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Motivational factors and the impact of e-commerce adoption on business performance: Evidence from traditional drink SMEs in Indonesia

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A B S T R A C T

This study scrutinizes the motivational factors of e-commerce adoption using the Integrated Model of E-commerce Adoption in SMEs (IMAES) and analyzes its impact on business performance. This is quantitative research. Survey technique used to collect data. The Special Region of Yogyakarta, Indonesia, was chosen purposively as the center of traditional drinks, and 330 SMEs of traditional drinks in all districts/cities were proportionally taken as samples. Structural Equation Modeling was used as the data analysis method with PLS tools. This study shows that buyer, competitor behavior, relative advantage, organizational readiness, perceived ease, benefit observability, compatibility, ICT organizational, and innovativeness level significantly and positively influence e-commerce adoption. Risk perception and complexity have a significant and negative effect on e-commerce adoption. E-commerce adoption has a significant and positive impact on business performance, operational performance, financial performance, and marketing performance. Stakeholder collaboration is required to increase e-commerce adoption.

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1. Introduction

Agribusiness SMEs have a position, potential, and strategic role in the national economy (Hendayana et al., 2007). Agribusiness SMEs can produce a variety of value-added and high commercial-value functional food products, both in the form of food and beverage products. One of the beverage products made from agricultural commodities is traditional drink. Traditional drinks are beverages containing spices and herbs that have important active substances to strengthen immunity and health and are believed for generations to treat diseases (Sunaryo, 2015). Indonesia is a country with natural wealth including biopharmaceutical plants and crumbs. This potential has an impact on the development of traditional drinks that vary in each region. Yogyakarta Special Region (DIY) is an area with tourism potential with culinary wealth including traditional drinks (Setyowati et al., 2023). Traditional drink SMEs have the potential to grow both economically and socio-culturally. That is, traditional drinks as a product have high economic value (added value), are supported by the availability of relatively adequate raw materials, and are found in the surrounding environment (Arihantana et al., 2015). Socio-culturally, traditional drinks are one of the hereditary products with health benefits (Nurdin et al., 2018) and cultural products that need to be preserved. However, traditional drinks have several challenges, namely perishable raw material characteristics, fierce competition from contemporary drinks (Mandira et al., 2020) and modern and imported health products, as well as the lifestyle of consumers who increasingly rely on the digital market to purchase products (Dirgantari et al., 2020; Hafsyah, 2020). Traditional drink SMEs are required to adapt quickly, one of which is by adopting e-commerce to retain consumers, reach a wider market, and increase their competitive advantage. E-commerce is defined as trade in goods, services, and information carried out electronically (Prameswari et al., 2017). Although e-commerce was first introduced in Indonesia in 1996, it has only recently grown

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in popularity (Rahayu & Day, 2017). Projections of the development of the digital economy in Indonesia are shown by the growth in the value of e-commerce transactions, which has only reached 1.62 percent, or USD 130 billion between 2013 and 2020 (KEMENKOPUMKM, 2021).

The E-commerce adoption process is not easy and instantaneous. Various factors, both internal and external, are taken into consideration by SMEs in making decisions to adopt e-commerce. The implications of e-commerce adoption on business performance also needs to be able to maintain and motivate the continuity of e-commerce use in the future. The above phenomenon can be explained by behavioral theories that have undergone many developments. Its use has also expanded not only to studies in the field of psychology but has penetrated various fields of study, including the acceptance of technological innovations including information technology such as e-commerce. However, prior study indicates many of these theories are adopted separately. This means that an empirical study uses only one theory. Several previous studies attempted to combine two theories but were unable to provide a comprehensive study.

Previous research examining the motivational factors of e-commerce adoption by SMEs has been widely conducted, among others conducted by Ramayah and Aafaqi (2005), Al-qirim (2007), Uzoka (2008), Grandón, Nasco and Mykytyn (2011), Wanyoike, Mukulu and Waititu (2012), Shemi and Procter (2013); Junadi and Sfenrianto (2015), Abrahão, Moriguchi, and Andrade (2016), Sarmah, Sharma and Gupta (2017), AlSharji, Ahmad and Abu Bakar (2018), Nurunnisha and Dalimunthe, (2018), and Sanchez-Torres and Juarez-Acosta (2019).

