

**Concept paper on the Benefits and Challenges of E-commerce Business:  
A Case Study of Malaysian SMEs in the Collectibles Industry**

Hui Wen LOO (b1301232@helplive.edu.my)  
HELP University, Malaysia

Siew Ming THANG (siewming.t@help.edu.my)  
HELP University, Malaysia

**Abstract**

This study investigates the advantages and challenges faced by two Malaysian e-commerce businesses in the Collectibles industry, based on the Technology-Organization-Environment framework. The research seeks to explore the unique challenges faced by these digital businesses in a highly niche mineral specimens market of the Collectibles industry that has predominantly relied on physical touchpoints (galleries, auction houses, retail stores) since its inception to the present day. Based on a qualitative approach, semi-structured interviews are conducted with the business owners, key staff, and customers of the two businesses to understand how these collectibles are transacted via websites, social media, and digital marketplaces, the advantages leveraged by these e-commerce businesses, as well as how unique challenges were circumvented, particularly in how consumer trust was gained. Previous research suggests that technological, organizational, and environmental factors are strong indicators of successful e-commerce adoption. It is with hope that the findings of this study will shed light on how a business can successfully adopt e-commerce as a core business strategy even in an atypical industry of high-value products.

*Keywords:* e-commerce, Malaysian SME, collectibles, consumer trust, digitalization

## Introduction

The success of small and medium enterprises (SMEs) today is increasingly dependent on their ability to harness the right technology, such as e-commerce, to gain more customers and provide a better shopping experience (Hashim & Abdullah, 2014; Law & Yin, 2019). The process of trading goods and services via the Internet (Buettner, 2017), e-commerce facilitates the activities of buying and selling goods online in real time (Pei & Yan, 2019).

Asia accounts for over half of the USD 1.94 trillion e-commerce sales worldwide (Statista, n.d.), having the largest e-commerce market in the world even from 2019. The COVID-19 crisis only served to accelerate e-commerce growth, as digital businesses thrive when physical businesses struggle to survive. From 2019 to 2020, the gross merchandise value (GMV) of the e-commerce market in Malaysia doubled to approximately USD 6 billion (Statista, 2021).

As traditional business channels were disrupted during the pandemic, many businesses, such as those in the Collectibles industry, pivoted to selling online. Valued at USD 360 billion in 2020 (Univ Datos, 2023), the Collectibles industry was fully dependent on physical touchpoints for decades, such as auction houses, galleries, exhibitions, retail stores, and marketplaces. However, with the normalization of online shopping because of the pandemic, the Collectibles industry has undergone a digital shift, via websites, digital marketplaces, and social media, simultaneously lowering the barriers of entry for new collectors.

However, many Malaysian businesses still hesitate in digitalizing their operations, due to constraints in knowledge, resources, regulations, and infrastructure. Hence, this present research will consider these key factors in its investigation of the advantages and barriers faced by two Malaysian businesses in the mineral specimens market, from technological, organizational, and environmental perspectives.

In case studies and semi-structured interviews conducted among 12 Pakistani SMEs based on the TOE framework, researchers found that the absence of available funds (Organization) and technical infrastructure (Technology) prevented SMEs from embracing e-commerce (Nazir & Zhu, 2018). Furthermore, Pakistan's inadequate e-commerce policies (Environment) also impeded SMEs' e-commerce adoption as high taxes were imposed by the government and infrastructure was expensive to set up. In Johor Bahru, Malaysia, a study among 91 SME owners and managers from the retail industries concluded that according to the questionnaires on SMEs' process of adopting e-commerce, the biggest obstacle hindering e-commerce adoption is the absence of laws and regulations (Environment), which is followed by technical expertise in the cybersecurity field (Technology) (Rehman & Alam, 2016).

