



The Communication Channels and the Innovation Perception on The Adoption of E-Commerce in Micro, Small Medium Enterprises (MSMEs)

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ABSTRACT: The number of MSMEs products sold through e-commerce in Indonesia is considered insignificant, therefore, proper strategies are needed to increase the adoption of e-commerce. The purpose of this study is to explore the communication channels and the innovation perceptions on e-commerce adoption in MSMEs. A qualitative approach and a case study method are used. The analysis consists of four medical device retailers, with observation and in-depth interviews as the data collection, and an implementation of a thematic data analysis technique. The communication channels that influence the adoption of e-commerce innovation technology are mass media, interpersonal communication, and interaction communication using the internet network. The indicators of the perceived innovation that influence adoption are relative advantages (e-commerce has broad market access, and provides a system for sales, payment, delivery, communication, marketing, and promotion), compatibility (e-commerce supports business activities according to retailers' daily habits and norms), complexity (retailers can create and manage online stores, upload and manage product inventories, and process online transactions), trialability (retailers can learn customer profiles, requirements, policies, costs, and functions), observability (retailers can evaluate sales performance, costs, competition among retailers, reviews and ratings).

Keywords: Adoption, Innovation, E-Commerce, Perception of Innovations, Communication Channels



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INTRODUCTION

Micro, small, and medium-sized enterprises (MSMEs) play an important role in production activities and poverty alleviation since they provide employment and support the income for the poor (Hoque et al., 2016). In addition, the enterprises contribute to the implementation of 17 targets of the Sustainable Development Goals (SDGs), particularly the first target in SDGs

(poverty alleviation), and the eighth target (ensuring the availability of livelihoods and the economic growth) ([United Nations Department of Economic and Social Affairs, 2019](#)).

With the advancement of technology, people are switching their buying and selling activities to e-commerce. As a consequence, traditional MSMEs are losing their potential sales and revenue. The traditional enterprises are under a serious threat since they do not make good use of the opportunities, thus the old system of MSMEs are unable to compete in an increasingly digital and online market ([Mazzarol, 2015](#)). A number of studies have been defining e-commerce and emphasizing its advantages. ([Goyal et al., 2019](#)) stated that e-commerce is a trading of either goods or services on the internet (online), and is one of the five important aspects the internet offers: sharing information, using technology, buying and selling things, making payments, and competing with others. ([Alzahrani, 2019](#)) argued that E-commerce refers to the buying and selling of items with the utilization of the technology by which new ideas and plans to solve business problems and to improve overall company efficiencies take place. As ([Dahbi & Benmoussa, 2019](#)) mentioned, in today's competitive business world, e-commerce is seen as a crucial factor for achieving success and growth . ([Adam et al., 2020](#)) added that e-commerce with its internet worldwide can be utilized for buying and selling things, including the after-sales services once a purchase has been done. Moreover, ([Gu, 2022](#)) explained further that e-commerce means doing business online using the Internet and the World Wide Web, where an exchange of information is done electronically, and people buy and sell things using digital data like text, sound, and pictures. ([Ulas, 2019](#)) highlighted e-commerce as all kinds of commercial activities done electronically . E-commerce is a helpful way to minimize the economic gap among countries worldwide. Additionally, it is a way to sell and deliver products and services online ([Villa et al., 2018](#)). ([Xing, 2018](#)) emphasized that e-commerce is a strategy to share business information, to build and maintain business connections, and to involve in business transactions using the internet. Other studies define e-commerce as business activities with the help of telecommunication networks used to share information, to build relationships, and to do transactions. In other words, it is all about using technology to connect and do business ([Miler et al., 2021](#)). ([Li & Sun, 2020](#)) described e-commerce as doing business with others without making a face-to-face interaction, yet the transactions and connection is replaced by an electronic communication. Lastly, ([Smith et al., 2019](#)) mentioned e-commerce as an electronic business since the buying and selling is conducted online, with internet as the supporting medium.

The results of the 2021 E-commerce Survey in Indonesia, conducted by the Central Bureau of Statistics (BPS), indicate that of all enterprises where the data survey was conducted, only 25.92 percent of enterprises were engaged in e-commerce activities as of December 31, 2021, compared to June 30, 2021, which was about 25.25 percent . This shows that despite an increase, the number of businesses taking orders or selling goods/services over the Internet in Indonesia is relatively small and are still dominated by the conventional types of transactions ([BPS, 2021](#)).