The theories used by previous researchers also vary, among others are the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), the Theory of Planned Behavior (TPB) by Ajzen (1991), the Technology Acceptance Model (TAM) by Davis (1989), Diffusion of Innovation (DoI) by (Rogers, 1995), TOE (Technology-Organization-Environment) by Tornatzky and Fleisher (1990), the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003), and IMAES (Integrated Model of Adoption of E-commerce in SMEs) by Sanchez-Torres and Juarez-Acosta (2019).

The novelty of this study is the development of an integrated model by modifying the IMAES theory from Sanchez-Torres and Juarez-Acosta (2019) as a comprehensive theory to analyze the motivational factors of e-commerce adoption. This theory has not been widely adopted by previous researchers, especially in the area of MSMEs in developing countries. This study also included measuring the effect of e-commerce on business performance (operational performance, financial performance, and marketing performance). This was conducted because analyzing the motivational factors of e-commerce adoption alone is insufficient; it is also necessary to analyze the impact of e-commerce adoption on business performance. The e-commerce adoption by traditional drink SMEs is expected not to stagnate but will continue to provide optimal benefits in improving business performance. The objectives of this study are to analyze the motivational factors of e-commerce adoption and examine the effect of e-commerce adoption on business performance.

2. Literature Review

2.1. Motivational Factors of E-Commerce Adoption

The IMAES theory was used in this study, which is the most comprehensive theory consisting of a combination of several previous theories. Referring to this theory, there were 14 determinants of e-commerce adoption by SMEs divided into three groups of factors, including the contingency theory, technology adoption theory, and innovation diffusion. Contingency theory accommodates variables related to the organization, resources, and capabilities (buyer factors, competitors, relative advantage, size of SMEs, cost, and organizational readiness). Technology adoption theory harmonizes the intrinsic characteristics of technology (perceived ease of use, perception of risk, compatibility, and observability). Innovation diffusion theory aligns environment and strategic variables, i.e. technological characteristics plus organizational ICT, government support, complexity, and level of innovativeness. Buyer is a driving factor for e-commerce adoption (Rayed, Nguyen and Jones, 2013; Maduku, Mpinganjira and Duh, 2016), and m-commerce (Alrawabdeh, 2014). The results of the study conducted by Iddris (2014) have shown that the lack of demand from consumers is a significant obstacle for companies to adopt e-commerce. Similarly, the study by Theodosiou and Katsikea (2012) has revealed that the power of buyers has a noteworthy influence on the intensity of e-business use. Cost is an important variable, which is interpreted as the sacrifice incurred to access technology, in this case, e-commerce. Cost is also viewed from the value obtained by users compared to costs incurred (Chong, 2013). Cost is an important factor in determining its adoption by potential users (Ong et al., 2008). The cost of adoption is a notable factor influencing e-commerce adoption decisions (Effendi et al., 2020). The highest cost of information system adoption is the availability of resources, the presence of skilled personnel, and technical infrastructure (Bordonaba-Juste et al., 2012).

Furthermore, previous studies by Huy et al. (2012); Ghobakhloo and Tang (2013); and Rayed, Nguyen and Jones (2013) reported a significant influence between competition with the decision to adopt e-commerce. Similar findings were also conveyed by Alrawabdeh (2014) that competition is a consideration for entrepreneurs to adopt m-commerce. Further, the study by Chong and Olesen (2017) and Isa and Alenezi (2022) demonstrated that competitor pressure influences the decision to adopt information technology. Another factor influencing the decision to adopt technology is the size of the company (Zhu et al., 2003). The larger the size of the company, the more likely it is to embrace innovation. Such findings of the studies by Li et al. (2010) and Huy et al. (2012) reported that company size influences adoption decisions. Small business is one of the

major factors hindering a company's adoption of Internet technology. Large companies have the resources and infrastructure to facilitate the adoption of innovation. Small businesses, on the contrary, are less likely to adopt e-commerce due to frequent resource deficiency, financial limitations, lack of professional expertise, and more understanding of external forces. This is in line with the use and adoption rate of new Internet technologies, which is highly dependent on the size of the company. Then, the research by Fatima (2019); Sanchez-Torres and Juarez-Acosta (2019); Yeni and Yasri (2020) reported that organizational readiness affects e-commerce adoption. Elevated readiness of a company will increase the adoption of e-commerce. The greater the company's financial support, readiness to accept technological developments, and strong commitment can increase e-commerce adoption. According to Pearson & Grandon (2005) the main difference between technology adopters and non-adopters is organizational readiness. SME owners and managers base organizational readiness on environmental conditions that influence individual technology adoption decisions.