Maintaining e-commerce also comes with its own set of challenges. For instance, to guarantee that their documents are accurate and current, it is expected for businesses to pay additional fees (e.g., legal and accounting fees) for their e-commerce ventures. The purpose of these fees is to ensure that these businesses are protected by the law, however, these

expenses are deemed wasteful and excessive if the e-commerce site does not make enough money to pay for them, yet, they are also unavoidable (Mkansi, 2022). Simultaneously, e-commerce payments also incur additional processing fees, where companies must deduct 1.5% to 3% from their profit margin to pay a third-party financial institution to handle their payments. This is in addition to the referral fee, which varies from 8% to 15% for Amazon, 10% for the majority of products on eBay, and 5% for products on Etsy. Businesses that establish their e-commerce shop on e-commerce platforms or marketplaces like eBay, Etsy, Lazada, and Shopee incur lower costs. However, the platform expenses and advertisements that are required to differentiate themselves from their competitors are significantly higher (Loginova, 2022). E-commerce vendors also face challenges and frustrations due to the absence of efficient and reliable logistic services, as having a fine product, e-commerce site, and marketing strategy is not enough. Speed is essential to staying competitive in the e-commerce sector and making sure that the products are delivered to consumers promptly and safely is vital to guaranteeing customer satisfaction.

According to Mustafa and colleagues' (2016) research due to industries that are not prepared to embrace e-commerce, and would rather continue with traditional commerce, SMEs are slowed down in their adoption of e-commerce (Mustafa et al., 2016). This is particularly true for B2B SMEs, as many companies have already formed partnerships with well-known manufacturers or service providers. Moreover, according to a study conducted with 36 participants from four developing Arab nations, SMEs must contend with fierce rivalry to stay in business (Alwan et al., 2023). This is because consumers have an abundance of options when it comes to online retailers. Hence, companies must improve the quantity and quality of their products to remain competitive and avoid losing customers.

The trust of customers is also crucial for e-commerce companies to succeed. This is due to the possibility that goods and services purchased online might not always be delivered or verified right away (Mustafa, 2016). Customers must therefore have faith that the businesses that they purchase from will fulfill their end of the bargain rather than misleading them, even in the face of geographical distance and the absence of in-person communication (Kalinic et al., 2019). However, customers in developing nations are reluctant or dubious about divulging their financial information when they are shopping online, which leads to another significant barrier hindering SMEs' e-commerce sales and impacting their business negatively. At the same time, the e-commerce sector confronts major obstacles such as unclear governmental policies and regulations, a lack of data protection regulations, and protection from unfair competition (Negara & Soesilowati, 2021). To give local merchants a competitive edge over foreign sellers without hurting domestic customers, governments should encourage local e-commerce vendors more by monitoring and balancing online imports by foreign sellers.

### **Why the Need for this Study?**

Although past research has proven that digitalization is essential to business sustainability (Winarsih, 2021), only a quarter of homegrown organizations expedited their digitalization, while more than half slowed down (BusinessToday, 2020). Progress in e-

commerce adoption in developing countries is reportedly impeded by the lack of infrastructure, safety regulations, and lower computer literacy (Hendricks & Mwapwele, 2023).

Although the local government has introduced several initiatives, such as the Malaysia Digital Economy Blueprint (MDEC, 2021b), to encourage the adoption of e-commerce, SMEs are still slow to digitalize. With unpredictable crises such as COVID-19 disrupting markets significantly, SMEs need to increase their resilience to external shocks and sustainability by adopting additional channels and tools such as e-commerce, which will in turn safeguard the country's economic growth.

There is also scarce research verifying if SMEs do gain tangible benefits from adopting e-commerce (Salah & Ayyash, 2024), or whether they face challenges in maintaining e-commerce. Moreover, there are very limited studies on the e-commerce adoption of businesses in the highly niche Collectibles industry investigated in this study, although this industry has existed for many years, before the prevalence of the Internet. The Collectibles industry is traditional, yet atypical, particularly for the mineral specimens market investigated in this study. Aesthetic natural crystals that occur less commonly, are collected by mineral enthusiasts in their unpolished and untreated forms, as precious display specimens. These crystals, or mineral specimens, can command a high value, due to their scarcity and high demand. In addition, with differing preferences in aesthetics, akin to buying art, buying a crystal specimen can be a subjective decision. Checking a specimen in person also provides the buyers with more assurance, as buyers would be able to ascertain the condition of the specimen carefully before committing. Due to that, businesses dealing in high-end specimens tend to sell physically, and offline, as buyers prefer to see the specimens closely before committing to the high price. Hence, it would be insightful and useful to investigate how businesses in this traditionally physical industry could overcome these barriers to e-commerce while increasing their business sustainability.

