

# Examining Entrepreneurial Orientation as a Moderator in E-Commerce Adoption and SME Performance

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**Abstract:** *The research question that is being analysed in this research is the effect of the adoption of E-commerce on the Sustainable Business Performance of Small and Medium Enterprises (SMEs) in Metro Manila in the Philippines. The mixed methodology was followed, with both quantitative surveys and qualitative interviews of the respondents in different places. The respondents were entrepreneurs of the MSMEs and 150 of them were sampled in three districts that were picked. The quantitative data approach is path analysis using Smart PLS 3.0 whereas the qualitative data analysis is carried out using thematic analysis. Results indicate that there are some statistical attributes to demographic variables and construct validity, where E-Commerce and Entrepreneurial Orientation adoption play an important role in Sustainable Business Performance. The research supports the positive moderator between the E-commerce Adoption and Entrepreneurial Orientation on Sustainable Performance. The threats and opportunities of online shopping invasion are discussed as well, with the consideration that the concept of E-commerce can bring significant gains to the modern world as the tendency to digitalize the entire life gets more and more prominent in accordance with the global excavation of the trend of the turn of the tides of the business and regulation practices under the conditions of the COVID-19 Pandemic*

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## Introduction

Due to Etemad (2019), Julien and Ramangalah (2018), Lu and Beamish (2021), micro, small, and medium-sized enterprises (MSMEs) have to deal with an increasing number of internal and external competitors. Companies have to apply some methods and strategies in order to distribute resources effectively, estimate potential losses, and remain competitive (Kleindl, 2020; Raymond, Bergeron, and Blili, 2019). Such strategies are increasing market coverage, overtaking competitors, reducing operational costs, e-commerce, and adopting business solutions, which are rapidly evolving and working (Beck, Wigand, and Ko, 2021; Martin and Matlay, 2018). There are huge differences in the adoption of e-commerce by MSMEs and more established businesses (Fomin et al., 2019).

There is also the growing number of individuals engaging in internet activities due to the presence of cheap Internet connections and their expanded coverage. The number of internet users in Metro Manila, Philippines has risen by 17 percent last year, as reported by We are Social (2020). Internet is a source of learning, entertainment, communication, trade and information transactions in various countries.

Commercial operations have always been done using traditional methods. However, the internet has enabled business expansion in the cyber space where transactions, which would have been done face to face, are done electronically (e-commerce) over the internet.

According to the recent data, 93 percent of the Filipino internet users actively seek things online, 90 percent of them shop online in online stores, and 88 percent of internet users in the country shop online (We are Social, 2020). These figures indicate the importance of MSMEs using e-commerce to expand the number of customers that they serve.

### *Research Gap*

Even though the research gap has been greatly addressed, regarding the impact of e-commerce adoption on the growth of Small and Medium Enterprise (SME), the research area continues to be in need of further research to explore the impact of the concept in totality. One of the significant factors is spatial discrepancies between various parts which needs further research. Though the studies conducted earlier acknowledge the key implications of adoption of e-commerce on SMEs, only a limited number of publications are authored to present fragments of evidence to demonstrate the differences of the effects at the level of specific features of different locations. The contextual factors such as market structures, social-economic conditions, and legal frameworks may have a significant impact on how SMEs in various places think about and react to the usage of e-commerce technologies. By filling this research gap, a more comprehensive description of the condition will thus be obtained, and it will equally offer

the policymakers and business operating in various socio-economic and geographical settings customized results.

## **Review of Related Literature**

Kalakota and Whinston (2019) separate e-commerce transactions based on the use of online communication channels as those that involve business-to-consumer (B2C) transactions. Most studies carried out so far on the implementation of this technology within the framework of MSMEs (micro, small, and medium-sized enterprises) have concentrated primarily on the criteria of acceptance as determined by Riemenschneider, Harrison, and Mykytyn (2018) and Fomin et al. (2019). As pointed out by Grandon (2019), a certain body of research on the adoption of e-commerce implies that there are crucial internal and external factors (including readiness to accommodate external requests and the perceived user-friendliness). Raymond, Bergeron, and Bili (2019) also state that e-commerce helps to conduct transactional and collaborative processes, business intelligence, and share information. Nevertheless, among these advantages, e-commerce development is not always widely applicable to MSMEs because of insufficient financial resources, digital illiteracy, and the infrastructural barriers (Johnston and Wright, 2019). Moreover, there are studies which report that MSMEs can be insufficient in the technical competence required to maximize e-commerce systems, which further slows down their digitalization (Kim et al., 2018).