Other research has indicated that relative advantages can drive whether the benefits gained by adopting an innovation outweigh previous innovations. Companies will adopt an innovation if it is believed to increase efficiency, effectiveness, and economic achievement (Alam et al., 2007; Lin & Chen, 2012; Rogers, 1983). Relative advantage is a significant factor in e-business assimilation (Li et al., 2010). Corresponding to these findings, the results of the studies by Chong and Olesen, (2017) and Isa and Alenezi, (2022) also reported that relative advantage is a predictor of information technology adoption decisions. Then, Marhadi et al. (2019) and Ong et al. (2020) stated that the perception of ease of use is a major factor in the decision to use e-commerce. The perception of ease-of-use influences decisions about e-marketing adoption. The perceived ease is also expected to influence the use of social media marketing (El-Gohary, 2012). Research results (Md Ali, Nik Mat and Md Ali, 2015; Singh, Sinha and Liébana-Cabanillas, 2020) also showed that effortlessness of use is a predictor of e-commerce adoption. Research conducted by Abrahão, Moriguchi and Andrade (2016) found that risk perception negatively influences the decisions to adopt mobile payment. A similar finding was reported by Martins, Oliveira and Popovič (2014) that risk perception is an obstacle to the adoption of Internet banking by students. Small-scale businesses generally have high concerns about risk. Financial factors are one of the risks when it comes to making decisions about adopting innovations (Ghobakhloo & Tang, 2013). Similar findings by Huy et al. (2012) and Verkijika (2018) also showed that risk is an important predictor of e-commerce adoption. Observability is another important factor; it is the relative visibility of successful cases and practices. When the benefits of an innovation are seen by others, it helps increase adoption rates (Rogers, 2003). A company will only adopt a technology if it is proven to show benefits over existing technology (Lin & Chen, 2012). Alam et al. (2007) also explained the significant influence of observability on e-commerce adoption and findings (Tan et al., 2009) i.e. that observability influences ICT adoption decisions. Compatibility also serves as a significant factor affecting the use of technology within a company (Ainin et al., 2015; Alam et al., 2007; Kwabena et al., 2021). With today's technological infrastructure, it is very compatible for someone to adopt technology. Preceding studies reported a significant influence of compatibility on the decision to adopt information technology, e-commerce Chong and Olesen (2017), innovation of environmental management practices, (Alam et al., 2007; Ho & Lin, 2012), and e-marketing (El-Gohary, 2012).

Various studies show that complexity influences adoption decisions (Ahmad, Abu Bakr & Ahmad, 2019). In his research, Huy et al. (2012) conveys that if a manager considers a technology too complex, the company will not use it. The results of previous studies suggest that complexity negatively affects the decision to implement innovative environmental management practices (Ho & Lin, 2012) and the adoption of information technology (Chong & Olesen, 2017). Relatively weak ICT mastery is a common problem in SMEs. If SME owners or managers have adequate skills in ICT, they will be more confident in adopting e-commerce (Rahayu & Day, 2015). ICT mastery is a predictor of SMEs' e-commerce adoption (Sanchez-Torres & Juarez-Acosta, 2019). Limited mastery of ICT including weak staff knowledge about IT, lack of computer literacy, and limited skills are significant obstacles to e-commerce adoption (MacGregor & Vrazalic, 2005). Government support is a factor that increases motivation to adopt a technology (Huy et al., 2012). Alrawabdeh (2014) reported that government support in the form of infrastructure or promotion is a consideration for companies to adopt m-commerce. Ho and Lin (2012) suggest that government support, such as technical training, financial support, and human resource training, has a positive effect on the decision to implement innovative environmental management practices. Finally, the level of innovativeness is the rate at which a person adopts an innovation faster than others who are in the same social context. The more innovative the owner or manager of an SME, the greater the desire to adopt e-commerce (Ghobakhloo and Tang, 2013). This is in line with the report of Al-qirim (2007); Ghobakhloo, Arias-Aranda and Benitez-Amado (2011); and Rahayu and Day (2015) that innovativeness affects e-commerce adoption. Referring to the results of the previous studies, the current study determines the following hypotheses.

