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Digital Marketing Strategies for Seaweed SMEs in South Sulawesi: An Application of the Technology Acceptance Model (TAM)

Andi Putri Tenriyola[1*], Nurfaisah Baharuddin[2], Tri Desi Lestari [3], Anis Anshari Mas'ud[4]

[1,3]Bisnis Digital, Sekolah Tinggi Ilmu Ekonomi Amkop Makassar, Sulawesi Selatan, Indonesia.

[2]Manajemen, Sekolah Tinggi Ilmu Ekonomi Amkop Makassar, Sulawesi Selatan, Indonesia.

[4]Fakultas Ekonomi, Universitas Sulawesi Barat, Majene, Indonesia.

*a.putritenriyola@gmail.com

Abstract

This research expands the existing body of knowledge on e-commerce adoption among small and medium-sized enterprises (SMEs) by examining seaweed businesses in South Sulawesi, Indonesia, through the lens of the Technology Acceptance Model (TAM). The objective is to identify the factors influencing e-commerce adoption among seaweed SMEs, focusing on perceived ease of use, perceived usefulness, and self-efficacy. The study employs a quantitative approach, utilizing surveys distributed to seaweed business operators. Structural Equation Modeling (SEM) is used for data analysis to validate the relationships between the constructs proposed in the TAM framework. The findings reveal a significant positive relationship between perceived ease of use and e-commerce adoption. Furthermore, perceived usefulness and self-efficacy are identified as key mediators that enhance e-commerce adoption. This study also emphasizes the critical role of user attitude in mediating the relationship between ease of use, usefulness, self-efficacy, and e-commerce adoption. The results underscore the importance of raising awareness and understanding of e-commerce benefits among SMEs. Businesses should focus on providing high-quality, relevant information to boost user confidence and adoption rates. Consequently, this study makes a substantial contribution to the literature on digital management and marketing, offering practical guidance for SMEs to effectively leverage e-commerce.

Keywords: *Digital Marketing, Technology Acceptance Model, Seaweed Industry*

INTRODUCTION

At the start of the financial crisis, small and medium-sized firms (SMEs) were thought to be more robust than large businesses. SMEs are able to sustain their performance in comparison to large entrepreneurs because they have been shown to be supported by technical innovations that coincide with scientific discoveries and are motivated by community demands such as ease of activity to remain productive after the pandemic. Encouraging these demands has resulted in a variety of developments, especially in the SMEs sector. SMEs exhibit strong resilience due to their reliance on internal capital for their financial structure. Macro-level focus should be given to the growth of SMES businesses, as economic progress necessitates investment support. When investment opportunities are limited, it is crucial to direct investments towards fostering new entrepreneurs, many of whom emerge within the SMEs sector. SMEs businesses have the capacity to provide employment for a significant portion of the workforce, exceeding 90%. The rise in GDP for micro and small enterprises is anticipated to concurrently increase the per capita income of low-income groups, leading to a reduction in poverty levels. SMEs primarily rely on local economic resources rather than imports, and their products can be exported. Consequently, the advancement of SMESs is expected to enhance macroeconomic stability. By utilizing local raw materials and

possessing export potential, they can contribute to stabilizing the national currency exchange rate and inflation. The expansion of SMESs will stimulate the real sector, given their strong industrial linkages. Due to their distinct characteristics, the development of SMEs is believed to fortify the foundation of the national economy. Assessing the success of SMEs necessitates a balanced evaluation of financial and non-financial criteria. To help achieve desired outcomes, many businesses are racing to capitalize on technological improvements by shifting to electronic commerce. E-commerce, often known as the use of the internet as a marketing platform, refers to the automated purchase and sale of products and services using computer or smartphone systems.

In Indonesia, e-commerce is commonly cited as a stimulus for economic growth, with one example being the ability for SMEs to drive the economy. The SME sector must make improvements and innovations to grow its marketing network and reach worldwide markets by leveraging e-commerce to ease online marketing and sales. E-commerce has resulted in tremendous development for practically all micro, small, and medium-sized businesses in South Sulawesi Province, Indonesia, including those in agriculture, processing, trade, and services. Based on data sources (sulsel.bps.go.id, 2023) concerning the quantity of SMESs in South Sulawesi Province, Indonesia, it is observed that there are over 3 million SMESs operating in the region. The significance of this sector and its business activities has grown progressively, particularly during the economic and financial crisis in 1998. The SMES sector has exhibited substantial growth and has played a pivotal role in supporting the overall national economic development. Micro and Small Enterprises in South Sulawesi Province have a multifaceted role that extends beyond job creation, encompassing the enhancement of community welfare. The well-being of the community can be gauged through three indicators: income, health, and investment (Najmi & Muttaqin, 2022). E-commerce provides several benefits to SMEs seeking to increase product marketing. In terms of finance, online marketing looks quite promising for improving corporate earnings (sulsel.bps.go.id, 2023). Furthermore, the internet allows SMEs to collaborate with other enterprises more easily. According to research from BPS South Sulawesi, about 44.64% of SMEs that utilize the internet will increase earnings in 2022, while 25.91% will have fixed profitability. In contrast to the state of profitability in MSEs that do not use the internet. Only 31.75% of MSEs that did not use the internet saw a rise in profitability in 2023. The majority, 37.84% of SMEs that did not utilize the internet, made a fixed profit in 2023.

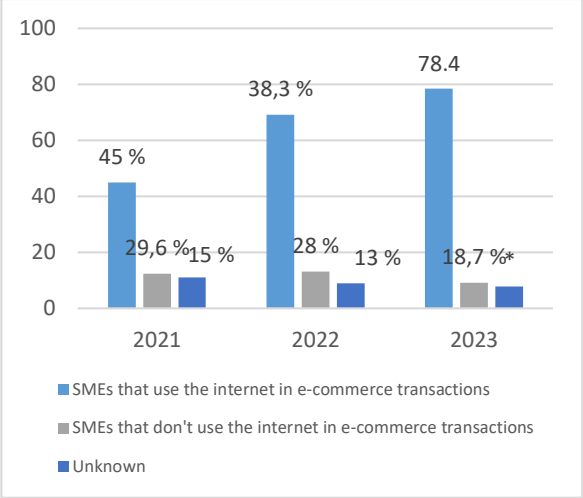

Figure 1. Gowth of Internet Usage for E-commerce Among SMEs in South Sulawesi (2021-2023)
Source: Badan Pusat Statistika, 2023

Small and medium-sized enterprises (SMEs) in South Sulawesi Province play a significant role in the local economic framework. In 2022, the advancement of SMESs in South Sulawesi facilitated a 2.50% gain in economic growth, while exports from the South Sulawesi SMES sector rose by 13.73% in the first quarter of 2022, coinciding with a decrease in CPO output, the region's primary export commodities (bi.go.id, 2022). This is relevant to research (Wijaya et al., 2022), Demonstrating that micro, small, and medium-sized businesses are critical in providing economic value for the national economy. The better performance of SMESs in South Sulawesi Province is indirectly impacted by business information systems; SMESs' growth plans are dependent on complete, precise, and timely data. According to (Turkyilmaz et al., 2020) The main challenge that SMESs face while making decisions is a lack of access to appropriate information. The creation of SMESs relies so heavily on information that (Wan Zahari Wan Yusoff and Maziah Ismail, 2008) emphasized the significance of quality information in enhancing the performance of SMESs, underscoring the need for its support in their development. The advent of information technology, which includes the internet and numerous networks, has had a significant influence on the marketing and sales of items offered by SMEs. As a result, SMES in South Sulawesi must have a competitive advantage, especially in technology, as an external factor impacting e-commerce adoption. According to (Sousa & Aspinwall, 2010), Information, innovation, and product quality are among the hurdles that SMES faces while entering and penetrating markets. SMESs are strategically structured, which is aided by the use of e-commerce to maintain their competitive edge. Individuals may now easily conduct transactions using a smartphone by scanning the QR-Code Indonesian Standard (QRIS). E-commerce