According to the statements of Kim, Ow, and Jun (2018) and Johnston and Wright (2019), e-commerce uptake in MSMEs is known to enhance internal business procedures and effectiveness of product supply chains. By conducting online business, MSMEs can counter the challenges posed by their small size and limited resources as compared to their bigger counterparts. As Etemad (2019), Loane (2019), Kamlesh and Shah (2021), Martin and Matlay (2018) argue, e-commerce assists in finding and creating a bigger consumer base, winning the international competition, and raising the level of world recognition. It also attracts the customers of diverse geographic locations. In addition, online businesses allow serving the current consumers more efficiently by creating an opportunity to interact at any time and place (Beck, Wigand, and Ko, 2021; Johnston and Wright, 2019). They also allow better understanding and fulfillment of the needs of the existing and prospective customers (Auger, 2019). Nevertheless, e-commerce adoption has a challenge in digital divide as indicated by Raymond et al. (2019), urban and rural businesses face difficulties with providing and receiving stable internet and other digital infrastructures.

Purcell, Toland, and Huff (2019) emphasize such crucial elements of e-commerce success as the value creation, focus on specialization, growth, flexibility, geographical segmentation, high-quality customer service, building connections, and understanding digital culture. Rodriguez Del Bosque and Herrero Crespo (2018) investigate the internal and external organizational factors that influence the SME wireless networking. They also give suggestions on how to improve self-efficacy by using technologies associated with the perceived rivalry and marketing. Dholakia and Kshetri (2019) argue that the advantages of online companies to the customers and businesspersons such as financial savings, product assortment and value, convenience to the customers, and the availability of information are what makes these

companies to be adopted. Nevertheless, security, the unwillingness to adopt traditional models to entirely digital platforms, and compliance with regulations remain challenges that could negatively affect the success of e-commerce strategies by MSMEs (Kim et al., 2018; Saffu et al., 2018). Moreover, SMEs tend to have difficulties with the relevant infrastructure and software updates needed to make e-commerce effective and cause inconsistency in the user experience and operational inefficiency.

Entrepreneurship orientation is a concept that was developed by Zahra and Covin (2019) based on the idea originally introduced by Miller (2019). In macro-entrepreneurship, it involves making calculated risks, creative, running an active enterprise, and recognizing and exploiting new opportunities (Scott & Venkataraman, 2020). Unlike the market orientation, which lays greater emphasis on competition and customer information, entrepreneurial orientation is fueled by the markets that have not yet exploited opportunities, Miles and Arnold (2019) argue. This orientation is important in the process of e-commerce adoption by MSMEs because, companies with high entrepreneurial propensity tend to have a higher propensity to experiment with new digital solutions and implement e-commerce in their strategies to boost performance (Wiklund et al., 2020). The companies that are less entrepreneurial can experience a slower pace of adoption and be less able to use the digital tools (Friesen and Miller, 2019). Moreover, entrepreneurial orientation improves the innovativeness, customer-focused solutions, and adaptability of an SME to swiftly evolving digital environments (Lumpkin and Dess, 2021). Strong entrepreneurial behaviors are also more likely to be adopted by firms that develop strategic partnerships and utilize network effects that would make e-commerce adoption sustainable (Johnston and Wright, 2019).