H_1: *Buyer positively influences e-commerce adoption*.

H_2: *Costs negatively affect e-commerce adoption*.

H_3: *Competitor behavior positively affects e-commerce adoption*.

H_4: *Size of SMEs has a positive effect on e-commerce adoption.*

H_5: *Organizational readiness positively affects e-commerce adoption.*

H_6: *Relative advantages positively affect e-commerce adoption*.

H_7: *Perceived ease of use positively influences e-commerce adoption.*

H8: *Perceived risk negatively affects e-commerce adoption.*

H9: *Observability of e-commerce benefits positively affects e-commerce adoption.*

H10: *Compatibility positively affects e-commerce adoption*.

H11: *Complexity negatively affects e-commerce adoption.*

H12: *ICT mastery has a positive effect on e-commerce adoption.*

H13: *Government support positively affects e-commerce adoption.*

H14: *Innovativeness positively affects e-commerce adoption.*

2.2. The Effect of E-commerce Adoption on Business Performance

E-commerce use can improve business performance. Higher e-commerce adoption will lead to greater achievement of business performance (Mahliza, 2019). This finding is in line with the report of Noviani Hanum and Sinarasri, (2018) and Alderete (2019) that the adoption of e-commerce affects SME's performance. The results of a former study (Jahanshahi et al., 2012) show that the adoption of e-commerce affects production/operational performance. Operational performance can be measured by sales, the introduction of new production, quality of products/services, marketing effectiveness, and customer satisfaction (Combs, Crook and Shook, 2004). The conclusion of study by Sombultawee (2020) indicates a significant influence of e-commerce adoption on financial performance. Financial performance is an opportunity because of the implementation of e-commerce. The financial performance of a company can be seen from profitability, growth, cash flow, and efficiency. The findings reported by Jahanshahi et al. (2012) confirm that e-commerce adoption affects marketing performance. Marketing performance can be measured by stock returns, market value added, and capital turnover. Referring to these findings, the present study formulates the following hypotheses.

H15: *E-commerce adoption positively affects business performance.*

H16: *E-commerce adoption positively affects operational performance.*

H17: *E-commerce adoption positively affects financial performance.*

H18: *E-commerce adoption positively affects marketing performance.*

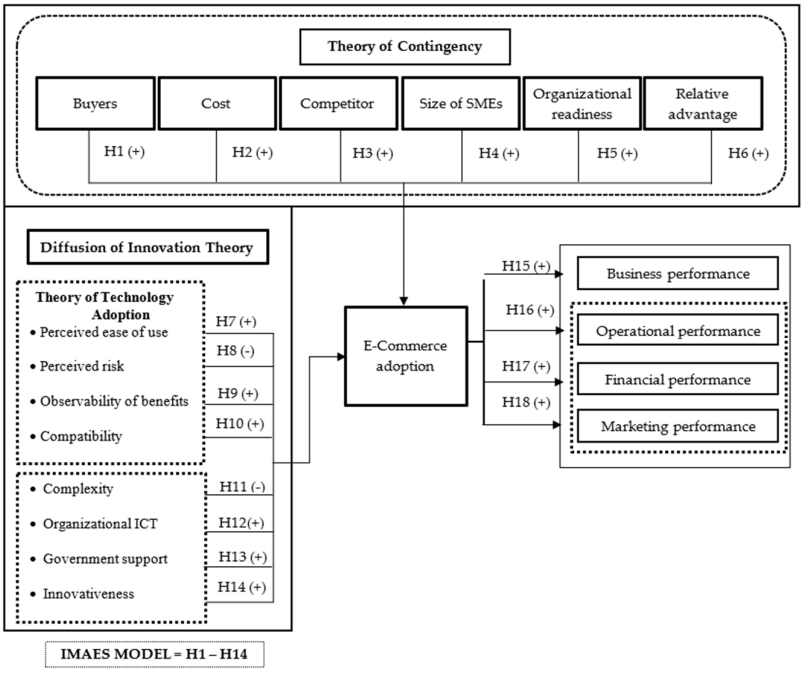

Fig. 1. Research Model

3. Methodology

3.1. Basic Method

This study applied a quantitative research design using cross-sectional data. The quantitative approach was carried out by testing objective theories by looking at the relationship between variables (Creswell and Creswell, 2018). This study aimed

to examine the influence of motivational factors of e-commerce adoption and scrutinize the effect of e-commerce adoption on business performance.