It is likely that the low adoption to e-commerce in MSMEs is triggered by the information gaps and the unavailability of sufficient information. Apparently, some MSMEs do not have adequate access to information such as the benefits, the procedures, and the steps needed to adopt e-commerce. Therefore, they are hesitant and reluctant to implement e-commerce in their business. Mbuyisa dan Leonard (2017) explains that the use of information and communication technology

can bridge the information gap among MSMEs. A smooth access to information helps reduce the cost and increase the communication speed. It is obvious that the use of information and communication technology plays a crucial role in bridging the information gap in businesses and in increasing the speed of service delivery to consumers.

The need for effective strategies in encouraging the adoption of e-commerce technology innovations among MSME owners should be facilitated. One strategy is the application of innovative communication. Innovative communication is a communication process aimed to introduce, to communicate, and to increase the adoption of innovations in technology. Innovation communication is a process in which an innovation is communicated through certain channels over time among people in a social system ([Rogers, 2003](#)). Innovation in communication influences the dissemination of information about e-commerce so that it can change the attitudes and behaviors of MSMEs to adopt e-commerce in a business. This research refers to Rogers' innovation diffusion theory which explains the process of how innovation is delivered (communicated) through certain channels over time to a group of members of a social system. Diffusion is a form of communication specifically related to the spread of messages in the form of new ideas ([Rogers, 2003](#)).

Diffusion of innovation is the process by which an innovation is communicated through specific communication channels over a period of time and among members of a social system. The four main elements are innovation, communication channels, time, and social system. Communication channels are how messages are sent and received from one individual to another. They serve as media to utilize communication among individuals, groups, or organizations so messages are transmitted. The nature of the information exchange between a pair of individuals determines the conditions under which the source will or will not transmit the innovation to the recipient and the effect of the transfer. Communication channels play an important role in the five stages of the innovation-decision process, from seeking initial information about the innovation, determining attitudes towards the innovation, making a decision to adopt or reject the innovation, implementing the new idea, to confirming the decision ([Rogers, 2003](#)). According to [Setyawan \(2017\)](#), the type of communication channel used plays an important role in adopters' decisions to accept or reject technological innovations. [Rogers \(2003\)](#) describes three kinds of communication channels that can be used in the innovation diffusion process, namely mass media channels, interpersonal communication, and interactive communication.

[Silviani \(2020\)](#) explains that perception takes place when a person receives a stimulus from the outside world, captured by the organs and have it transferred into the brain. This is a stage of a thinking process where an understanding is ultimately materialized, and this referred to as perception. Thus, perception is a process of knowing something through an individual's five senses. Communication activities are a transactional process that emphasizes the importance of perception among the participants. Perception is the core of communication since a wrong perception results in an ineffective communication. The higher the degree of similar perception between individuals, the easier and more frequent they will communicate. As the core of communication, perception may create differences in individuals' understanding towards the message conveyed. Therefore, the goal in an effective communication can only be achieved if the two parties involved have the same perception or understanding.

The characteristics of an innovation greatly influence whether or not the innovation will be accepted by the recipients. [Rogers \(2003\)](#) argues that the perception of innovation depends on the characteristics of the innovation itself. He further explains that there are five characteristics in the perception of innovation: relative advantage (how much the innovation is considered better or more profitable than previous innovations or ideas), compatibility (the extent to which the innovation is considered consistent with the values, past experiences, and needs of the recipient), complexity (how difficult the innovation is to be understood and used by the recipient), trialability (the ability of the innovation to be tried on or tested from a small scale), and observability (the extent to which the results of innovation can be seen by others).

Based on the explanation, this study aims to explore the communication channels and the innovation perception on the e-commerce adoption in MSMEs.

METHOD

This is a qualitative research, where descriptive data from the writing, speech, or behavior of the people observed are produced ([Fiantika et al., 2022](#)). A case study, which is a series of scientific activities carried out in a detailed, intensive, and in-depth method about a program, activity, and event, either at the level of an individual, group of people, organization or institution is implemented. To gain in-depth knowledge about the event, the selected event, hereinafter referred to as the case is an actual thing (real-life events), which is ongoing, not something that has passed ([Ridlo, 2023](#)). A qualitative case study is a research method to investigate a specific phenomenon in a particular setting by using different sources of information. It examines the phenomenon from different perspectives to uncover various aspects or sides of it ([Rashid et al., 2019](#)).