transactions using QRIS are currently quite common. Business success cannot be sufficiently assessed just through financial metrics; it must be complemented with non-financial indicators to enable the attainment of desired objectives (Gantulga et al., 2021). Numerous organizations are trying to capitalize on technical improvements by shifting to internet commerce. E-commerce refers to the use of the internet as a marketing platform, which includes the automated execution of commercial transactions for items and services using electronic devices such as computers or smartphones (Vărzaru et al., 2021). E-commerce serves as a catalyst for economic growth in Indonesia, which is fueled by a rapidly growing population and internet penetration, establishing it as a viable e-commerce market. The integration of e-commerce is inextricably tied to complete business operations such as electronic purchasing, order processing, and collaboration with business partners. According to (Ratnasingam, 2003) and (Wilson, 2019), The perceived advantages of e-commerce include economic rewards, relational enhancements, and strategic advantages. Economic advantages stem from improved efficiency in commercial operations, facilitated by the rapidity and automation of e-commerce systems. These advantages arise from the electronic transmission of transactions across apps, resulting in reduced transaction and administrative expenses, along with time efficiencies due to accelerated trade cycles. This table depicts the increasing yearly use of electronic transactions via e-commerce in the Small and Medium Enterprises (SMEs) sector of South Sulawesi Province.

Table 1. E-commerce Usage among Seaweed Entrepreneurs in South Sulawesi (2021-2023)

Primary Sales	2021		2022		2023	
Method	Value	Volume	Value	Volume	Value	Volume
Sosial Media	344,140,659	457	124,894,286	142	132,194,286	144
Using Influencer Marketing	3,500,001	8	500,000	3	500,000	2
Marketing Website	2,785,358	19	8,673,626	16	37,375,371	53
Marketplace Utilization	181,849,935	361	75,446,795	104	95,506,540	153

Source: (Badan Pusat Statistika, 2023)

This table provides a snapshot of how seaweed entrepreneurs in South Sulawesi have been utilizing e-commerce platforms from 2021 to 2023. It specifically focuses on the primary sales methods employed, the corresponding value of sales, and the volume of products sold. Social media has been the most popular platform for seaweed entrepreneurs to sell their products. This is evident in the high volume of sales and the consistent usage over the three years. Marketplace utilization has also shown a significant increase over the years. This suggests that entrepreneurs are increasingly turning to established platforms to reach a wider customer base. While influencer marketing has seen a modest volume of sales, it's worth noting that this strategy has been employed consistently over the three years. This indicates that some entrepreneurs find value in leveraging influencers to promote their products. Website sales have experienced a growth trend, suggesting that more entrepreneurs are building their own online stores. Previous research has thoroughly investigated the role of innovation uptake in e-commerce. Overall, this table serves as a solid basis for understanding the developing importance of e-commerce in South Sulawesi's seaweed business. However, these researchers' primary attention has been on the individual effects of these variables on the attitude variable (Ramadania et al., 2019). Our study addresses this information gap by examining the combined effect of reported ease of use, perceived usefulness, and self-efficacy on e-commerce adoption. To do this, we use the Technology Acceptance Model (TAM), which was first established by Fred Davis in 1986 and is widely used to evaluate and understand the factors influencing technology acceptance.

LITERATURE REVIEW

In the modern digital age, the Technology Acceptance Model (TAM) serves as a grand theory, providing a solid foundation for understanding how consumers come to embrace and use technology. Initially developed by (Davis, 1993), According to TAM, perceived utility (PU) and perceived ease of use (PEOU) are the major factors influencing users' adoption of technology. This concept has been widely used in a variety of settings, including the implementation of e-commerce and digital marketing methods. To compete successfully, organizations must have a competitive edge, particularly in the form of external technical help. They must add value to current products and services, create completely new offers, and adopt creative business and marketing tactics (Vărzaru et al., 2021; Rumanti et al., 2021). E-commerce services have grown, integrating into daily routines and enhancing SME performance. E-commerce facilitates market and supply chain transformations, offering flexibility in creating customized items (Ratnasingam, 2003). E-commerce's popularity has surged, with organizational strategies ensuring both short- and long-term benefits. Despite its novelty for SMEs, E-commerce significantly influences consumer behavior and company operations (Turkyilmaz et al., 2020; Dhingra et al., 2020; Gumz et al., 2022). Online shopping's practical features, such as user-friendliness and convenience, drive its widespread adoption (Vărzaru et al., 2021). (Balasubramanian et al., 2002) noted the mobility of E-commerce apps, offering services without time or location constraints, which is further enhanced by mobile device integration. This study looks at how attitudes, such as perceived ease of use, usefulness, and self-efficacy,

affect e-commerce consumers. This literature review lists various research on the subject. According to research conducted by (Doshi, 2018) and (Alexandra & Elena, 2019), There is a positive relationship between perceived ease of use and e-commerce services; However, successful use of e-commerce is dependent on employees' technological abilities, which influences their acceptance and problem-solving abilities. Several attitudes, including perceived ease of use, utility, and self-efficacy, impact e-commerce adoption (Doshi, 2018; Juniwati, 2015; Wilson et al., 2021). PU and PEOU are crucial for technology acceptance, with PU directly impacting user acceptance and PEOU influencing PU and perceived enjoyment (Wilson, 2019). Research has shown that perceived ease of use impacts e-commerce adoption. The level of comfort gained from using the system has a direct impact on the acceptance of information technology, which is influenced indirectly by perceived ease of use. Hence, we can say;

H_1: perceived ease of use has a positive effect on use of e-commerce

Perceived usefulness refers to an individual's perception of how much their performance will increase by using an information system. Perceived usefulness is the overall judgment and perspective of mobile phone users about the usage of 3G mobile phones, as stated by (Lee & Luo, 2016). Additionally, according to (Davis et al, 1989), Perceived usefulness is the degree to which a person feels that using a certain system would improve their work performance. Thus, in the context of this study, perceived usefulness is defined as the customer's opinion of whether the newly adopted system adds more value than the previous system. This concept emphasizes that perceived usefulness is associated with an individual's belief in the decision-making process, if an individual perceives the system as advantageous, they are more inclined to utilize it. Perceived usefulness is the extent to which an individual believes that using a system will improve their performance. Individuals interact with information technology on the assumption that it will enhance their accomplishments and performance. This idea denotes the degree to which the utilization of a technology is seen as beneficial to the user. According to the Technology Acceptance Model, attitude mediates the relationship between perceived usefulness and e-commerce adoption. The impact of perceived utility on e-commerce adoption is supported by the technology acceptance model, which provides insights into and estimates user acceptance of an information system. (Hsieh, 2020). The Technology Acceptability Model elucidates and assesses user acceptability of an information system. It clarifies the causal link between perceptions of the advantages and usability of an information system, alongside user behavior, objectives, needs, and actual users (Su, 2019), Indicates that perceived utility is a decision-making component that impacts use behavior to improve marketing possibilities. As a result, if a person sees information technology as advantageous, they will use it. Hence, we can say;