3.2. Sample and Data Collection

The samples of this study were traditional drink SMEs in the Special Region of Yogyakarta (DIY). The samples consisted of 330 respondents considering that the variable and sample ratio was 1:15, as suggested by Hair (Hair et al., 2018). DIY has 1,000 traditional drink SMEs spreading across five regencies/cities. The distribution of the number of samples per region was carried out proportionally based on the number of SME populations per regency/city. On this basis, the sample composition for each region/city is as follows.

Table 1
Population and Sample

Regency/City	Number of MSMEs	Number of Samples
Bantul	537	177
Gunung Kidul	230	76
Sleman	141	47
Yogyakarta City	64	21
Kulonprogo	28	9
Total	1,000	330

The sample criteria are traditional drink SMEs that have minimally adopted e-commerce over the past year. Data was gathered through surveys by interviewing SME owners directly. Survey technique aims to provide quantitative or numerical descriptions of trends, attitudes, or opinions of populations by studying samples from those populations (Creswell & Creswell, 2018). The data collection tool structured questionnaires that had been prepared and tested for validity and reliability. Measurements were made with five Likert scales ranging from strongly disagree to strongly agree (Mumu et al., 2022).

3.3. Data Analysis Methods

The data were analyzed using Structural Equation Modeling (SEM). This is a statistical method that takes a confirmation approach, namely hypothesis testing for structural theory analysis related to several phenomena (Byrne, 2016). Partial Least Square (PLS) was used to examine the relationship between complex variables with many indicators (Hair et al., 2019). According to Garson, PLS is the most appropriate technique for making predictions (Garson, 2016). Garson also stated that PLS does not demand that research data must be normally distributed. Furthermore, PLS is highly appropriate to test existing theory development models. This study examined integrated models, namely the IMAES model and organizational performance.

4. Results

4.1. Result of Outer Model Test

The data analysis phase began by testing the validity and reliability of the data. To measure validity, the Average Variance Extracted (AVE) indicator was used. The AVE value is said to meet the requirements if it is more than 0.5. To measure reliability, Cronbach Alpha and Composite Reliability indicators were employed. The recommended CA and CR values are more than 0.7 (Hair et al., 2018). Table 2 presents AVE, CA, and CR values.

Table 2
Validity and Reliability Test Results

Variable	AVE	Information	Cronbach Alpha	Composite Reliability	Information
Business performance	0.626	Valid	0.852	0.893	Reliable
Buyers	0.706	Valid	0.897	0.923	Reliable
Compatibility	0.726	Valid	0.906	0.930	Reliable
Competitions	0.813	Valid	0.894	0.928	Reliable
Cost	0.613	Valid	0.792	0.863	Reliable
E-commerce adoption	0.720	Valid	0.922	0.939	Reliable
E-commerce complexity	0.953	Valid	0.988	0.990	Reliable
Financial performance	0.762	Valid	0.922	0.941	Reliable
Government's support	0.838	Valid	0.952	0.963	Reliable
Innovativeness	0.779	Valid	0.929	0.946	Reliable
Marketing performance	0.594	Valid	0.783	0.854	Reliable
Observability of benefits	0.785	Valid	0.931	0.948	Reliable
Operational performance	0.617	Valid	0.795	0.865	Reliable
Organizational ICT	0.647	Valid	0.872	0.901	Reliable
Organizational readiness	0.788	Valid	0.910	0.937	Reliable
Perceived ease of use	0.861	Valid	0.959	0.969	Reliable
Perceived risk	0.721	Valid	0.902	0.928	Reliable
Relative advantage	0.637	Valid	0.884	0.913	Reliable
Size of SMEs	1.000	Valid	1.000	1.000	Reliable

Sources: Primary Data Analysis, 2023.