For this, two small businesses from this industry, with e-commerce as their core strategy, will be investigated, with a focus on how these companies managed to mitigate the challenges of digitalization despite operating online, instead of through physical touchpoints, which is the norm for the mineral specimen's industry.

In addition, scarce research on technology adoption is carried out by using qualitative research methods, based on the TOE model. Hence, this study seeks to narrow the knowledge gap by undertaking deeper research using qualitative research methods to investigate the advantages and challenges faced by these Malaysian SMEs. This study will be carried out by interviewing the business owners and staff holding key positions, as well as their regular customers, to achieve the research's objectives.

This study aims to help extend the application of the TOE theory by expanding on elements that are geographically or culturally dependent. By adding to the knowledge of e-commerce adoption, useful insights can be uncovered to facilitate and accelerate the successful adoption of e-commerce. For instance, with deeper insights from this research, technology providers can come up with better service offerings to address the concerns of

SMEs in adopting e-commerce. Other businesses in similar industries can also learn and adapt from this study to improve their rates of success when adopting e-commerce.

### **Research Objective**

This study aims to explore the adoption and utilization of e-commerce by undertaking a case study on two Malaysian SMEs in the mineral specimens market of the Collectibles industry. Using a semi-structured interview approach, the research will be guided by the Technology-Organization-Environment framework (TOE), to investigate the advantages and challenges faced by the businesses when using e-commerce as their primary business strategy in Malaysia.

### **Research Questions**

To achieve this study's research objectives, the following research questions will be explored:

1. To what extent do the Malaysian SMEs benefit from utilizing e-commerce as a core business strategy?
2. What are the challenges faced by Malaysian SMEs in being an e-commerce-focused small business in the Collectibles industry? How did they circumvent these challenges?
3. What initiatives have they taken to build trust with their customers, and how effective have these efforts been?

### **Critical Review of Relevant Theory**

For this study, the TOE framework has been adopted to investigate, in line with the objectives of the study. According to Tornatzky and Fleischer (1990), the TOE framework includes technological factors- internal and external digital tools to improve productivity; organizational factors- managerial structure, characteristics, and financial structures; and environmental factors- the organizations' industry, competitors, and government support or lack thereof (Tornatzky and Fleischer, 1990). The Technology-Organization-Environment (TOE) framework is chosen for this study for its proven capability and multifaceted approach to explaining technology adoption while taking into consideration technological, organizational, and environmental factors (Amini & Bakri, 2015).

Bryan and Zuva's (2021) review of the TOE framework has concluded that this framework influenced much research, and has been validated across studies in America, Asia, and Europe, in developed as well as developing nations. Adopting e-commerce among SMEs is a type of adoption of information system innovations, which is distinctly linked with the core factors of the TOE framework, rendering it the most fitting theory for this study (Baker, 2012). Similar results were yielded by Hamad and colleagues' (2018) study which found that

the TOE framework has been utilized in various empirical studies and has a strong track record of quantifying the impact of factors influencing IT adoption among SMEs in developing nations. Additionally, there is minimal development of the TOE framework without the addition of any new constructs to the existing framework (Baker, 2012; Bryan & Zuva, 2021). Hence, this study would help identify any potential novel constructs to expand the TOE framework further from a qualitative point of view.

Research conducted among 301 Indonesian SMEs found that technological indicators, most organizational and environmental factors, significantly influence e-commerce adoption intentions (Setiyani & Rostiani, 2021). Rehman and Alam (2016) have also identified inadequate regulatory frameworks and limited knowledge of cybersecurity as key barriers to adoption. Likewise, a study of 181 Saudi SMEs highlighted business partnerships, perceived usefulness, and managerial support as critical drivers of e-commerce adoption via social media (Abed, 2020). Meanwhile, Vietnamese SMEs exhibited differing responses to the TOE framework, with financial, technological, and human resources emerging as crucial for increasing the adoption rate (Rowe et al., 2012).