H_2: perceived usefulness has a positive effect on use of e-commerce

Self-efficacy refers to an individual's belief in their capacity to act when confronted with a variety of situations and obstacles. The concept of self-efficacy is ever-changing. According to Bandura, self-efficacy relates to an individual's belief in their ability to successfully plan and execute actions necessary to achieve certain outcomes. Self-belief involves evaluating one's capability to execute activities or meet the criteria necessary for achieving desired outcomes. Self-efficacy in decision-making refers to an individual's confidence in executing transactional decisions within a certain system. Consumers frequently encounter the challenges of comprehending the transactions necessary to fulfill their desires and achieve happiness in virtual buying. Self-efficacy refers to an individual's conviction in their capacity to effectively perform a certain action, which includes the notion that individuals have the competence to attain a desired objective (Compeau & Higgins, 2017). A heightened feeling of self-belief functions as a cognitive motivator, encouraging proper and purposeful action, especially when a clear objective is present. The impact of self-efficacy on the adoption of e-commerce is supported by a study that (Gantulga et a---%l., 2021), demonstrating that personal beliefs influence performance results. Prior study substantiates the correlation between self-efficacy and decision-making related to computer or smartphone use. (Hsu & Chiu, 2004) Identified that online self-efficacy may act as a predictor of search decisions in web-based instruction (WBI). The results revealed a positive relationship between internet self-efficacy and internet usage within the context of the Digital Divide. In a separate investigation, (Eastin, 2002) analyzed the implementation of four e-commerce operations. It was determined that internet self-efficacy predicted only one of the four activities, namely online purchasing. They proposed that task-specific self-efficacy may be regarded as a novel variable in the adoption process. Research supports the importance of attitude as a mediator between self-efficacy and e-commerce usage (Compeau, D., 1999). This study encompasses views regarding potential outcomes and the assessment of conduct (behavioral beliefs), with ideas about anticipated norms and the drive to fulfill those expectations, aligning with self-efficacy, which maintains individual confidence in their capabilities. This indicates that increased self-confidence results in improved efficacy. A strong sense of self-efficacy functions as a cognitive motivator, encouraging

individuals to behave suitably and intentionally. we can say;

H_3: Self-efficacy has a positive effect on use of e-commerce

When pressed to do a given action, an individual's attitude includes an appraisal of their positive or negative thoughts and feelings. It is characterized as a tendency to display favorable or unfavorable behaviors towards an object, person, institution, or occurrence. Attitude is generally assessed using an evaluative scale that places the individual along a continuum, such as favorable or unfavorable, agreement or disagreement, and other such aspects (Ajzen, 2020). The fundamental work attitudes that every individual in a company should embody are cooperation, integrity, access to information and organization, accountability, effectiveness and efficiency, and autonomy (Bhatti & Ur Rehman, 2020). Individuals use information technology with the expectation that it will improve their performance and efficacy. This term specifies the extent to which the use of technology is perceived as advantageous to the user (Bilal Ahmad et al., 2019). According to the Technology Acceptance Model, attitude acts as a mediator between perceived ease of use and perceived usefulness, influencing e-commerce utilization. This model describes and predicts user adoption of an information system. It provides a theoretical framework for analyzing the factors that influence technology adoption inside an organization. The Technology Acceptance Model establishes a causal relationship between user perceptions of an information system's perceived ease of use and utility and their behaviors, objectives, and needs. This is also confirmed by research undertaken by (Pusfitaningrum et al., 2021), This indicates that perceived simplicity of use and perceived usefulness positively influence reported advantages and attitudes towards use. This shows that, in the sphere of e-commerce, a user-friendly system might benefit SME members by increasing sales and making e-commerce more accessible. The results of a study by (Mahfud et al., 2020), Supports the notion that usability has a positive impact on perceived benefits and attitudes toward technology adoption. The link between self-efficacy and e-commerce use is substantiated by studies undertaken by (Eastin, 2002). Eastin defines self-efficacy as an individual's belief in their capacity to efficiently plan and execute actions to achieve desired outcomes (Eastin, 2002). Self-efficacy involves the capacity to recognize, embrace, and assume accountability for one's prospective abilities or competence. It preserves an individual's assessment of their ability to carry out certain activities or achieve set goals. When individuals exhibit a robust sense of self-efficacy, it functions as a cognitive motivator, prompting them to behave judiciously and intentionally, especially when a specific goal is to be achieved. This suggests that a user-friendly system helps its users, which influences their adoption of the system. Additionally, research was undertaken by (Night & Bananuka, 2020) demonstrates a substantial association between the use of electronic systems and perceptions of electronic taxation systems, as well as taxpayer compliance. Consequently, confidence plays a significant part for individuals in attaining objectives through the utilization of their strengths. This attitude enables the organization to enhance its utilization of e-commerce, thereby fostering creativity within the business. (Zhang & Zhu, 2019). Hence, we can hypothesize:

H_4: Attitude has a positive effect on use of e-commerce

H_5: Attitude is a mediator between perceived ease of use; perceived usefulness; self-efficacy; and use of e-commerce.

The Technology Acceptance Model identifies three major characteristics that drive SMEs' adoption of e-commerce: (1) perceived ease of use, (2) perceived utility, and (3) self-efficacy (Szajna, 1996). The Technology Acceptance Model is predicated on the notion that individuals will adopt technology if they find it useful and easy to use (Davis & Granić, 1989). One of the characteristics of this model is that it assumes individuals make adoption decisions based solely on these utilitarian factors, sometimes overlooking other influential aspects such as organizational culture and external support (Venkatesh et al., 2003) Perceived Ease of Use (PEU): (1) Employing E-Commerce simplifies business process management; (2) E-Commerce facilitates the easy attainment of my business goals; (3) Engagement with the E-Commerce system is easily comprehensible; (4) Interacting with the E-Commerce system is flexible for me; (5) Encounter no challenges in utilizing the E-Commerce system; (6) Generally, using E-Commerce is straightforward for me. Perceived Usefulness (PU): (1) Utilizing E-Commerce systems enhances the quality of business processes; (2) Employing E-Commerce systems can enhance the efficiency of business processes; (3) Incorporating E-Commerce systems can heighten the effectiveness of business transactions; (4) Leveraging E-Commerce systems can boost performance in business; (5) The utilization of the E-Commerce system streamlines business processes; (6) In general, E-Commerce-based business processes are valuable in business activities (Cai, 2022). The concept of self-efficacy as introduced by (Betz, 2004) refers to an individual's belief in their ability to perform tasks using a specific system, Self-Efficacy (SE): (1) Feel confident when doing business processes using the E-Commerce system; (2) Feel confident when using E-Commerce in analyzing business transaction data; (3) Confident in my ability to operate the E-Commerce system; (4) Get help when experiencing obstacles in carrying out the E-Commerce-based sales process.

Attitude (AT) According to the actual usage behavior (Ajzen, 2012): (1) E-Commerce is a great idea; (2) The business process of using E-Commerce in my business activities; (3) Using E-Commerce is more fun; (4) Feel helped when the business process uses E-Commerce. Research in this domain highlights the significant role of these factors in determining technology adoption and suggests that user attitude acts as a mediator between these perceptions and actual usage behavior (Ajzen, 2012), E-Commerce Adoption (EC): (1) Employ E-Commerce in business processes; (2) Utilize E-Commerce daily during transactions; (3) regularly engage in E-Commerce; (4) Incorporate E-Commerce for managing customer data; (5) Employ E-Commerce to interact with potential buyers; (6) Utilize E-Commerce in transactions with partners; (7) Turn to E-Commerce when addressing customer complaints; (8) E-Commerce significantly aids overall transactions with its anytime, anywhere accessibility; and (9) Leverage E-Commerce for developing business innovations (Ghobakhloo et al., 2011).