The results of the validity test disclosed that all data were valid. This indicated the AVE value of each variable was more than 0.5. Furthermore, the reliability test results showed that all data were reliable. This is supported by the value of Cronbach Alpha and Composite Reliability of each variable of higher than 0.7. Thus, data analysis could proceed to the next stage, namely the inner model test.

4.2. Result of Inner Model Test

The structural model was assessed using the R-squared for the dependent construct. Assessing a model with PLS began by looking at the R-squared for each dependent latent variable. Changes in R-squared values can be used to assess the effect of a particular independent latent variable on the dependent latent variable. The value of the coefficient of determination was between 0 and 1. If the value of the coefficient of determination with the criterion is 0.67; 0.33 and 0.19, the model is considered strong, moderate, and weak, respectively. Table 3 presents the results of the R-squared values. The relationship between latent variables can be evaluated by looking at the Q-squared. Q-squared aims to measure how well the observation values are produced by the model and the estimation of its parameters (Ghozali, 2014).

Table 3
Model Summary

Variable	R^2	Q^2	Information
Business performance	0.246	0.171	Weak; having predictive relevance
E-commerce adoption	0.548	0.325	Moderate; having predictive relevance
Financial performance	0.253	0.182	Weak; having predictive relevance
Marketing performance	0.219	0.144	Weak; having predictive relevance
Operational performance	0.217	0.145	Weak; having predictive relevance

Sources: Primary Data Analysis

Referring to the R^2 values, two variables had a moderate coefficient of determination, namely e-commerce adoption (54.8%), meaning that the e-commerce adoption variable could be explained by 54.8% by its independent variables, including buyer, cost, competitor behavior, size of SMEs business, organizational readiness, relative advantage, perception of convenience, risk perception, benefit observability, compatibility, complexity, IT organizational, government support and level of innovativeness. A total of 45.2% was explained by other variables outside the study model. Other dependent variables have weak predictive relevance which is the R2 value for business performance (24.6%); financial performance (25.3%); operational performance (21.7%) and marketing performance (21.9%).

4.3. Results of Hypothesis Test

The criteria used in hypothesis testing are a significance level of 5% and a p-value of smaller or equal to 0.05. If the p-value is less than equal to alpha (α), then the proposed research hypothesis is declared accepted. Meanwhile, if the p-value is more than equal to alpha (α), then the proposed research hypothesis is rejected. The hypothesis testing results are provided in Table 4.

Table 4
Hypothesis Test Results

Hypothesis	Path coefficient	T-statistic	P-values	Note
Buyers → E-commerce adoption	0.113	1.994	0.047	S
Compatibility → E-commerce adoption	0.129	2.250	0.025	S
Competitions → E-commerce adoption	0.079	2.046	0.041	S
Cost → E-commerce adoption	-0.049	1.100	0.272	NS
E-commerce complexity → E-commerce adoption	-0.097	2.142	0.033	S
Government's support → E-commerce adoption	0.020	0.452	0.651	NS
Innovativeness → E-commerce adoption	0.179	4.004	0.000	S
Observability of benefits → E-commerce adoption	0.101	2.162	0.031	S
Organizational ICT → E-commerce adoption	0.180	3.387	0.001	S
Organizational readiness → E-commerce adoption	0.120	2.074	0.039	S
Perceived ease of use → E-commerce adoption	0.092	2.174	0.030	S
Perceived risk → E-commerce adoption	-0.128	3.060	0.002	S
Relative advantage → E-commerce adoption	0.141	2.720	0.007	S
Size of SMEs → E-commerce adoption	0.028	0.760	0.447	NS
E-commerce adoption → Business performance	0.496	14.387	0.000	S
E-commerce adoption → Financial performance	0.503	15.405	0.000	S
E-commerce adoption → Marketing performance	0.467	13.849	0.000	S
E-commerce adoption → Operational performance	0.466	11.927	0.000	S