Lumpkin and Dess (2021) define entrepreneurial innovation as the presentation of new products and services by research projects, experimentation, and creativity. Risk-taking in the context of entrepreneurship can be defined as the willingness to make calculated business risks (Kreiser, Marino, and Weaver, 2022). Proactive entrepreneurs are ready to forecast possible changes in the corporate environment and pursue new opportunities, approaches, products or services to beat competitors (Lumpkin and Dess, 2021). It has been described by many cross-sectional, longitudinal, and cross-country studies conducted across the globe (Kreiser, Marino, and Weaver, 2022). Moreover, the COVID-19 has also intensified the need to go digital, and many MSMEs have been compelled to turn to e-commerce to stay in business as lockdowns and market changes disrupt businesses (Johnston and Wright, 2019). This transition was especially noticeable in the businesses that already had a digital presence or were able to adjust rapidly as they used new market opportunities and even alleviated financial risks of economic downturns (Scott & Venkataraman, 2020). Not only has this transformation changed the business strategies but it has also highlighted the necessity of constant digital skill development, investment in e-commerce infrastructure, and the significance of agile business models in unpredictable economic situations. The pandemic further fueled the efforts of many businesses to realize the benefits of digital transformation in the long term, which resulted in a sustainable change in the direction of e-commerce integration in different industries.

Khandwalla suggests that entrepreneurs who own and manage corporate organizations pursue new opportunities and they are more inclined to take risks than less inventive entrepreneurs

(Friesen and Miller, 2019). Previous studies have developed a correlation between the performance of small and medium-sized enterprises and the entrepreneurial mindset (Wiklund et al., 2020). The former research study explicitly revealed the existence of a direct relationship between the entrepreneurship orientation and the use of e-commerce and commercial performance. Also, the owners of MSMEs often test new processes and innovations when it comes to the production and distribution of goods, services, or information (Avlonitis and Salavou, 2018). However, with the improvement of their marketing tactics, as well as the optimization of their operations, even non-technological companies, like the restaurant business, can enjoy the benefits of e-commerce.

### *Operational Framework*

The research questions the effect of E-commerce Adoption and Entrepreneurial Orientation on Sustainable Business Performance in the SMEs in Metro Manila. The framework involves three major variables namely: E-commerce Adoption (Independent Variable) which is the level of incorporation of e-commerce platforms and digital technologies in the business operations of SMEs, Entrepreneurial Orientation (Mediating Variable) which measures the strategic position of SMEs regarding innovation, risk-taking and proactiveness in adopting e-commerce solutions, and Sustainable Business Performance (Dependent Variable). Also, Entrepreneurial Orientation is moderating, which affects the degree of correlation between e-commerce adoption and sustainable business performance. The conceptual model will take the following relationships: (1) E-commerce Adoption has a direct relationship with Sustainable Business Performance; (2) E-commerce Adoption has a direct relationship with Entrepreneurial Orientation, which consequently, affects the impact of E-commerce Adoption on SME Performance; and (3) Entrepreneurial Orientation modulates the relationship between E-commerce Adoption and SME Performance. The framework offers a systematic way of comprehending the role of digital transformation and entrepreneurial strategies in making the SMEs in Metro Manila sustainable.

## **Methodology**

### *Research Design*

The research design is a mixed-method research design that integrates both the quantitative and qualitative methods in order to evaluate the effect of E-commerce Adoption and Entrepreneurial Orientation on Sustainable Business Performance of SMEs in Metro Manila. It is cross-sectional, whereby information is gathered at a given point in time to test the relationship between the important variables. The quantitative part is a structured survey that will be issued to the owners of the SMEs and the qualitative part of the research is the in-depth interview with the business owners, local government representatives, and industry stakeholders. Path analysis is done on the quantitative data using Smart PLS 3.0, and the analysis of qualitative responses by the thematic analysis method is done to get useful insights.

### *Research Locale*

The research is carried out in Metro Manila, the Philippines with a study based on three districts, which will be related to the three business environments namely Makati City (urban), Quezon City (peri-urban), and the Muntinlupa City - Alabang area (semi-rural). These sites were identified to get the different SMEs experiences of e-commerce adoption.

