Marketing Technology Adoption

Marketing Technology	**Total**	**Percentage**
Low (0-2)	17	39,5%
Medium (3-4)	18	41,9%
High (5-7)	8	18,6%
Total	**43**	**100%**

Source: Data processed with E-views 12

Based on table 1 above, it can be seen that as many as 18 MSME actors or 41.9% of total respondents are already in the moderate category in adopting technology as an effort to market their business. MSME actors who have used technology in this range are still at the stage of developing technology adoption in their marketing to increase profits after the pandemic crisis.

In this range, they have used technology adoption in expanding their marketing by increasing the number of technology adoptions used so that they can feel the benefits seen from the increase in the number of online orders. MSME

actors in this range use marketing technology adoption in the social media, e-commerce, and personal websites. MSME actors have reflected awareness and understanding they have about the benefits of technology for business needs.

Respondents based on the level of profit owned by MSME actors in this study have a range of IDR 3,000,000 to IDR 63,000,000 which is then divided into 3 categories, namely low profit level, medium profit level, and high profit level which are listed in table 2.

Table 2. Respondent Characteristics Based on Profit

Profit Level	Total	Percentage
Low (3.000.000 – 23.000.000 IDR)	30	70%
Medium (23.000.001 – 43.000.000 IDR)	10	23%
High (43.000.001 – 63.000.000 IDR)	3	7%
Total	**43**	**100%**

Source: Data processed with E-views 12

Base on Table 2 there are 30 respondents, or 70% of the total respondents, whose nominal profit levels range from IDR 3,000,000 to IDR 23,000,000 which is categorized as a low profit level compared to other profit ranges. The MSME actors within this profit range predominantly have operational capital categorized as low, amounting to 30 respondents. This condition may affect the profits obtained, as limited capital hinders MSMEs from maximizing sales through their products. The main challenge faced is the limited capability and knowledge possessed by MSME actors, resulting in suboptimal use of technology adoption in marketing and consequently less than optimal sales profits. Despite this, MSMEs within this profit range continue to innovate, improve creativity, enhance knowledge, and adopt marketing technologies from the pandemic period through the post-pandemic phase to maximize profits. These MSME actors strive to develop their businesses, as evidenced by their success in selling products internationally, largely supported by the adoption of marketing technologies, which consequently places their profit levels in the high category.

The Influence of Marketing Technology Adoption, Operational Capital, Business Experience, Number of Employees, and Business Location on the Profitability of Batik MSMEs in Batik Kauman village. The results of this study, analysis using multiple linear regression, are presented in Table 3.

Table 3. Results of Multiple Linear Regression

Variable	Coefficients	t-statistics	Prob.
C	10.44448	5.850735	0.0000
Marketing Technology Adoption (AT)	0.134065	3.956678	0.0003
Operation Capital (LNMO)	0.293135	2.531404	0.0157
Business Experience (PU)	0.050865	3.113227	0.0036
Number of Worker (TK)	0.031830	2.174577	0.0361
Business Location (LU)	0.264759	2.313762	0.0263

Source: Data processed with E-views 12

Based on Table 3, the multiple regression equation is obtained as follows:

$$KU = 10.44448 + 0.134065AT + 0.293135LNMO + 0.050865PU + 0.031830TK + 0.264759LU$$

The results of the regression equation obtained a constant of 10.44448. These results mean that if the Marketing Technology Adoption (AT) variable in the marketing sector, Operational Capital (LNMO), Business Experience (PU), Number of Workers (TK), and Business Location (LU) have a value of zero, then the value of the Profit variable (LNKU) is 10.44448. The technology adoption variable (AT) shows a coefficient value of 0.134065. This is shows that the marketing technology adoption variable affects profits by 0.134065, which means that if the marketing technology adoption variable increases by 1 use of the media used, the profit will increase by 0.13%. The operational capital variable (LNMO) shows a coefficient value of 0.293135. This is shows that the operational capital variable affects profits by 0.293135, which means that if the operational capital variable increases by 1%, the profit will increase by 0.29%.

The business experience variable (PU) shows a coefficient value of 0.050865. This is shows that business experience variable affects profits by 0.050865, which means 88 if the business experience variable increases by 1 year, then the profit will increase by 0.05%. The number of workers (TK) variable shows a coefficient value of 0.031830. This is shows that number of workers variable affects profits by 0.031830, which means that if the number of workers variable increases by 1 person, then the profit will increase by 0.03%. And the business location variable (LU) shows a coefficient value of 0.264759. This is shows that the business location variable affects profits by 0.031830, which means that if MSMEs have a strategic business location, it will increase profits by 0.26%.