Note: S = Significant NS=Non Significant

5. Discussion

5.1. Motivational Factors of E-Commerce Adoption

The results of the significance test showed that variables with a substantial influence on e-commerce adoption include buyer, competitor behavior, relative advantage, organizational readiness, perceived ease of use, perception of risk, observability of

benefits, compatibility, complexity, organizational ICT, and level of innovativeness. In other words, H1, H3, H5, H6, H7, H8, H9, H10, H11, H12, and H14 were accepted. Three variables did not affect e-commerce adoption, namely cost, size of SMEs, and government support (H2, H4, and H13 were rejected). Traditional drink SME's e-commerce adoption is influenced by buyers. These findings support previous studies (Maduku, Mpinganjira & Duh, 2016; Lim, Baharudin & Low, 2017). Traditional drink consumers want SMEs to use e-commerce to interact easily and have a pleasant shopping experience. Consumers also want SMEs to use e-commerce because consumers perceive SMEs as more innovative in running a business. Competitor behavior in the traditional drink business influences SMEs' decision to adopt e-commerce. This finding is in line with the report of Chong and Olesen, (2017). Increasingly fierce competition encourages SMEs to improve the ease and speed of service to consumers, namely by providing e-commerce as a medium of transaction and communication. Organizational readiness is a driving factor for traditional drink SMEs to adopt e-commerce and this is in line with the reports of previous studies (Fatima, 2019; Sanchez-Torres & Juarez-Acosta, 2019; Yeni & Yasri, 2020; Isa & Alenezi, 2022). SMEs are financially ready, prepared to face risks, committed, and equipped to follow the development of e-commerce technology. Relative advantage is a motivating factor for traditional drink SMEs in adopting e-commerce. These results are not in line with the reports of Chong and Olesen (2017), Alrousan et al. (2020), and Isa and Alenezi (2022). Traditional drink SMEs use e-commerce driven by several advantages such as business process efficiency, increasing consumer satisfaction, marketing efficiency, getting potential customers, strengthening relationships with customers, and providing greater business opportunities. Ease of use is also a consideration for traditional drink SMEs in adopting e-commerce. These findings support previous studies (Md Johar and Ahmad Awalluddin, 2011; Marhadi et al., 2019; and Ong et al., 2020). According to SMEs, e-commerce is easy to learn and use, and therefore, it is not difficult to become skilled in using it. Communicating using e-commerce is also flexible. Traditional drink SMEs consider risk perception in deciding to adopt e-commerce. These findings align with the outcomes of previous studies (Abrahão et al., 2016; Verkijika, 2018). SMEs are concerned about data privacy, the security of banking activities online, hackers, and legal regulatory doubts in the event of a virtual crime. The observability of e-commerce benefits significantly determines traditional drink SMEs' adoption decisions. The results of this study support the findings of previous studies (Sanchez-Torres and Juarez-Acosta, 2019; Sánchez-Torres, Berrío and Rendón, 2021; Nguyen, Le & Vu, 2022). SMEs consider that using e-commerce can increase sales volume, complete work faster, business operations run easier and increase business productivity. Compatibility is a significant reason in e-commerce adoption. These findings are in line with (Chan & Lee, 2021; J. Chong & Olesen, 2017; Nguyen et al., 2022; Sanchez-Torres & Juarez-Acosta, 2019). Traditional drink SMEs consider that the way e-commerce works is as desired, in line with its business culture, in line with the expectations of business partners, and can integrate into their business routine. On the other hand, the complexity of e-commerce negatively affects e-commerce adoption. The more complex technology will decrease interest in adoption. This is in line with the findings (Chong & Olesen, 2017; Ahmad, Abu Bakr & Ahmad, 2019; Alrousan et al., 2020). SMEs will not adopt e-commerce if it is difficult to learn, difficult to use, and frustrating.