Additionally, a qualitative investigation was conducted on the adoption of e-commerce among four Saudi Arabian retail companies, which includes a retail company in the telecom industry, as well as companies that sell consumer consumables, school and office supplies, electrical appliances, and wholesale goods (Aljowaidi et al., 2015). In-depth interviews were conducted with either the business owner or managers and themes derived from the TOE framework were used to analyze the data. According to this research, all four companies used e-commerce to increase sales, manage inventories, reach a wider audience, and save money on physical infrastructure. Additionally, because Saudi Arabian women have less freedom of movement due to government and religious restrictions, three out of four of the participants interviewed used e-commerce to break into the female consumer market (Environment). Half of the businesses that participated also think that by adopting e-commerce, their business can stay competitive and in touch with the younger, and more tech-savvy generation. While these past studies affirm the relevance and reliability of the TOE framework in understanding e-commerce adoption, research remains scarce on its role in shaping the benefits and challenges faced by SMEs post-adoption.

## **Technology Factors**

### ***Perceived Relative Advantage***

Research among 307 Malaysian SMEs by Ahmad and colleagues (2014) demonstrated that managers' perceptions of e-commerce potential advantages are crucial in influencing adoption decisions. Similar findings were found in developing countries, highlighting advantages such as competitive edge, enhanced customer experience, and larger markets, as key drivers of e-commerce adoption among SMEs across industries (Hamad et al., 2018; Kartiwi et al., 2018; Lim et al., 2017; Lina & Surwani, 2022). These initial advantages acquired at the start of e-commerce also encourage long-term adoption (Ahani et al., 2017; Hong & Zhu, 2006).

These advantages remain evident in the Collectibles industry. For example, Artsy, a leading art marketplace, leveraged e-commerce through online-only auctions and strategic

partnerships with 3,200 art galleries worldwide, attracting up to 4 million monthly users, offering their 1.7 million global customers a diverse art selection and secure experience (Sprengr, 2022). However, contradictory findings from a study of 67 Spanish market research firms revealed that despite benefits like access to hard-to-reach populations, these advantages did not significantly drive e-commerce adoption (Pacheco-Bernal et al., 2020).

### ***Technical Knowledge***

E-commerce adoption is not risk-free, as e-commerce websites and channels may potentially be breached by individuals with malicious intent, viruses, and hackers. Hence, it is understandable that both SMEs and their customers are concerned about the security of their data, as e-commerce requires making financial transactions online (Rehman & Alam, 2016). Complicated technologies have also been found to be reasons contributing to SMEs' reluctance or failure in the adoption of new technologies. This is especially true considering that complex innovations may slow down the companies' current operations and reduce their performance while lacking quantifiable or significant results from the start (Setiyani & Rostiani, 2021).

As such, SMEs require employees with specific technical prowess to reduce financial risks and support the seamless operation of e-commerce websites and channels (Mkansi, 2022). Organizations were also more likely to adopt novel innovations or technologies that are more cost-effective (Ahmad & Siraj, 2023). This creates a barrier to e-commerce adoption as not all employees will have suitable technical expertise, and SMEs may lack the financial capability to pay for extra training, thus, hindering or halting successful e-commerce adoption (Hong & Zhu, 2006; Rehman & Alam, 2016).

Jasmi and Ramlan (2021) have also concluded that employing employees with technical expertise is pivotal for e-commerce businesses, to build lasting relationships with customers. For example, employees lacking the technical know-how to manage e-commerce platforms may mismanage, overlook, or misuse customers and order data, resulting in delayed customer services, order fulfillment, and bad customer experience.

### **Organization Factors**

#### ***Organizational Readiness & Current Capability***

E-commerce adoption can disrupt the typical functions of SMEs, and the fear of this disruption and lack of organizational readiness often becomes a significant barrier (Ahmad et al., 2014). Adopting e-commerce also requires capabilities such as financial resources for technical and operational transitions, which poses a challenge for SMEs with limited funding compared to more established corporations (Lim et al., 2017). The World Bank (n.d.) notes that SMEs face difficulties obtaining substantial bank loans and are more likely to rely on personal funds. Converging findings are found in Hong and Zhu's (2006) study among 1036 Canadian and American firms, where multiple e-commerce initiatives failed due to insufficient funding.