The informants in this study consisted of four MSME actors who sell medical devices. The data collection techniques are conducted through observation and in-depth interviews, using the Miles and Huberman model which comprises data reduction, data display, and conclusion or verification making ([Howley, 2022; Lawrence & Tar, 2018; Miles et al., 2018; Verma & Bhattacharyya, 2017](#)).

RESULTS AND DISCUSSIONS

Communication channels on adopting e-commerce innovation technology of medical device retailers in traditional markets.

1. Mass Media

a) Television

From the interviews with four medical device retailers in the traditional markets, it can be indicated that television has the ability to inform retailers about e-commerce. TV reaches a large number of viewers including medical device retailers in traditional markets. Retailers spend a lot of time at work, and television is often a source of information and entertainment for them when they get

home. Retailers can instantly get information on how to market through television. They can also learn about payment, delivery, and ordering methods.

Moreover, retailers watch various television programs such as advertisements, news, entertainment, or talk shows. TV advertisements frequently screen a particular promotion or offer certain products, one of which is from e-commerce platforms such as Shopee or Tokopedia. The airtime of such advertisements is usually short. In addition, the interesting music, sound and narration can attract more viewers. Retailers might be inspired to use e-commerce for the next marketing of the products.

Besides the TV commercials on e-commerce, other programs such as talk shows where experts in the related field, successful online retailers, or well-known figures in e-commerce industry discuss experiences, tips, strategies, and developments regarding online shopping are as beneficial. Such programs give the opportunities for retailers to broaden their horizons regarding the potential and benefits of selling medical devices online.

This concludes that television encourages medical device retailers in traditional markets to use e-commerce. Television reaches a wider scope of community in the countryside through advertisements, news, talk shows, or other programs. With the spread of information on television, it is expected that retailers understand the benefits of e-commerce and the potential it has, thus, switching the business from the conventional way of selling products to implementing e-commerce platform.

From the given explanation, it can be also be emphasized that television has an impact on innovation adoption, and this is in line with the studies by [Abebe et al. \(2013\)](#) and [Danso-Abbeam et al. \(2017\)](#) which show the positive effect of television on the innovation adoption.

a) Online Newspapers

The medical device retailers realized that online newspapers such as detik.com and kompas.com are easily accessible. They just need to click the article links to get more information about e-commerce and spread the news to friends, relatives, or other retailers since online mass media can be connected to social media. With the help of smartphones, online newspaper is accessible anywhere, anytime, and suited to the readers' convenience. Besides, the news is usually updated and supported by videos, photos, and text. The easy-to-understand message delivery in which the advantages of using e-commerce, the policies or regulations related to MSMEs and the other related information are highlighted motivate the retailers to consider using e-commerce to boost sales.

Online newspapers is another type of communication channel which may trigger the medical device retailers in traditional markets to adopt e-commerce. The wide coverage for both urban and rural areas, the integration with social media, the interesting content supported by text, photos, videos, images, and the latest development in diverse sectors they provide will be worth considering.

Thus, the above explanation emphasizes the positive influence of mass media on innovation adoption, as reflected in researches by [Suhaeti et al., 2016](#); [Tran & Corner \(2016\)](#) which stated that mass media communication channels have a significant effect on innovation adoption decision.

2. Interpersonal Communication

a) Fellow Retailers

The interview results with the medical device retailers indicated that they adopted e-commerce from the information given by fellow retailers. Besides, the adoption of e-commerce systems was obtained after receiving useful information from professionals. Those having used e-commerce for their business agreed that it takes a considerable time, attention and precision to learn how to use e-commerce, yet over time, it gets easier. On daily basis, retailers sell medical devices not only to individual customers but also to the pharmacies. Nevertheless, several downsides of e-commerce transactions are unavoidable. First is the delayed payment from customers, a situation that will not occur in a direct selling. Another issue regarding the implementation of e-commerce is the wrapping. Retailers must ensure that all the goods are neatly and securely wrapped. Finally is the shipping services. Some options such as JNE, SiCepat, or TIKI are the alternatives retailers should select as a direct delivery bears higher cost.

With fellow retailers sharing the importance of using e-commerce in business, retailers can make appropriate decisions and adjustment such as offering products of high demand or urgently needed. During the Covid 19 pandemic for instance, products such as masks, hand-sanitizer, gloves, or vitamins were the most sought-after in the market.