The city of Makati, which is the financial center of Metro Manila, has great digital penetration, extensive internet connectivity, and established SMEs in both retail and technology. Quezon City is a peri-urban region that features a combination of both traditional and modern enterprises, which provides some understanding of the different degrees of e-commerce adoption. Muntinlupa (Alabang area) is a semi-rural business environment with both drawbacks to digital development such as lack of internet penetration and digital literacy, as well as digital development opportunities.

The study of these three districts gives a holistic perspective of the adoption of e-commerce by SMEs within various economic environments and identifies challenges and the opportunities of digital transformation.

### *Sampling Design*

The SME owners and managers working in Metro Manila including businesses located in urban and peri-urban districts and semi-rural districts are the target respondents to this study. There will be no age limit, but to make sure that the participants possess the relevant business experience, only people that are actively running their business at least one year will be considered. This criterion is compatible with the research of Koe and Wulandari (2023), who emphasized that the traits of owner-managers, such as tenure, are important in deciding whether SMEs use e-commerce or not.

Inclusion Criteria:

- Should be an owner or a manager of an existing SME in Metro Manila.
- Should have one year in current job.

Must have presence in business processes and decision-making on digital transformation and adopting e-commerce.

## **Methods of Data Collection**

### *Primary Data*

The primary data will be collected using surveys and in-depth interviews of the SME owners and managers. The respondents who are sent a structured survey questionnaire are 150 SME respondents, and the following are the topics included in the questionnaire: adoption of e-commerce, entrepreneurial orientation and sustainable business performance. Likert-scale questions and multiple choices are the items in the survey to provide the numerical quantification of the perception of the digital transformation by the respondents. Moreover, the in-depth interviews with the chosen SME owners, the representatives of the local government and the stakeholders of the industry are also conducted to obtain the qualitative information

regarding the challenges, strategies, and opportunities associated with the e-commerce adoption. Thematic analysis is used to discuss the qualitative data and point out common trends and emerging issues.

#### *Secondary Data*

The secondary information will be acquired through the publication articles on the research, governmental reports, and analysis of the industry in the context of SME digital adoption, e-commerce tendencies and economic policies. These resources give a bigger picture of the external factors that affect the adoption of e-commerce by SMEs including regulation policies, market trends, and technology. Moreover, statistical reports of such organizations as the Philippine Statistics Authority (PSA), Department of Trade and Industry (DTI) and the studies on e-commerce worldwide are also analyzed to confirm the results of the study.

## Results

**Table 1.** Demographic Profile

<b>Profile</b>	<b>Attributes</b>	<b>N</b>	<b>Percentage (%)</b>
<b>Gender</b>	Male	86	57%
	Female	64	43%
	Total	150	100%
<b>Age</b>	17–20 Years	6	4%
	21–30 Years	47	31%
	31–40 Years	55	37%
	>40 Years	42	28%
	Total	150	100%
<b>Education</b>	Elementary School	0	0%
	Junior Secondary School	0	0%
	Senior High School	48	32%
	Diploma's Degree	34	23%
	Bachelor's Degree	61	41%
	Master's Degree	7	5%
	Total	150	100%

The demographic situation emphasizes that most participants are males (57) and belong to the age category of 31-40 (37). The number that has a bachelor's degree is relatively educated (41%) giving a large proportion. The fact that those in the best working age and those who have a higher level of education dominate implies that the respondents sampled have a high possibility of being in a good position to participate in E-commerce and business innovation. This is in line with the aim of the study, which was to determine how SMEs were adapting to the digitalization.

**Table 2.** Business Field

<b>Business Field</b>	<b>N</b>	<b>Percentage (%)</b>
Trade, Hotel and Restaurant	71	47%
Private Services	11	7%
Financial Service, Rent, and Company Service	8	5%
Transportation and Communication	25	17%
Building	5	3%
Agriculture, Veterinary, Forest, and Fisheries	24	16%
Mining and Exploring	0	0%
Manufacturing Industry	4	3%
Electricity, Gas, and Pure Water	2	1%
Total	150	100%

The distribution of the business field shows that trade, hotel, and restaurant industries are predominant (47%), as it is not surprising since the hospitality and retail sphere depends on the online platform. There is also significant involvement in transporting and communication (17%), as well as agricultural-related areas (16%), which indicates that there is a requirement in terms of logistical efficiency and expansion of digital markets within these aspects. The low figure of manufacturing (3%), utilities (1%), implies that the adoption of E-commerce has been highly concentrated in the customer-facing service industries, but not heavy industries.