The literature indicates ongoing research gaps concerning how perceived ease of use, perceived usefulness, and self-efficacy can be leveraged to enhance e-commerce adoption among SMEs. Addressing these gaps can provide deeper insights into effective strategies for promoting digital transformation in small businesses. Comparative studies between SMEs in different provinces or countries could provide valuable insights into how regional differences impact e-commerce adoption and implementation. Despite the limitations, such as the scope being confined to South Sulawesi Province, the study model of the relations is as follows (Figure 2).

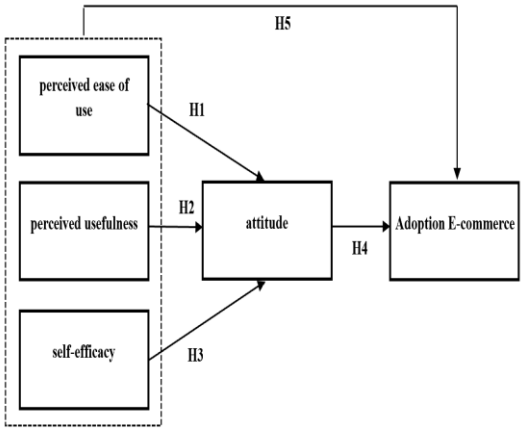

Figure 2. Research Model

METHOD

This study analyzes the effects of perceived ease of use, perceived usefulness, and self-efficacy on e-commerce adoption among micro, small, and medium-sized enterprises (SMES) in South Sulawesi Province. The study looks at the role of attitude as a mediator in the relationship between perceived ease of use, perceived usefulness, self-efficacy, and e-commerce implementation. The study used quantitative methods and collected data using survey questions. The participants comprised 97 completed questionnaires from SMESs that have incorporated e-commerce technologies into their operations. Participants were mandated to choose one of the available response options in the questionnaire. The study environment inherently entails limited researcher involvement, where in the researcher elucidates and disseminates questionnaires to participants.

The study technique is based on a survey of individual analysis units (South Sulawesi Province's Small and Medium Enterprise Owners). The planned sample size is 97 SMEs. This study's population consists of persons, especially Small and Medium Enterprises (SMEs) in the regencies/cities of South Sulawesi province. South Sulawesi has six regencies/cities and a population of 120 SMEs. The sample size is calculated using the Slovin formula, with a significance level of 0.05%.

The research questionnaire instrument is adopted from a previous researcher, and some of the questions have been modified by the current researcher to make adjustments for better respondent comprehension. The research questionnaire instrument is adopted from a previous researcher, and some of the questions have been modified by the current researcher to make adjustments for better respondent comprehension. The researcher has undergone several stages before distributing the questionnaire, including:

1. Translation of the original English-language instrument into Bahasa Indonesia.
2. Back-translation of the Bahasa Indonesia version of the instrument into its original language, English, to ensure that there is no alteration in the meaning of the instrument used.
3. The researcher did a pilot test on the device. The pilot test was conducted to ensure that the instrument can measure what it is intended to measure (valid) and that measurements are accurate and consistent (reliable). The pilot test included 97 respondents who are small and medium-sized enterprises (SMEs) in South Sulawesi Province who conduct digital transactions through e-commerce. Based on the distribution of questionnaires, 97 were used to test this instrument. The selection of the 97 questionnaires was based on the standard sample size criteria for the pilot test (Bhatia & Awasthi, 2018). According to the results of the pilot test, data processing revealed that the instrument is valid and reliable.
4. Validity refers to how reliably and precisely a measurement tool performs its measuring job. An indicator or question is considered valid if the estimated correlation (r) exceeds the critical value (r-table) at a 5% significance level and a sample

size (n) of 97. The crucial r-table value for n = 120 (120-26) is 0.374. According to the validity test results for the full study instrument, E-Commerce (Y1), Perceived Ease of Use (X1), Perceived Usefulness (X2), Self-Efficay (X3), and Attitude (X4) all had estimated r- values larger than the threshold r-value. As a result, any instrument can be considered valid.

5. Reliability Testing: E-Commerce has Cronbach's alpha values of 0.929, Perceived Ease of Use is 0.915, Perceived Usefulness is 0.934, Self-Efficay is 0.929, and Attitude is 0.945. The Cronbach's alpha values for each variable are more than 0.7. Based on this, it is possible to infer that each variable is a very reliable or consistent measuring instrument.
6. The basis for hypothesis testing involves examining the values of the path coefficient to assess the structural model. A research hypothesis is considered successful when (Ghozali, 2015): The coefficient or direction of the relationship between variables, as indicated by the original sample values, aligns with the hypothesized values, and the t-statistic value is > 1.64 (one-tailed) since it has a direction, and the probability value (p-value) is less than 0.05 or 5%.
7. The last step is to define global optimization criteria to determine the model's goodness of fit. This study used fit measures such as the Goodness of Fit (GoF) index. This index was created to evaluate both the measurement and structural models, giving a clear indication of the model's overall predictions. The GoF index is calculated using the square root of the average communality index and the average R-Square value.

Data analysis in this study was performed using Smart Partial Least Squares (PLS) 4.0.9 software. This study used Partial Least Squares (PLS) analysis because of its ability to reveal structures formed by reflective and formative indicators, commonly known as soft modeling. PLS is a robust analytical technique because of its little reliance on assumptions. It does not require a normal distribution of data, may be employed to forecast models with persistent theoretical basis, does not require a substantial sample size, and can clarify connections among variables (Rumanti et al., 2021; Ghozali, 2015: 5). The measuring model (outer model) study intends to test the model's validity and reliability using algorithmic methods in Smart PLS 3.0 SEM. The outer model analysis includes validity tests (convergent and discriminant). It functions as a predictive model that does not rely on specific distributions to estimate parameters or anticipate causal links.

The acquired data was examined using covariance-based *Structural Equation Modeling* (SEM), which emphasizes causality and theory above the predictive aspect of partial least squares modeling. The inner model, or structural model, evaluates the connections between latent variables. The inner model analysis is presented in the following steps: Path Coefficients Assessment evaluates the strength and significance of predicted links between components. Path coefficients represent the direct impacts of one construct on another in the model. R-Squared (R^2) Value Analysis assesses the proportion of variation in the dependent variable explained by the independent variables.

RESULT AND DISCUSSION

Prior to testing the study hypothesis, the model's fitness levels were measured, and the data was investigated using a component-based or variant Structural Equation Modeling (SEM) method. According to (Awang et al., 2015), Researchers use Structural Equation Modeling (SEM) analysis to create predictions. The formal model describes the latent variable as a linear combination of its indicators. Weight estimates for producing latent variable score components are obtained by characterizing the inner model (which connects latent variables) and the outer model (which ties indicators to their constructs). The result includes the dependent variable's residual variance. The SEM equation model uses a three-step iterative approach, with each stage yielding an estimate. The initial phase generates weight estimates, the following stage gives estimates for the inner and outer models, and the final stage delivers estimates for means and locations (Awang et al., 2015), table 2 is as follows.

Table 2. Descriptive Statistics Example

Variabel	*n*	Minimum	Maksimum	Mean	Std. Dev
Perceived ease of use	97	1	5	3.93	0.871
perceived usefulness	97	1	5	3.84	0.904
self-efficacy	97	1	5	4.29	0.754
Attitude	97	1	5	4.12	0.840
E-commerce	97	1	5	4.39	0.762

Note. M = Mean, Std = Standard Deviation.

This study demonstrated the factor loadings of the items, revealing the items' validity. Factor loadings of higher than 0.50 indicate that the items are substantially connected and valid. Table 3 has these data. The model and constructs were also examined for their reliability and validity. These were tested using convergent reliability (CV), average variance extracted (AVE), and Cronbach's alpha. The CR and Alpha values are higher than 0.50, and the AVE values are greater than 0.70, indicating that the items are highly associated and genuine. Table 3 has these data.