Research by Thi and Lim (2011) among 187 Malaysian manufacturing SMEs emphasized the critical role of experienced CEOs and external support in driving e-

commerce adoption among SMEs. Additionally, Ghobakhloo and colleagues (2011) concluded that the CEO's attitude and understanding of e-commerce, along with IT vendor support, significantly influenced Iranian SME's decision to adopt e-commerce. Studies in Ghana and Saudi Arabia further supported the notion that organizational readiness and strong management had the most consequential positive impact on e-commerce adoption among SMEs (Ocloo et al., 2020; Rawash, 2021). Furthermore, organizational readiness varies substantially among small and medium-sized enterprises, underscoring its importance as a factor of e-commerce adoption (Lim & Trakulmaykee, 2018).

## **Environmental Factors**

### ***Customer Pressure***

External factors, including suppliers, customers, and e-commerce platforms, play a significant role in influencing the adoption of e-commerce among SMEs (Abed, 2020; Ahani et al., 2017; Ahmad et al., 2014; Lina & Suwarni, 2022). Research by Wu and colleagues (2011) highlights customers' substantial influence on organizations' decisions to adopt and use novel technologies. The likelihood of SMEs adopting e-commerce increases when they perceive a risk of losing customers to their competitors, as competition is a key driver (Yeh et al., 2015; Lina & Suwarni, 2022). Similarly, customer and supplier pressures have been found to encourage e-commerce adoption among SMEs in Europe and Asia (Klaiber et al., 2014). Research by Phophalia and colleagues (2022) further supports that businesses such as jewelry stores in India are embracing e-commerce to offer 24/7 shopping, wider product selections, as well as appealing to younger demographics, in response to evolving customer preferences.

However, contrasting findings from Pakistan indicated that customer behavior can also hinder e-commerce adoption, as customers prefer in-person shopping to physically inspecting the goods before purchasing them (Nazier & Zhu, 2018).

### ***Government Support***

External influences, particularly government intervention, play a pivotal role in increasing e-commerce adoption among SMEs. Government initiatives and incentives provided through multiple agencies have significantly supported Malaysian SMEs in adopting e-commerce (Ahmad et al., 2014). Despite that, external pressures can also become barriers, hindering e-commerce adoption among SMEs. Outdated, weak, or the lack of e-commerce regulations have been found to hinder long-term e-commerce adoption (Rehman & Alam, 2016; Nazir & Zhu, 2018). Likewise, interviews conducted by Aljowaidi and colleagues (2015) revealed that the lack of government support and interest, minimal regulatory frameworks, as well as increased risks of e-commerce posed significant barriers for Saudi Arabian businesses in the journey of e-commerce adoption. Past research further highlights the positive influence of governmental support. For instance, Rawash's (2021) study among 121 SMEs in Jordan found it to be the greatest factor in influencing e-commerce adoption, with identical conclusions observed among SMEs in Ghana and India (Ahmad & Siraj, 2023; Ocloo et al., 2022). Thus, these findings underscore the need to explore how