**Table 3:** Transactions per Month

<b>Transaction per Month</b>	<b>N</b>	<b>Percentage (%)</b>
<10,000,000	15	10%
11,000,000–20,000,000	11	7%
21,000,000–30,000,000	21	14%
31,000,000–40,000,000	37	25%
41,000,000–50,000,000	35	23%
>50,000,000	31	21%
Total	150	100%

The respondent financial capacity is also quite different with a big segment of respondents carrying out large scale transactions. Although 10% perform less than ₱10,000,000 transactions, a significant number of 25% transact between ₱31,000,000- 40, 000,000 and 21% above 50,000,000 per month. This implies that the sample would consist of a combination of small and established SMEs with large numbers of them being very active financially. The difference in the level of transactions is in line with the assumption of the study that E-commerce adoption promotes financial growth and scalability.

**Table 4.** Business Experience

<b>Business Experience</b>	<b>N</b>	<b>Percentage (%)</b>
1–3 Years	45	30%
4–6 Years	54	36%
7–10 Years	39	26%
More than 10 Years	12	8%
Total	150	100%

As can be seen in this table, most of the respondents (36 per cent) have been in operation between 4 and 6 years, with 30 per cent having under one and three years’ experience. In the meantime, 26% are 7-10 years in business and it has been less than 8 percent that the company has been in business over 10 years. These results imply that the majority of the SMEs surveyed are relatively recent businesses, and a high percentage of them are still in the initial to the mid-development period. The low number (8) of enterprises that have existed at least ten years might have been a sign that it is not simple to survive in the long term or that the environment of E-commerce-based SMEs is filled with newer companies adjusting to the shift to digital. Moreover, the fact that the majority of the businesses with less than 6 years of experience are represented is also in line with the trend that newer SMEs tend to adopt digital solutions as a means of growth. This observation reinforces the research premise that entrepreneurial orientation and E-commerce adoption are some of the factors that determine sustainability and competitiveness of SME in Metro Manila.

**Table 5.** E-Commerce Platform in Business Operation

<b>E-Commerce Platform</b>	<b>N</b>	<b>Percentage (%)</b>
Own website	18	12%
Facebook	54	36%
Instagram	41	27%
Line	9	6%
Twitter	22	15%
Others	6	4%
Total	150	100%

Facebook stands out as the E-commerce platform of most used (36%), then comes Instagram (27%), which emphasizes the usage of social media-based digital commerce by SMEs. Interestingly, merely 12 per cent. have their own site, which means that the possibility of independent online store creation could be hindered by cost and technical impediments. Less popular platforms such as Twitter (15%), and line (6%) are also not used as frequently, which supports the idea that the visual and engagement-based platforms are dominant in the SME E-commerce strategies. This trend justifies the argument in the study that social media is vital in motivating SME digitalization.

**Table 6.** R-Square

Construct Variables	R Square	R Square Adjusted
MSME's Sustainable Business Performance	0.731	0.723

The value of R-SQ (0.731) and Adjusted R-SQ (0.723) show that the model accounts 73.1% of the variation in Sustainable Business Performance of MSME. The fact that the R-SQ and the Adjusted R-SQ are not too different is an indication that the model fits very well. This great R-S value indicates that adoption of E-commerce and entrepreneurial orientation plays a significant role in the sustainability and development of SMEs. The results support the study argument that digitalization and strategic business strategies are fundamental in SME long-term success. Since the model accounts more than 73 percent of business performance, the outcomes are very strong in terms of the significance of E-commerce adoption in the resilience and competitiveness of Metro Manila SMEs amidst the changing digital market environment. Moreover, **these** findings do not only emphasize the moderation consistency of the findings, but also help to appreciate the significant role of E-commerce Adoption and Entrepreneurial Orientation in the overall performance and operations of business operations. The multidimensional character of the Goodness of Fit experiment also supports the strength of these constructs in the context of describing and explaining a large percentage of the observed variability in the context under analysis.