Table 3. Validity and Reliability Analysis

Variabel	Alpha	CR	AVE
Perceived ease of use	0.915	0.935	0.706
perceived usefulness	0.934	0.948	0.754
self-efficacy	0.929	0.949	0.785
Attitude	0.945	0.961	0.744
E-commerce	0.929	0.964	0.859

Alpha= Alpha Cronbach, CR= Composite Reliability, AVE= Average Variance Extracted

After checking the model's fitness, reliability, and validity metrics, as well as the extracted average variance, it was appropriate to proceed with the analysis to test the research hypothesis. The structural equation modeling was carried out, and the findings are presented in the table and figure below. The data in this study was analyzed using SEM Partial Least Squares (PLS). Testing is done via Path Diagrams. The latent variable models tested in this study are divided into two categories: exogenous variables and endogenous variables. Exogenous factors include perceived ease of use (PEU), perceived usefulness (PU), and self-efficacy. Endogenous factors include attitude and e-commerce. The model is considered excellent when empirical evidence backs up the theoretical development of the hypothesis model. Figure 3 shows the testing results of the study using Partial Least Squares (PLS) to understand the total effect between variables.

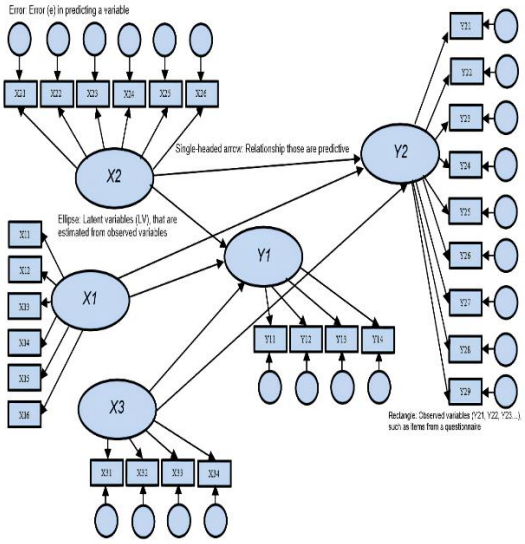

Figure 3. Structural Model Result

Figure 3 shows a model in which five observable predictors anticipate a single outcome variable using Structural Equation Modeling (SEM). This SEM model uses route diagrams to depict the relationships between distinct predictors and outcome variables. Constructing an SEM model with path diagrams involves specific procedures. Developing an SEM model necessitates the capacity to accurately transform theoretical assumptions, theories, and inputs into a model that includes the following elements.

Table 4. Test Results of Direct and Indirect Effects

Hypothesis	Paths	Original Sample	Sample Mean	C.R.	p-value
H1	PEU → EC	0.212	0.211	2.916	0.004
H2	PU → EC	-0.200	-0.207	2.273	0.023
H3	SE → EC	0.530	0.531	5.068	0.000
H4	AT → EC	0.325	0.390	4.698	0.003
H5	PEU → AT → EC	0.156	0.149	2.204	0.019
	PU → AT → EC	0.134	0.134	2.438	0.015
	SE → AT → EC	0.129	0.132	2.034	0.043

significant at <0.05 level, PEU = Perceived ease of use, PU = perceived usefulness, SE = self-efficacy, AT = Attitude, EC = E-commerce

The path coefficient between perceived ease of use and e-commerce was positive and significant ($\beta = 0.212$, $p = 0.004$), supporting hypothesis 1. The path coefficient between perceived usefulness and e-commerce was positive and significant ($\beta = -0.200$, $p = 0.023$), validating hypothesis 2. The path coefficient between self-efficacy and e-commerce was positive and significant ($\beta = 0.530$, $p = 0.000$), verifying hypothesis 3. The path coefficient between attitude and e-commerce was positive and significant ($\beta = 0.325$, $p = 0.003$), verifying hypothesis 4. The study also found that attitude strongly mediates the influence of perceived ease of use, perceived usefulness, and self -efficacy on e-commerce, hence supporting hypothesis 5. The findings indicate that attitude serves as a partial mediator in the association between perceived ease of use, perceived usefulness, self-efficacy, and e-commerce. This suggests that, while attitudes have a major impact on e-commerce, they do not entirely account for the impacts of perceived ease of use, perceived usefulness, and self-efficacy.

Discussions

The results revealed a positive relationship between perceived ease of use and e-commerce adoption among SMES in South Sulawesi. The findings show that perceived ease of use has a substantial impact on the adoption of e-commerce among SME participants. The findings show that perceived ease of use improves business operations through e-commerce platforms, enabling online marketing and sales without direct customer interactions. It also highlights that business goals may be fully achieved. The study's premise aligns with the technology acceptance paradigm, which explains and predicts user adoption of information technologies. These findings align with earlier study done by (Pratama et al., 2019), This study analyzes the factors influencing the adoption of e-commerce services. The findings indicate that perceived ease of use, word-of-mouth communication, and brand image significantly influence the decision-making process of organizational personnel and consumers, whereas ease of use positively influences the acceptance of new technology in the context of e-

commerce proliferation of platforms (Gumz et al., 2022). These characteristics facilitate the emergence of online retailers that solely market their own items via specialized websites or applications, therefore constraining prospects for alternative vendors.

These results align with prior research conducted by (Sun et al., 2010; Doshi, 2018), There is a positive relationship between perceived ease of use and perceived utility in the context of e-commerce platforms. The findings of this study broadly support the Technology Adoption Model, which explains and predicts user adoption of an information technology." The Technology Acceptance Model provides a theoretical framework for understanding the factors that influence technology acceptance in an organization. This aligns with the method used by (Peña-García et al., 2020), They employ the Technology acceptance Model to explain how perceived ease of use and usefulness influence the acceptance of e-commerce for commercial transactions. As a consequence, the Technology Adoption Model successfully explains the adoption of a technological system in online purchase as impacted by perceived usefulness, ease of use, attitudes, and self-efficacy. All of these features have a positive impact on people's willingness to buy online.

In conclusion, it can be deduced that elevated levels of perceived advantages, usability, attitudes, and self-efficacy significantly impact the desire to participate in online buying (Ashraf et al., 2016; Ramadania et al., 2019; Syah & Karen, 2022). Organizations exhibit a commitment to innovation, personnel show innovative thinking skills, and internet purchasing has become a prevalent activity among the general population. In circumstances when time and location provide considerable constraints, individuals often favor online purchasing using e-commerce platforms. Consequently, it is imperative for managers to emphasize the quality of information, guaranteeing its correctness, relevance, and alignment with critical domains (Bhatia & Awasthi, 2018). The present study indicates that societies demonstrate enthusiasm for E-commerce, with numerous customers choosing online buying for its convenience and time efficiency. Nonetheless, a considerable obstacle encountered by SMESs in competitive markets is the inadequate utilization of E-commerce to advance their businesses. Although aware of the significant potential of E-commerce to promote development and sustainability, numerous SMESs have not completely adopted it due to a lack of awareness and information regarding developing technology (Prameswari et al., 2017; Adha et al., 2024). E-commerce expansion is urgently necessary to meet customer expectations and improve SME performance. E-commerce has a huge influence on the economy of many countries, particularly micro, small, and medium-sized businesses, by allowing for an increase in the number of transactions. This requires SMES participants in South Sulawesi Province to actively use e-commerce and realize the challenges connected with creative marketing, pursuing successful solutions.