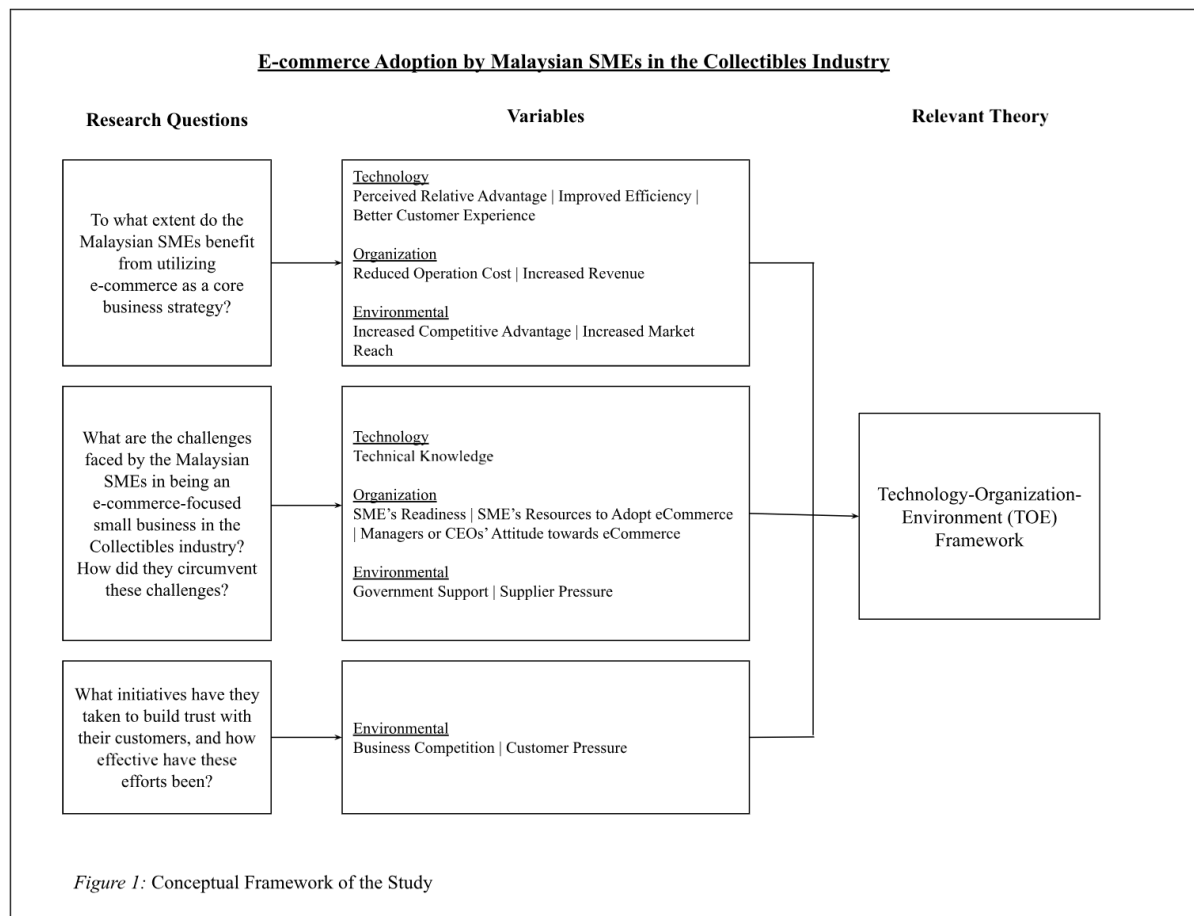


external pressures, particularly in Malaysia, can either encourage or deter SMEs from successfully adopting e-commerce.

With a solid theoretical foundation to explain the adoption of technology, the TOE theory is chosen for this research to explore the drivers and barriers that could facilitate or hinder e-commerce adoption in SMEs.

## Conceptual Framework

The researcher has developed a conceptual framework for this study. The research focuses on the advantages and challenges faced by e-commerce businesses in the Collectibles industry. The researcher has chosen the TOE framework for the conceptual framework of this study. The relationship between its variables and how they are used to answer the research questions of this study are shown in Figure 1.



## Research Design

This research intends to determine and investigate the benefits and challenges, whether brought on by organizational, environmental, or technological variables, that two Malaysian SMEs in the Collectibles sector encountered when implementing and utilizing e-commerce as a primary business strategy throughout and after the COVID-19 pandemic. This study will be qualitative, using the case study methodology, where business owners, key employees, and regular customers will be interviewed one-on-one in semi-structured interviews, backed by the interpretivism paradigm.

A semi-structured interview was eventually chosen by the researcher as the most objective way to address the research questions of this study after focus group studies with interactive debate and questions designed to elicit responses among several respondents during a group interview were taken into consideration. This is because focus group data is typically less detailed and does not fully capture the unique viewpoints of the participants.

Two Malaysian SMEs (Company A and Company B) of the Collectibles industry, a few of their key employees, as well as five of their highest-spending clients, will be recruited to participate in this study. Purposive sampling is the sampling strategy that the researcher has chosen to best address the research questions and accomplish the goals of the study.