From the above perspectives, it can be concluded that fellow medical device retailers in traditional markets can influence e-commerce adoption. They convey information about the benefits of e-commerce with some proofs such as the possibility of expanding the sales locations, the ease of payment, the availability of sales data facilities, and the systematic and organized logistics and delivery procedures.

b) Family

The interview results regarding how families can encourage medical device retailers in traditional markets to use e-commerce are as follows: during the family informal talk or discussion, a family member explains the advantages of e-commerce if compared to direct transactions through a physical stores. The benefits such as a practical management of e-commerce, a wider scope and a flexible access of 24/7 are addressed as well. Additionally, by emphasizing the possibility in the increase of the sales volume, retailers are expected to employ the system.

The family encouragement is further reflected by the explanation of the attractive features and ease of promotion such as live promotional videos, photos, complete product descriptions, discounts, free shipping and so forth the e-commerce offers. A complete product search system such as where to buy the products, what the maximum expected price is, what the payment methods are and how the products can be delivered is another explanation given.

Moreover, the family added that there are several things to note concerning the importance to choose the right e-commerce based on the merchants' needs. This is crucial to point out since there is normally a percentage of sales shared to e-commerce. A tight competition with other retailers on the services and products offered should be taken into consideration. In addition, the family reminded them to choose only e-commerce that protect the personal data of retailers and buyers. However, there is a drawback of implementing e-commerce in business. In contrast to direct selling, e-commerce lacks personal closeness with retailers, thus the communication for the purpose of explaining about the product, the simulation and the suggestions are limited.

From the explanation given, it can be summarized that there is an effect of interpersonal communication on innovation adoption, and this is in line with the research by Rushendi *et al.* (2016) which states that interpersonal communication channels have a significant effect on innovation adoption decisions.

3. Interactive Communication Through the Internet

a) YouTube

The retailers stated that YouTube can be an effective communication channel for the government to motivate MSME retailers of medical devices to use e-commerce as a means of business improvement. YouTube is a video-based platform that allows governments or particular parties to create engaging and informative content on the use of e-commerce for MSME retailers of medical devices. Videos visualize what the practical steps are, how the products are used, and what benefits gained from the implementation of e-commerce. This powerful visualization will not only motivate but also inspire MSME retailers to adopt e-commerce. YouTube is considered an effective communication channel since a wider scope of viewers, including medical device MSME retailers in various regions can be reached. By presenting relevant and engaging content, the government or private sectors inspire and educate MSME retailers on the benefits of using e-commerce.

There are success stories from entrepreneurs who implement e-commerce platform on YouTube. Viewers sometimes share the video links to social media. It is a chance for the government to utilize YouTube by creating more related content and allowing comments and feedback from the viewers. Moreover, the government or private parties can facilitate an interaction with retailers and answer their questions regarding e-commerce. Through prompt and relevant responses, the government or private sector can help address any concerns or doubts that retailers may have regarding the use of e-commerce. Videos created by the government or private sector are equipped with present data, facts, and practical advice on the use of e-commerce for medical device MSME retailers. The proper knowledge and effective solutions motivate MSME retailers to use e-commerce as a means to improve their business.

Therefore, it can be summed up that YouTube serves as an appropriate communication channel for the government or private sector to drive medical device retailers to use e-commerce. The advantages such as attractive visualizations, wider scope of viewers, more intense connection, more direct feedback and credibility building are what YouTube can give to the viewers. In addition, the utilization of YouTube with e-commerce insights enables both the government and the private

sectors to share information, to inspire, and to educate entrepreneurs on the benefits of using e-commerce. Obviously, YouTube serves as an effective tool in driving e-commerce adoption by medical device MSME retailers and increasing the business potential.

b) WhatsApp

The next interview results are on the widely used communication channel, WhatsApp. Information from WhatsApp reaches medical device retailers in traditional markets quickly and efficiently. Information shared on WhatsApp is in the form of text messages, photos, videos, or other files related to the importance of using e-commerce in selling medical devices, and retailers can conduct question-and-answer interactions with the sender of the message. The group feature between retailers is useful for providing information, strategies, and tips to motivate them to use e-commerce. The WhatsApp broadcast feature allows fellow retailers to send messages in bulk to other retailers at once. Information varies, from the government policies to tips or strategies to utilize e-commerce.

WhatsApp can easily be downloaded by retailers for free onto their mobile phones. This makes access to such communication channel less complicated as medical device retailers generally have limited resources. In addition, using WhatsApp does not require additional costs such as phone calls or SMS.