Perceived usefulness refers to an individual's belief about the extent to which the adoption of specific information technologies might boost their performance. SMES members believe that using e-commerce for online marketing can increase sales; however, this is dependent on the perceived usefulness and level of customer acceptability of online transactions. These results are supported by a prior research carried out by (Mican et al., 2020; Činjarević et al., 2021), The perceived utility of e-commerce has a strong positive impact on consumers' willingness to enable the system provider to collect and store their data. This study also underlines the significance of external factors in determining the perceived utility of e-commerce. Similarly, (Ashraf et al., 2016; Wafiyyah & Kusumadewi, 2021; Tenriyola et al., 2023) The results indicate that perceived usefulness and perceived ease of use function as mediating mechanisms influencing the relationship between regulatory fit and visitors' attitudes and purchase intentions. Additionally, perceived usefulness and trust positively and significantly affect repurchase intentions on the Shopee e-commerce platform. These insights provide uniqueness and creativity into company processes. Furthermore, the study's findings show that attitude acts as an effective mediator between perceived usefulness and e-commerce. (Abdurakhimovna et al., 2021) The results also confirm that perceived utility has a positive impact on system use, which is further reinforced by attitude. The study's hypothesis testing results are consistent with the Technology Acceptance Model, which explains the causal relationship between perceptions of an information system's benefits and usability.

The study's findings show that self-efficacy is an efficient mediator between attitude and e-commerce use (Kim et al., 2009; Su, 2019; Capistrano et al., 2023) The study results imply that online transaction self-efficacy increases trust in the online seller and favorably influences an individual's online purchase intention, demonstrating that perceived self-efficacy is a factor that positively influences the willingness to use technology (Suastiari & Mahyuni, 2022; Ujang Sumarwan, 2020). This study concludes that self-efficacy may influence SME actors' adoption of e-commerce in South Sulawesi Province. The findings show that each user's self-efficacy is sufficient to instill confidence in adopting e-commerce in the business activities of SMES participants. The findings indicate that users' self-efficacy levels are adequate to instill trust in the usage of e-commerce in SMES participants' activities. These findings are consistent with a prior research conducted by (Nurchayati et al., 2023), It found that perceived self-efficacy had a

positive influence on both reported ease of use and perceived usefulness. These three characteristics have a positive and significant effect on future e-commerce shopping interest, as mediated by user attitude. The online entrepreneurial self-efficacy test is composed of 16 questions grouped into three categories: leadership, technology usage, and internet marketing and e-commerce (Wang et al., 2020). SME players in South Sulawesi Province use e-commerce to stimulate innovation and creativity, which are critical for market success and adapting to integrated information systems and new technical advances (Masud et al., 2022).

The current work has both theoretical and empirical consequences. This study has significant theoretical implications since it significantly improves the present literature on e-commerce use. It examines the impact of three key criteria in e-commerce: perceived ease of use, perceived usefulness, and self-efficacy. This study contributes significantly to management literature by emphasizing the role of user attitude as a mediator of perceived ease of use, perceived usefulness, self-efficacy, and e-commerce adoption. The work is theoretically and empirically significant, making it a valuable contribution to the research field of e-commerce use. As a result, this study has significant practical implications for the regional economy, particularly in South Sulawesi Province, since it helps SMESs in boosting digitalization and widening their marketing networks to access global markets via e-commerce. E-commerce is a digital platform that allows SMEs and their owners to improve their competitive advantages more efficiently. (Hussain et al., 2022; Tamin & Adis, 2022; Akbar, 2022). This study suggests that SMESs may increase online marketing and sales through e-commerce by leveraging perceived ease of use, perceived usefulness, and self-efficacy, all of which are influenced by user attitudes toward e-commerce adoption.

Conclusion

This study emphasizes the significance of developing and assessing a structural model using the component-based or variant structural equation modeling (SEM) technique. The findings show that perceived ease of use, perceived usefulness, and self-efficacy all have a substantial and favorable impact on e-commerce adoption via influencing user attitudes. These factors contribute to the theoretical knowledge of the Technology Acceptance Model by offering useful insights into user acceptance of information systems. Raising awareness and knowledge of the benefits of e-commerce among SMEs is critical. To achieve optimal adoption, businesses should focus on delivering high-quality, relevant information to build user confidence. Moreover, this research contributes substantially to digital management and marketing literature, offering practical insights for SMEs to leverage e-commerce for a competitive advantage. The implications of these findings are significant for regional economic development in South Sulawesi, as the digital transformation of SMEs can lead to broader market access and improved business sustainability.

Future studies should look at the level of engagement of SMEs in digital marketing and utilize it as a variable to investigate the predictors of reported ease of use, perceived usefulness, self-efficacy, and attitude. It is recommended to increase the sample size to cover a more diverse range of SMEs from various areas of Indonesia. This larger approach would provide a more thorough knowledge of the elements that influence e-commerce adoption in a variety of business scenarios. Future research should look deeper into particular digital marketing methods that SMEs may use to increase their reach and success in the online marketplace. Evaluating the effectiveness of various training and support programs for SMEs on e-commerce adoption could offer practical insights for policymakers and business support organizations.

REFERENCES

Abdurakhimovna, T. S., Alzubi, M. M. S., & Aljounaidi, A. (2021). The Effect of Mediating Role for Awareness Factors on The Behavioral Intention to Use in E-commerce Services in Uzbekistan. *International Journal Of All Research Writings*, *3*(8), 1–14. http://www.ijciras.com/Users/ManuScript/ManuScriptDetails/391c9b17-cf57-4042-a130-304d1e2eeaf7

Adha, W. M., Mas'ud, A. A., & Erwin. (2024). Digital Marketing Development Strategy of Cocoa Products. *Revista de Gestão Social e Ambiental*, *18*(6), e05305. https://doi.org/10.24857/rgsa.v18n6-022

Ajzen, I. (2012). Martin Fishbein's Legacy. *The ANNALS of the American Academy of Political and Social Science*, *640*(1), 11–27. https://doi.org/10.1177/0002716211423363

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Akbar, R. A. (2022). Underlying Factors of the Use of E-Commerce by SMEs in Tanjung Lesung. *International Journal of Applied Business and International Management*, *7*(3), 61–73. https://doi.org/10.32535/ijabim.v7i3.1693

Alexandra, Z., & Elena, C. A. (2019). The importance of integrating digital marketing within the sales strategy of luxury brands. In *International Conference 'Risk in …*. scholar.archive.org. https://scholar.archive.org/work/6gia3nqf5nfwxllvrnevor45k4/access/wayback/http://www.rc

e.feaa.ugal.ro/images/stories/RCE2019/Zaif_Cerchia.pdf

Ashraf, A. R., Thongpapanl, N. (Tek), & Spyropoulou, S. (2016). The connection and disconnection between e-commerce businesses and their customers: Exploring the role of engagement, perceived usefulness, and perceived ease-of-use. *Electronic Commerce Research and Applications*, *20*, 69–86. https://doi.org/https://doi.org/10.1016/j.elerap.2016.10.001

Awang, Z., Afthanorhan, A., & Mamat, M. (2015). The Likert scale analysis using parametric based Structural Equation Modeling (SEM). *Computational Methods in Social Sciences*, *4*(1), 13–21.