The researcher will carry out one-on-one, face-to-face, semi-structured interviews with the participants to gather the primary data for this study. These interviews would take approximately 30-60 minutes each. Zoom video conferencing will be used to interview participants who are unable to physically attend the interview sessions. Participants will first be briefed about the aim and scope of the research, and what is expected of them during the interview. Then, participants will be asked to sign the consent form to indicate voluntary participation. To promote honesty and openness of their responses, participants will be reminded that this research will uphold absolute anonymity and data privacy, to allay any worries about trade secrets and personal disclosure, before easing respondents into the interview with a quick icebreaker.

Understandably, some consumers might not be prepared to provide sensitive information about their personal preferences and purchasing decisions. To overcome these obstacles, the researcher will not collect any personal identifying information of the participants throughout the study. The researcher will also guarantee participants confidentiality by signing a nondisclosure agreement, that will protect their privacy and anonymity. All information disclosed will be kept confidential and used for this research only. Any recommendations that are available to the public will be generalized and anonymized, which will not be traced back to any of the participants specifically. In other words, even though quotes from participants' conversations may be used when reporting on this research, all data will be deidentified, and there is no way for anyone to know who the statement came from. All digital data will be stored in password-protected folders, which can only be accessed by researchers involved in this study; while the physical data collected during this study will be kept in a locked drawer or cabinet of a secure location, inaccessible to the public. Both physical and digital data will be destroyed upon completion of this study – all digital data will be deleted and cleared from the recycle bin, while all physical data will be cross-shredded.

### **Research Instruments**

This research utilizes two measurement instruments - the demographic background form and a set of semi-structured interview questions. Respondents will receive an email with a Background Information Form (refer to Appendices A and B) that contains questions on the respondents' demographic information, before the interview.

For the two participants who are business owners or key employees, details of e-commerce adoption and utilization will be collected, to provide further context on the SMEs' information and position. Interview questions for business owners or key employees include questions on the business owner or key employee's experience with e-commerce, discussion on the benefits and challenges of their journey of adopting and utilizing e-commerce, in the context of TOE factors, as well as their opinions on local government support and policies pertaining to e-commerce facilitation.

For participants who are customers of these SMEs, information regarding their online shopping practices and preferences will be collected. The interview questions will explore the consumers' experience shopping online versus in person, as well as discussions on the benefits, rationale, and worries of shopping online (e.g., how customers' trust in a brand or business is formed).

### **Data Analysis Procedures**

There are two approaches to thematic analysis, the inductive approach that allows data collected to determine themes; and the deductive approach that expands on the existing themes or theories. Taking into consideration the numerous sub-themes that were highlighted in previous studies, such as Technical Knowledge, Organizational Readiness, Current Capability, Government Support, Customer Pressure, and Perceived Relative Advantage, the information gathered from the interview will be analyzed with the deductive approach, in accordance with the underlying themes of the TOE framework, which are Technology, Organization and Environment factors. Thematic analysis, which is a technique for locating and analyzing patterns or themes that appear in the data (Braun & Clarke, 2006), is becoming a progressively common approach for trustworthy qualitative data analysis (Braun & Clarke, 2012; Vaismoradi et al., 2013). Thematic analysis, which has already been utilized to identify factors influencing technology adoption in other fields (Alshamaila et al., 2013; Sun et al., 2018), will result in a more transparent, structured, and ordered reporting of the data analysis (Vaismoradi et al., 2013).

Another approach to analyzing data that will be utilized in addition to thematic analysis is content analysis. Content analysis, as stated by Kleinheksel and colleagues (2020), believes that words serve as a valuable data source with significant potential to uncover crucial information related to the research subject. In qualitative research, once interviews are transcribed, they will be systematically coded and categorized to discover trends, patterns, word frequencies, variable relationships, ideas, and structures (Grbich, 2010; Pope et al., 2000; Stemler, 2015). Content analysis also operates under the assumption that words appearing more frequently are more relevant to the theme, indicating important points and concerns (Stemler, 2015).