In conclusion, WhatsApp has several advantages that make it an appropriate communication channel for the government, private sector, and fellow retailers in motivating medical device retailers to use e-commerce. These advantages include the ability for direct communication, group and broadcast features, content sharing media, as well as easy access and low cost. E-commerce information through WhatsApp can reach retailers quickly, with the possibilities of direct support and motivation.

The perceptions of innovation of medical device retailers in traditional markets towards the adoption of e-commerce technology.

a) Relative advantage

The results of an interview with traders at medical device stores in a traditional market regarding the relative advantage of using e-commerce are that in an increasingly advanced digital era, e-commerce has become a very important medium for many retailers. Retailers have access to a wider market, or in other words they can reach buyers all over Indonesia. Additionally, it has the potential to increase sales, since e-commerce provides complete facilities such as various products offered, payment method, and delivery systems. Apart from that, e-commerce provides communication, marketing, and promotional strategies such as special discounts, advertisements, and buyer reviews to increase the trust of buyers and potential buyers. Feedback written by buyers can be positive or negative, but retailers use it to improve services and products. From the feedback, retailers can understand the needs of buyers or customers. Another benefit of using e-commerce is the cost efficiency since such platform does not require suppliers to rent a physical

store and to pay the workers, in addition to time saving policy. This is similar to a research result conducted by [AlBar & Hoque \(2017\)](#) which argued that the relative advantage has a significant influence on innovation adoption.

b) Compatibility

Medical device retailers emphasize that the values, standards, and practices by which they conduct business in a traditional market are very important. These include the quality of products, the quality of customer service, honesty, responsibility, and business activities that are consistent with the market on daily basis. Therefore, retailers will choose e-commerce that adopt these values and standards, since quality is a crucial factor for retailers.

The suitability of choosing e-commerce with the values, norms, and habits of medical device retailers has a significant impact on their business in traditional markets. E-commerce can accommodate and support business practices that are in line with local customs and norms to benefit the retailers. If retailers are committed to give an excellent service to customers, the retailers choose e-commerce that provides flexibility in interactions with customers in order to help maintain and continue their business in an increasingly competitive traditional market. This is in line with a study by [Ekong et al \(2012\)](#) which stated that the relative advantage has a significant influence on innovation adoption.

c) Complexity

The complexity of e-commerce adoption is related to the change in the traditional business paradigm. Medical device store retailers who have been operating in traditional markets for many years must face challenges in adapting to the business shift from physical stores to e-commerce. They must learn to manage technical aspects such as creating and managing accounts, uploading products, organizing product stocks, and handling online transactions. This requires new understanding and technological skills that many traditional retailers might not be familiar with. The right strategy for e-commerce adoption is to create synergy between physical stores and e-commerce. The most successful medical device store retailers in e-commerce adoption are those who see both channels as complementary to each other, rather than as competitors. They use e-commerce as a means to enhance their store's prominence and attract new customers, while the physical store remains an important touch-point and customer service center. With this approach, they can leverage the advantages of both platforms to achieve the optimum growth.

Nevertheless, it is important to point out that e-commerce adoption requires a serious investment of time, resources, and commitment. Medical device store retailers must follow e-commerce rules and policies, monitor the competition, update product information regularly, and maintain their online reputation. Surely it can be both time and energy consuming, especially for those with no prior experience in an online business operation. The conclusion is that e-commerce adoption is a complex process for medical device store retailers in traditional markets. Retailers are faced with a change in business paradigm, increased competition, and technical challenges to overcome. However, e-commerce adoption also provides significant benefits, such as wider access to potential customers, thus sales might increase. With proper approaches, the synergies between physical stores and e-commerce can be created to achieve success in their business. The summary

is in line with Samsudeen et al. (2021) which argued that complexity has a significant influence on innovation adoption.

d) Trialability

Medical device store retailers in traditional markets stated that it is necessary to test the e-commerce before the implementation takes place. The main reason is to ensure the suitability and feasibility of e-commerce for the products and services offered. Each e-commerce has different characteristics and policies, and retailers need to understand how an e-commerce operates and whether it suits their business needs. Moreover, e-commerce has regulations adapted from the government regulations. Testing e-commerce is also important to evaluate the market potential and the level of competition in e-commerce. By testing the market, retailers can see if there is sufficient demand for medical device products in e-commerce. Besides, if the competition is stricter, retailers need to consider various marketing strategies, promotions, and product or brand differentiation so as to remain competitive in online markets.