Badan Pusat Statistika. (2023). *eCommerce 2022/2023*. Badan Statistiks Nasional (BPS). https://www.bps.go.id/id/publication/2023/09/18/f3b02f2b6706e104ea9d5b74/statistik-ecommerce-2022-2023.html

Balasubramanian, S., Peterson, R. A., & Jarvenpaa, S. L. (2002). Exploring the implications of M-commerce for markets and marketing. *Journal of the Academy of Marketing Science*, *30*(4), 348–361. https://doi.org/10.1177/009207002236910

Betz, N. E. (2004). Contributions of Self-Efficacy Theory to Career Counseling: A Personal Perspective. *The Career Development Quarterly*, *52*(4), 340–353. https://doi.org/10.1002/j.2161-0045.2004.tb00950.x

Bhatia, M. S., & Awasthi, A. (2018). Assessing relationship between quality management systems and business performance and its mediators. *International Journal of Quality & Reliability Management*, *35*(8), 1490–1507. https://doi.org/10.1108/IJQRM-05-2017-0091

Bhatti, A., & Ur Rehman, S. (2020). Perceived Benefits and Perceived Risks Effect on Online Shopping Behavior With the Mediating Role of Consumer Purchase Intention in Pakistan. *International Journal of Management Studies*, *26*(1), 33–54. https://doi.org/10.32890/ijms.26.1.2019.10512

bi.go.id. (2022). *Profil Bisnis Usaha Mikro, Kecil Dan Menengah (Umkm)*. Bank Indonesia Dan LPPI.

Bilal Ahmad, M., Fawad Ali, H., Sabir Malik, M., Humayun, A. A., & Ahmad, S. (2019). Factors Affecting Impulsive Buying Behavior with Mediating role of Positive Mood: An Empirical Study. *European Online Journal of Natural and Social Sciences*, *8*(1), 17–35. http://www.european-science.com

Cai, H. (2022). Examining Social E-Commerce Platforms by Mediating the Effect of Perceived Usefulness and Perceived Trust Using the Technology Acceptance Model. *Journal of Organizational and End User Computing*, *34*(8), 1–20. https://doi.org/10.4018/JOEUC.315621

Capistrano, E. P., Gomez, M. M. E., & Isleta, A. P. M. (2023). Examining trust, self-efficacy, and technology acceptance in the Philippines' e-commerce sectors. *Information Development*, 02666669231153837. https://doi.org/10.1177/02666669231153837

Činjarević, M., Pijalović, V., Peštek, A., Lazović-Pita, L., & Karić, L. (2021). Heading out smes to the e-commerce highway: Drivers of the e-commerce perceived usefulness among smes in Bosnia and Herzegovina. *Management (Croatia)*, *26*(1), 3–20. https://doi.org/10.30924/MJCMI.26.1.2

Compeau, D. R., & Higgins, C. A. (2017). Computer Self-Efficacy: Measure And Initial Development Of A Test. *MIS Quarterly*, *19*(2), 189–211. https://www.astm.org/Standards/E2368.htm

Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. In *International Journal of Man-Machine Studies* (Vol. 38, Issue 3, pp. 475–487). https://doi.org/10.1006/imms.1993.1022

Davis, F. D., & Granić, A. (1989). *The Technology Acceptance Model*. Springer International Publishing. https://doi.org/10.1007/978-3-030-45274-2

Dhingra, S., Gupta, S., & Bhatt, R. (2020). A study of relationship among service quality of E-Commerce websites, customer satisfaction, and purchase intention. *International Journal of E-Business Research*, *16*(3), 42–59. https://doi.org/10.4018/IJEBR.2020070103

Doshi, P. V. (2018). Relationship of perceived ease use and perceived usefulness on usage of e-commerce site. *International Journal of Academic Research and Development*, *3*(1), 495–498.

Eastin, M. S. (2002). Diffusion of e-commerce: An analysis of the adoption of four e-commerce activities. *Telematics and Informatics*, *19*(3), 251–267. https://doi.org/10.1016/S0736-5853(01)00005-3

Gantulga, U., Sampil, B., & Davaatseren, A. (2021). Analysis of E-Commerce Adoption in Ulaanbaatar, Mongolia. *Korea International Trade Research Institute*, *17*(1), 67–80. https://doi.org/10.16980/jitc.17.1.202102.67

Ghobakhloo, M., Arias-Aranda, D., & Benitez-Amado, J. (2011). Adoption of e-commerce applications in SMEs. *Industrial Management & Data Systems*, *111*(8), 1238–1269. https://doi.org/10.1108/02635571111170785

Gumz, J., Fettermann, D. C., Sant'Anna, Â. M. O., & Tortorella, G. L. (2022). Social Influence as a Major Factor in Smart Meters' Acceptance:

Findings from Brazil. *Results in Engineering*, *15*, 100510. https://doi.org/https://doi.org/10.1016/j.rineng.2022.100510

Hsieh, M. Y. (2020). Interdisciplinarily exploring the most potential IoT technology determinants in the omnichannel e-commerce purchasing decision-making processes. *Applied Sciences (Switzerland)*, *10*(2), 1–22. https://doi.org/10.3390/app10020603

Hsu, M. H., & Chiu, C. M. (2004). Internet self-efficacy and electronic service acceptance. *Decision Support Systems*, *38*(3), 369–381. https://doi.org/10.1016/j.dss.2003.08.001

Hussain, A., Akbar, M., Shahzad, A., Poulova, P., Akbar, A., & Hassan, R. (2022). E-Commerce and SME Performance: The Moderating Influence of Entrepreneurial Competencies. In *Administrative Sciences* (Vol. 12, Issue 1). https://doi.org/10.3390/admsci12010013

Juniwati, J. (2015). Pengaruh Perceived Ease of Use, Enjoyment dan Trust Terhadap Repurchase Intention dengan Customer Satisfaction Sebagai Intervening pada Belanja Online (Studi Pada Mahasiswa Universitas Tanjungpura Pontianak). *Jurnal Ekonomi Bisnis Dan Kewirausahaan*, *4*(1), 140. https://doi.org/10.26418/jebik.v4i1.11465

Kim, Y. H., Kim, D., & Hwang, Y. (2009). Exploring Online Transaction Self-Efficacy in Trust Building in B2C E-Commerce. *JOEUC*, *21*, 37–59. https://doi.org/10.4018/joeuc.2009010102

Lee, A. S., & Luo, X. (2016). Nankai Business Review International Article information. *Nankai Business Review International*, *6*(4), 350–363. http://dx.doi.org/10.1108/NBRI-01-2015-0001

Mahfud, T., Triyono, M. B., Sudira, P., & Mulyani, Y. (2020). The influence of social capital and entrepreneurial attitude orientation on entrepreneurial intentions: the mediating role of psychological capital. *European Research on Management and Business Economics*, *26*(1), 33–39. https://doi.org/10.1016/j.iedeen.2019.12.005

Masud, A. A., Nurfadhilah, N., Tijjang, B., & Ali, R. (2022). The Role of E-Business Adoption Towards Improving Msme Performance in Parepare City. *Hasanuddin Economics and Business Review*, *5*(3), 59. https://doi.org/10.26487/hebr.v5i3.3403

Mican, D., Sitar-Tăut, D. A., & Moisescu, O. I. (2020). Perceived usefulness: A silver bullet to assure user data availability for online recommendation systems. *Decision Support Systems*, *139*(September), 113420. https://doi.org/10.1016/j.dss.2020.113420

Najmi, K., & Muttaqin, M. (2022). Peningkatan Kesejahteraan Pelaku Usaha Mikro dan Kecil di Kabupaten Mamuju Provinsi Sulawesi Barat. *SEIKO: Journal of Management & …*, *5*(2), 270–278. https://doi.org/10.37531/sejaman.v5i2.2084

Night, S., & Bananuka, J. (2020). The mediating role of adoption of an electronic tax system in the relationship between attitude towards electronic tax system and tax compliance. *Journal of Economics, Finance and Administrative Science*, *25*(49), 73–88. https://doi.org/10.1108/JEFAS-07-2018-0066

Nurchayati, N., Widayati, T., Sulistiyani, Nurchayati, & Suprapti, S. (2023). Antecedents of user attitude towards e-commerce and future purchase intention. *International Journal of Data and Network Science*, *7*(1), 505–512. https://doi.org/10.5267/j.ijdns.2022.8.007