SMEs' organizational ITC is also a determining factor in e-commerce adoption. This is because e-commerce adoption requires the availability of hardware such as laptops/PCs or smartphones, the availability of internet access facilities such as Wifi/internet credit packages, and adequate internet network quality. This finding is supported by the results of previous studies (Rahayu & Day, 2015; Sanchez-Torres & Juarez-Acosta, 2019; Alrousan et al., 2020). Innovation level drives e-commerce adoption. This finding is consistent with the outcomes of previous studies (Rahayu and Day, 2015; Noyola-Medina, Pinzón-Castro and Maldonado-Guzmán, 2018; Sanchez-Torres and Juarez-Acosta, 2019; and Chan and Lee, 2021). SME managers or owners who have original ideas, desire to create something new, and are different from competitors have a tendency to adopt e-commerce. Innovative managers will be challenged with innovations that benefit their business. Some findings that differ from the results of previous studies are that government support, cost, and size of business do not have a significant effect on e-commerce adoption. Respondents did not rely on government support to adopt e-commerce. This finding is not in line with the results of the prior study by Awiagah, Kang and Lim (2016) that government support influences SMEs' e-commerce adoption in Ghana. Furthermore, cost has no effect to traditional drink SMEs' e-commerce adoption. This is because the cost of access and learning about e-commerce operations is not a burdensome obstacle for SMEs. Many providers are offering various rate options to access the internet. Most traditional drink SMEs also operate their e-commerce accounts so there is not much spending on e-commerce. Lastly, the size of SMEs does not affect e-commerce adoption. Traditional drink SMEs, the majority of which are micro-scale, have proven to dominate as e-commerce adopters compared to small and medium-scale businesses. E-commerce is no longer an innovation that can only be reached by middle-to-upper-scale entrepreneurs. Micro-scale entrepreneurs can adopt e-commerce with interest, commitment, and strong efforts.

5.2. The Effect of E-Commerce Adoption on Business Performance

E-commerce adoption affects business performance, as indicated by a significant value of 0.000. E-commerce adoption also has a significant contribution to operational performance (p value of 0.000), financial performance (p value of 0.000), and marketing performance (p value of 0.000). This suggests that e-commerce adoption will be able to improve overall business performance and operational performance, financial performance, and marketing performance specifically. These findings are consistent with the previous studies (Alderete, 2019; Mahliza, 2019; Sombultawee, 2020). Traditional drink SMEs consider that business performance, including operational, financial, and marketing performance, has improved after using e-commerce. E-commerce increases revenue as well as expands market share, consumer satisfaction, and business image. In terms of operational performance, e-commerce encourages SMEs to pay more attention to product innovation, product quality, and

services. In terms of marketing performance, e-commerce can increase market share and consumer loyalty. In terms of financial performance, e-commerce can increase business transactions, turnover, profits, and accelerate returns on capital.

6. Conclusion and Future Research

E-commerce adoption is influenced by several factors, including buyer, competitor behavior, relative advantage, organizational readiness, perceived ease of use, risk perception, benefit observability, compatibility, complexity, organizational ICT, and innovativeness level. E-commerce adoption can drive business performance, specifically operational performance, financial performance, and marketing performance. Traditional drink SMEs should be open to e-commerce innovation because it offers numerous benefits and is simple to learn and use. Traditional drink SMEs should be sensitive to external environmental conditions, including increasingly fierce competition and consumer demands for the ease and effectiveness of shopping. The availability of IT access facilities to SMEs is mandatory, both hardware and software as a basic means for e-commerce adoption. Owners must maintain an adequate level of innovation so as not to be left behind in the development of e-commerce technology. SMEs should also have good financial readiness and commitment to adopting e-commerce. In the context of e-commerce adoption, traditional drink SMEs do not rely on government assistance. It means that there is already independence in e-commerce adoption efforts. The cost of e-commerce access is not an obstacle for SMEs and learning e-commerce can be done independently or with the help of family members or fellow SMEs. The results of this study differ from the findings of (Sánchez-Torres, Berrío and Rendón, 2021) as the originators of the IMAES model. This study showed only four (out of fourteen factors) significantly influencing the adoption of e-commerce in Colombia, namely relative advantage, managerial characteristic, observability, and customer pressure. On the contrary, the results of this study provide optimism and hope that the adoption of e-commerce in Indonesia can continue to be increased with eleven motivations, namely buyer encouragement, competitor behavior, relative advantage, organizational readiness, perceived ease of use, risk perception, benefit observability, compatibility, complexity, organizational ICT, and innovativeness level. For future studies, this research model can be used to examine the adoption and prediction of continuous use of e-commerce in SMEs in other countries, especially in developing countries with diverse potential and characteristics. The characteristics of SMEs, technological factors, and external environmental conditions that differ in each country will provide a different picture of results than in Indonesia.

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