Data analysis in this research will consist of three stages, as suggested by Miles and Huberman (1994): data reduction, data presentation, and data conclusion. First, the audio recordings of the interview will be transcribed. Then, the researcher will read through the transcript and take preliminary notes. During this process, the researcher will take note to ensure that existing pre-conception of the data is not formed, and researcher biases are

identified. This is to ensure that the researchers' biases will not influence the results of the analysis. Next, the transcript will be uploaded into the NVivo software. The NVivo software will be utilized to conduct thematic and content analysis on the interview data to identify common nodes, such as technical knowledge, SME capability, government initiatives, and customer feedback. These nodes will be helpful to provide a general overview of the recurring common points mentioned throughout the data. The nodes will further be analyzed, interpreted, and categorized under the themes derived from the TOE Framework (i.e., technology, organization, environment) to provide insights into the identified themes and sub-themes that are gathered from the interviews.

Additionally, the frequency of specific words and concepts mentioned will be tracked to determine which are the most prevalent variables in relation to the theoretical framework of this study. The data will be interpreted, and each theme will be considered accordingly. The frequency of the themes emerging in conversations and their implications will be addressed, with data from the transcript as evidence. Proximity analysis and cognitive mapping will also be carried out as part of content analysis for the data. The distilled data and concepts will now be evaluated to determine the relationship between the TOE framework and how its benefits and challenges impact e-commerce adoption among SMEs. Then, cognitive mapping, which is a visualization technique, will be used to build a model that shows the general relationships and links of the variables of this study. Lastly, a conclusion will be drawn, derived from the data analysis, and demonstrate how the results of the analysis have answered the research questions.

### **Reliability and Validity**

To ensure the study's reliability, a clear interview protocol will be adhered to ensure that all the procedures, questions, and prompts regarding the interview are in accordance with standard operating procedures, to minimize discrepancies, ensure a consistent experience for all interviewees and decrease interviewer bias (Qu & Dumay, 2011). The researcher will use an interview guide during all the semi-structured interviews. All the information collected from the interviewees, audio recordings, and notes taken by the interviewer during the interviews, as well as journals and articles referred will be used to substantiate the evidence. These would help ensure that the study is transferable and credible.

For this study, the researcher will utilize member-check interviews to evaluate the accuracy of the interviewer's interpretation of an interviewee's experience during the interview (Cho & Trent, 2006; Gray, 2018). To ensure there were little to no misinterpretations, interviewers will share their interpretations and conclusions with interviewees for feedback after the interview session. This is vital as researchers may make different judgments as time passes after the interview (Kleinheksel et al., 2020). Member check interviews can also help researcher reflexivity and identify if transactional validity was achieved (Koelsch, 2013).

### **Summary**

To summarize, this research will be conducted based on the interpretivism paradigm that will focus on the subjective opinions of interviewees regarding their experience using e-commerce in the Collectibles industry. To answer the research questions, this study adopts a qualitative methodology of case study. With an interview guide, one-to-one semi-structured interviews will be conducted with the business owners, key staff, and customers of two Malaysian SMEs in this niche industry.

This research will be conducted ethically. Firstly, all participation in this research will be fully voluntary, with due care taken in informing participants of the study's purpose, as well as their right to withdraw anytime. Secondly, absolute anonymity, privacy, and confidentiality will be ensured throughout the entire data collection process. Prior to any recording, permission will be obtained from participants. The interviews will be conducted in private without external interruptions. The names of participants will never be revealed in any research processes or publications. Lastly, during the formulation and execution of the interviews, care will be taken to ensure no abusive, offensive, discriminatory, insensitive, or unacceptable language is used.

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**Appendix C**  
**Key Questions from Interview Guide (for Business Owner)**

<b>Research Question</b>	<b>Interview Guide</b>
<p>3) What initiatives have they taken to build trust with their customers, and how effective have these efforts been?</p>	<ul style="list-style-type: none"> <li>• Does being an e-commerce-only business pose any challenges in gaining <b>customer trust</b>?                      (Prompt: Were you able to overcome them? How?)</li> </ul>

**Appendix D**  
**Key Questions from Interview Guide (for Customers)**

<b>Research Question</b>	<b>Interview Guide</b>
<p>3) What initiatives have they taken to build trust with their customers, and how effective have these efforts been?</p>	<ul style="list-style-type: none"> <li>• How do you determine if an online business is trustworthy to buy from and pay before seeing/receiving your purchase in person?</li> </ul>