Peña-García, N., Gil-Saura, I., Rodríguez-Orejuela, A., & Siqueira-Junior, J. R. (2020). Purchase intention and purchase behavior online: A cross-cultural approach. *Heliyon*, *6*(6). https://doi.org/10.1016/j.heliyon.2020.e04284

Prameswari, N. S., Suharto, M., & Afatara, N. (2017). Developing E-Commerce for Micro Small Medium Enterprise (MSME) to Cope with Cultural Transformation of Online Shopping. *Jurnal Dinamika Manajemen*, *8*(2), 188–198. https://doi.org/10.15294/jdm.v8i2.12759

Pratama, R. I., Megadini, D. D., & Kusriandini, T. (2019). Effect of Perceived Ease of Use, Word-of-Mouth Communication, and Brand Image on Decision to Use Lazada E-Commerce Services. *International Journal of Multicultural and Multireligious Understanding*, *6*(1), 173. https://doi.org/10.18415/ijmmu.v6i1.533

Pusfitaningrum, M., Agustono, & Khomah, I. (2021). Adopsi E-commerce dengan Pendekatan Technology Acceptance Model (TAM) bagi UMKM Agribisnis di Kabupaten Bantul. *Jurnal Ilmiah Socio-Ekonomiika Bisnis*, *24*(02), 34–40.

Ramadania, S., Braridwan, Z., & Brawijaya, U. (2019). The Influence of Perceived Usefulness, Ease of Use, Attitude, Self-Efficacy, and Subjective Norms Toward Intention to Use Online Shopping. *International Business and Accounting Research Journal*, *3*(1), 1–14. http://ibarj.com

Ratnasingam, P. (2003). Trust and Business-To-Business E-Commerce Communications and Performance. In *Advances in Business Marketing and Purchasing* (Vol. 12). https://doi.org/10.1016/S1069-0964(03)12006-6

Rumanti, A. A., Sunaryo, I., Wiratmadja, I. I., & Irianto, D. (2021). Cleaner production through open innovation in Indonesian batik small and medium enterprises (SME). *The TQM Journal*,

33(6), 1347–1372. https://doi.org/10.1108/TQM-04-2020-0086

Sousa, S., & Aspinwall, E. (2010). Development of a performance measurement framework for SMEs. *Total Quality Management and Business Excellence*, *21*(5), 475–501. https://doi.org/10.1080/14783363.2010.481510

Su, X. (2019). An empirical study on the influencing factors of e-commerce live streaming. *Proceedings - 2019 International Conference on Economic Management and Model Engineering, ICEMME 2019*, 492–496. https://doi.org/10.1109/ICEMME49371.2019.00103

Suastiari, N. K. S., & Mahyuni, L. P. (2022). DETERMINANTS OF E-COMMERCE USER SATISFACTION: THE MEDIATING ROLE OF PURCHASE INTENTION. *Jurnal Ekonomi Bisnis Dan Kewirausahaan*, *11*(3), 345. https://doi.org/10.26418/jebik.v11i3.56329

Sulbar.bps.go.id. (2023). *BPS Provinsi Sulawesi Barat*. https://sulbar.bps.go.id/en

Sun, T., Tai, Z., & Tsai, K.-C. (2010). Perceived ease of use in prior e-commerce experiences: A hierarchical model for its motivational antecedents. *Psychology & Marketing*, *27*(9), 874–886. https://doi.org/https://doi.org/10.1002/mar.20362

Syah, D. H., & Karen, A. El. (2022). AN ANALYSIS OF DETERMINANTS OF E-COMMERCE-BASED ACCOUNTING INFORMATION SYSTEMS ADOPTION ON THE PERFORMANCE OF MILLENNIAL MSME IN MEDAN CITY. *Jurnal Ekonomi Bisnis Dan Kewirausahaan*, *11*(2), 179. https://doi.org/10.26418/jebik.v11i2.53465

Szajna, B. (1996). Empirical Evaluation of the Revised Technology Acceptance Model. *Management Science*, *42*(1), 85–92. https://doi.org/10.1287/mnsc.42.1.85

Tamin, M., & Adis, A. A. A. (2022). The Impact of TOE Framework on E-Commerce Advantage Among Small Medium Enterprise (SME's) Digital Channel In Malaysia. *Journal of Distribution Science*, *20*(8), 33–46. https://doi.org/10.15722/jds.20.08.202208.33

Tenriyola, A. P., Nurwafiyyah, A., & Mas'ud, A. A. (2023). Faktor Penggunaan E-Commerce dalam Meningkatan Kinerja Usaha Travel di Kabupaten Pangkep. *MANDAR: Management Development and Applied Research Journal*, *6*(1), 41–48. https://doi.org/10.31605/mandar.v6i1.3363

Turkyilmaz, A., Dikhanbayeva, D., Suleiman, Z., Shaikholla, S., & Shehab, E. (2020). Industry 4.0: Challenges and opportunities for Kazakhstan SMEs. *Procedia CIRP*, *96*(March), 213–218. https://doi.org/10.1016/j.procir.2021.01.077

Ujang Sumarwan, M. . H. R. M. N. (2020). The Influence of Intention to use Medians Potato Varieties on the Result of Technological Innovation Development with Technology Acceptance Models. *Jurnal Manajemen*, *24*(1), 38. https://doi.org/10.24912/jm.v24i1.617

Vărzaru, A. A., Bocean, C. G., Rotea, C. C., & Budică-Iacob, A. F. (2021). Assessing antecedents of behavioral intention to use mobile technologies in e-commerce. *Electronics (Switzerland)*, *10*(18). https://doi.org/10.3390/electronics10182231

Venkatesh, Morris, Davis, & Davis. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425. https://doi.org/10.2307/30036540

Wafiyyah, R. S., & Kusumadewi, N. M. W. (2021). The Effect of Perceived Usefulness, Perceived Ease Of Use, And Trust On Repurchase Intention On E-Commerce Shopee. *IJISET-International Journal of Innovative Science, Engineering & Technology*, *8*(7), 428–434. www.ijiset.com

Wan Zahari Wan Yusoff and Maziah Ismail. (2008). 기사 (Article) 와 안내문 (Information) [. *The Eletronic Library*, *34*(1), 1–5.

Wang, Y. S., Tseng, T. H., Wang, Y. M., & Chu, C. W. (2020). Development and validation of an internet entrepreneurial self-efficacy scale. *Internet Research*, *30*(2), 653–675. https://doi.org/10.1108/INTR-07-2018-0294

Wijaya, A., Awaluddin, M., & Kurniawan, A. E. (2022). The Essence of Fuel and Energy Consumptions to Stimulate MSMEs Industries and Exports: An Empirical Story for Indonesia. *International Journal of Energy Economics and Policy*, *12*(2), 386–393. https://doi.org/10.32479/ijeep.12645

Wilson, N. (2019). the Impact of Perceived Usefulness and Perceived Ease-of-Use Toward Repurchase Intention in the Indonesian E-Commerce Industry. *Jurnal Manajemen Indonesia*, *19*(3), 241. https://doi.org/10.25124/jmi.v19i3.2412

Wilson, N., Alvita, M., & Wibisono, J. (2021). the Effect of Perceived Ease of Use and Perceived Security Toward Satisfaction and Repurchase Intention. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, *5*(1), 145. https://doi.org/10.24912/jmieb.v5i1.10489

Zhang, F., & Zhu, L. (2019). Enhancing corporate sustainable development: Stakeholder pressures, organizational learning, and green innovation. *Business Strategy and the Environment*, *28*(6), 1012–1026. https://doi.org/10.1002/bse.2298