Furthermore, retailers need to conduct a thorough survey of the e-commerce they intend to use. Beside understanding the requirements, policies, fees, and features offered by the platform, the profile of the existing customers on e-commerce should be taken into consideration, in order to find out whether or not there is sufficient demand for medical device products. Here, retailers can register as users on the selected e-commerce where they observe the online store appearance and settings, as well as the registration process to get a clearer picture of the users' experience. In addition, retailers can test their products on e-commerce by creating a simple product listing while monitoring the responses from potential buyers. By doing so, retailers get ideas regarding customers' demand and response to the products placed on e-commerce.

E-commerce enables retailers to see and study similar competing stores to gain insight on the marketing strategies, the price setting, and other policies for their business improvement. Before fully adopting e-commerce as a primary sales channel, retailers can try selling a limited number of their products as a trial. This allows them to evaluate the effectiveness of e-commerce in generating sales and see if the profits earned are aligned with the costs incurred. In conclusion, medical device store retailers in traditional markets researched the importance of testing e-commerce before using it for their trading ventures. The compatibility of e-commerce with the products and services offered, the evaluation of the potential market and the level of competition in e-commerce are worth considering. This is in line with [Ramdani et al. \(2013\)](#) that testability has a significant influence on innovation adoption.

e) Observability

Retailers realize that e-commerce needs to be observed and evaluated regularly to ensure that it continues to provide the expected benefits and meet the needs of retailers. One way to evaluate e-commerce is by analyzing sales performance. Retailers can see the sales figures, growth, and profitability generated through e-commerce. Such data provide an overview of the extent to which e-commerce contributes to the success of their business. Retailers also need to evaluate the costs and benefits associated with the use of e-commerce. They should pay attention to the advertising costs, transaction costs, and other incurring costs related to such selling with e-

commerce. Similarly, the benefits derived from the increased sales and the operational cost efficiency are the next factors retailers should consider further.

In fact, e-commerce has been used by a number of retailers selling similar products, thus, an evaluation on the competitiveness in e-commerce should be conducted. The marketing strategies, consumers' ratings, comments and complaints provide valuable insights into the product quality, customer service, and improvements that need to be made to enhance the customer experience. Retailers will then decide whether or not to continue the selling activity on e-commerce or even to increase the amount of products offered on e-commerce. The explanation is in accordance with a result of a study conducted by [Manaf et al., \(2019\)](#) which pointed out that observability has a significant influence on innovation adoption.

CONCLUSIONS

From the description given, it can be concluded that mass media (television and online newspapers), interpersonal communication (family and other retailers), and interactive Internet communication (WhatsApp and YouTube) are the communication channels that influence the adoption of e-commerce technology innovations. Meanwhile, the perceptions of innovation that drive the adoption of innovations are a relative advantage (e-commerce has broad market access and provides sales, payment, delivery, communication, marketing, and promotion systems), compatibility (e-commerce supports business activities consistent with daily habits, namely responsibility, maintaining product quality and service), complexity (retailers learn and adapt to creating and managing online stores, uploading and organizing product stock, and handling online transactions), trialability (retailers can learn customer profiles, requirements, policies, costs, and features), and observability (retailers can evaluate sales performance, costs, merchant competition, product reviews, and ratings).

Furthermore, it is suggested that the government and the private sector increase the utilization of mass media, and the interpersonal as well as interactive communication using the internet, considering that mass media such as television and online newspapers have a significant influence on the adoption of e-commerce innovations. In addition, collaboration between the government and the private sectors via mass media should be strengthened to assure the benefits of e-commerce. This can be conducted through the creation of effective campaigns and insightful content about the advantages of e-commerce, thus the retailers' awareness and interests to adopt e-commerce innovation technology can be built. A strong communication network among retailers should be improved, therefore they can share their experiences, successes, and challenges faced in using e-commerce through offline or online meetings, or group discussions.

Strengthening interactive communication through the internet and ensuring continuous active communication of e-commerce information through WhatsApp and Youtube help increase the adoption rate of e-commerce innovations. To minimize the perception of complexity, both the government and the private sector are suggested to provide adequate training and support to retailers. The training covers aspects such as how to operate online stores, how to manage inventory, how to handle online transactions, and so forth. Providing easily accessible resources

and guidance, as well as explaining the benefits and ease of an e-commerce use help minimize the perceived complexity and increase the adoption to innovations.

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