The F-statistic value of 61.35445 is greater than the F table of 2.469649 with a probability value of 0.000000 lower than the significance value of 0.05. It can be concluded from the table that variables of Technology Adoption (AT), Operational Capital (LNMO), Business Experience (PU), Number of Workers (TK), and Business Location (LU) together have a significant influence on the Profit variable (LNKU). The results of the first Classical Assumption test, namely the normality test, can be seen from the Jarque-Bera Probability value of 0.663638, which is higher than 0.05. So, concluded that there is no normality problem or the data is normally distributed. Second, the multicollinearity test shows that the variables of technology adoption, operational capital, business experience, number of workers, and business location have a VIF value <10 so that the regression model does not have a multicollinearity problem. Third, the heteroscedasticity test in this study uses the Breusch-Pagan Godfrey test, where the Prob value is 0.0790 where this value is greater than 0.05. So, concluded that there is no heteroscedasticity problem in the research model. The last classical assumption test is the autocorrelation test using the Breusch-Godfrey test, where the Prob value of 0.0556 is greater than 0.05 so it can be concluded that there is no autocorrelation problem in the research model.

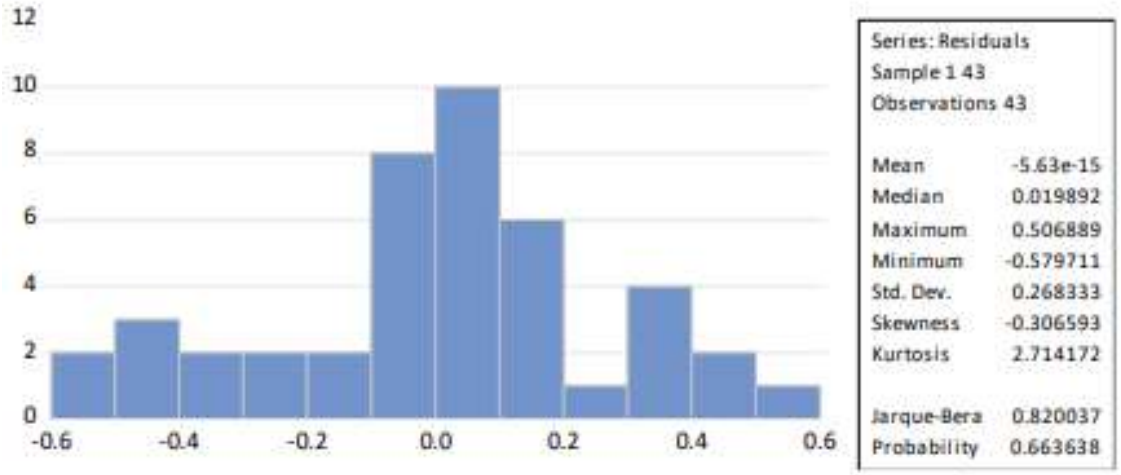

Figure 1. Results of Normality Test

Table 4. Results of the Classical Assumption Test

Heteroscedastisity Test: Breusch-Pagan-Godfrey			
F-statistic	2.204753	Prob. F (5,37)	0.0745
Obs*R-squared	9.870570	Prob. Chi-Square (5)	0.0790
Scaled explained SS	6.263731	Prob. Chi-Square (5)	0.2814
Autocorrelation Test: Breusch-Godfrey Serial Correlation LM Test			
F-statistic	2.254382	Prob. F (2,42)	0.0843
Obs*R-squared	9.228379	Prob. Chi-Square (2)	0.0556

Source: Data processed

Based on the results of the hypothesis test, it was found that the marketing technology adoption variable has a coefficient value of 0.134065 and a significance value of 0.0003, which is smaller than α = 0.05. It can be concluded that the marketing technology adoption variable has a positive and significant effect on the profits of batik MSMEs in Kauman Batik Village after the pandemic. The results of this study are in line with research conducted by (Aisyah, F. R., & Diana, 2022; Effendi, M. I., Sugandini, D., & Istanto, 2020; Gao, J., Siddik, A. B., Khawar Abbas, S., Hamayun, M., Masukujjaman, M., & Alam, 2023; Lina, L. F., & Permatasari, 2020) which explain that there is a positive and significant relationship between marketing technology adoption and MSME profits. The results of this study found that batik MSMEs in Kauman Batik Village that use marketing technology adoption in marketing and sales have better profits than 93 batik MSMEs that use less technology adoption. The convenience offered by technology such as social media, e-commerce, and personal websites can help MSMEs increase sales. According to (Mishrif, A., & Khan (2023) e-commerce has created competitive advantages and increased productivity which is in line with research conducted by (Kumar, A., & Ayedee, 2021; Novitasari, 2021) that the use of e-commerce platforms is a cost-effective solution to increase sales and business

expansion. E-commerce is able to increase global reach outside the region and has a major influence on MSMEs in increasing product sales so that can increase MSME profits.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the multiple regression analysis, technology adoption, operational capital, business experience, number of employees, and business location have significantly contributed to the profits of Batik MSMEs in Kampung Batik Kauman in post-pandemic. Simultaneously, as indicated by the F-statistic value, the variables Technology Adoption (AT), Operational Capital (LNMO), Business Experience (PU), Number of Employees (TK), and Business Location (LU) jointly have a significant effect on the Profit variable (LNKU).

Partially, the Technology Adoption variable (AT) shows a t-value of 3.956678, which is higher than the critical t-value of 2.026192, and a p-value of 0.0003, which is less than significance level of 0.05. Thus, hypothesis H1 is accepted, indicating that technology adoption significantly influences profit (LNKU). Similar significant effects are observed for Operational Capital (LNMO), Business Experience (PU), Number of Employees (TK), and Business Location (LU) on profit (LNKU). Furthermore, this study's results have met all classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, confirming the robustness of the regression model.

Technology adoption in marketing, such as e-commerce and social media, can assist MSMEs in expanding their market reach and accessing consumers beyond the Batik Kauman village area. MSMEs that have yet to adopt marketing technology are encouraged to start learning to use digital tools, particularly in marketing and sales via the internet, since technology adoption has been proven to increase MSME profitability. For MSMEs already utilising technology, it is recommended to enhance their knowledge and skills by participating in software training, digital marketing workshops through social media, e-commerce training for building online stores, and other relevant programs.

The large amount of operational capital owned will enable entrepreneurs to be more innovative, increase production, and increase business income so that entrepreneurs are advised to increase operational capital with the right capital sources such as People's Business Credit (KUR) and can manage money better through financial management training in order to plan and use capital appropriately. Business experience from entrepreneurs is one of the factors that influences the profits of batik MSMEs in Kauman Batik Village so it is recommended for new entrepreneurs to be able to learn more from entrepreneurs who already have a lot of experience. New entrepreneurs can also take part in activities such as technical skills training in the form of production training, financial management training, information technology training, and others. Entrepreneurs can also take part in soft skills training in the form of leadership training, personal branding training, communication and negotiation training, and others.

The success of a business in having a workforce is not only seen from the number but also from the quality of its human resources. The quality of human resources (HR) also plays an important role in increasing efficiency, productivity, and competitiveness in achieving business goals so that human resources need to be improved through technical and non-technical training. Technical training in the form of batik skills, choose to coloring, new design, and upgrade knowledge of batik products. Non-technical training in the form of communication training, customer service seminars, and others. Improving the quality of the workforce can also be done by implementing a bonus and award system in order to build motivation and loyalty in working. A strategic business location influences consumers in buying so it is recommended for business actors who do not have a strategic location to provide clear and complete location information through a map or providing location information through social media and e-commerce owned to make it easier for consumers to know and reach the business location. MSME actors who have or do not have a strategic business location can create a digital map or plaque of the business location map of each batik MSME in Kampung Batik Kauman.

ADVANCED RESEARCH

Future research on MSME profitability should not only analyze the direct effect of marketing technology adoption but also explore the mediating role of digital literacy, innovation capability, and consumer engagement in strengthening competitive advantage. Longitudinal studies comparing pre- and post-adoption phases would provide deeper insights into sustainability, while cross-regional comparisons could reveal contextual differences in technology utilization among traditional craft-based MSMEs. Moreover, integrating perspectives from digital entrepreneurship and cultural economics may offer a more holistic framework for understanding how heritage-based businesses like batik can leverage technology to expand market reach without losing cultural authenticity.

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