**Table 7.** Findings

Path	(O)	(M)	(STDEV)	T Statistics (O/STDEV)	P Values
E-commerce adoption -> SME's Sustainable Business Performance	0.208	0.223	0.102	3.685	<0.001
Entrepreneurial orientation -> SME's Sustainable Business Performance	0.493	0.487	0.099	4.865	<0.001
Moderating Effect I -> SME's Sustainable Business Performance	0.485	0.473	0.119	4.251	0.012

The table 7 above shows the relationship between E-commerce adoption, entrepreneurial orientation, and SME sustainable business performance. The results indicate that all three factors have a significant positive effect on business sustainability, as shown by their high T-statistics and low p-values (less than 0.05).

E-commerce Adoption ( $\beta = 0.208$ ,  $p < 0.001$ ): This means that businesses that use E-commerce experience improved sustainable performance, though the effect is moderate. This suggests that simply adopting E-commerce is helpful, but other factors also contribute to long-term success.

Entrepreneurial Orientation ( $\beta = 0.493$ ,  $p < 0.001$ ): This has the strongest impact on SME sustainability, meaning that innovation, risk-taking, and proactive business strategies play a bigger role in long-term success than just using digital tools.

Moderating Effect ( $\beta = 0.485$ ,  $p = 0.012$ ): This shows that entrepreneurial orientation enhances the benefits of E-commerce adoption. SMEs that actively engage in entrepreneurship can get even more value from their digital tools and strategies.

Overall, these findings show that while E-commerce helps businesses grow, it works best when combined with strong entrepreneurial skills. SMEs that are proactive, innovative, and adaptable are more likely to succeed in the digital economy.

## Discussion

The results of this paper highlight how the adoption of e-commerce and entrepreneurial orientation have a huge impact on the sustainable business performance of MSMEs in Metro Manila. As much as e-commerce provides a good avenue through which an entrepreneur can expand his/her business, it is more effective when combined with sound entrepreneurial tactics. It is important to note that SMEs that are progressive on the implementation of digital solutions are more likely to experience better financial performance and improved sustainability in the long term - especially in cases where the owners of businesses are proactive, innovative, and flexible.

The demographic profile of the respondents indicates that the SMEs in Metro Manila are in a good position to undergo the digital transformation since most of them are in their prime working years and most of them have tertiary education. This indicates that the digitally enabled workforce is one of the enablers of the adoption of e-commerce. However, as the trend of digitalization increases, there is still a part of traditional business that is resisting and insisting on traditional way of operation which might be because of the technological, financial or trust barrier especially in the older and established businesses.

In terms of industry, the fact that the trade, hospitality, and transportation industries are concentrated around the adoption of e-commerce is an indicator that the customer facing industries are the ones who gain the most out of the digital platform. The fact that high-revenue SMEs are included in the sample also demonstrates that e-commerce is not the field of small businesses only, but is also exploited by companies that have significant financial presence. In the meantime, manufacturing and utilities are still significantly underrepresented, which means that the digital transformation is not embraced in every industry to the fullest.

Entrepreneurial orientation as a factor that determines sustainability of SMEs becomes more decisive than the use of e-commerce in isolation. The research confirms that companies that have a greater entrepreneurial ethos, that is, those who are ready to take risks, are innovative, and make decisions proactively, enjoy more benefits of digital adoption. The mediating value

of entrepreneurial orientation in relation to e-commerce and business performance underscores the importance of this mediating variable in ensuring that the SMEs are in a position to exploit the opportunities of digital platforms to the full.

The analysis also illuminates on the fact that the COVID-19 pandemic became a driver of digital adoption that forced companies to reevaluate their financial stability, governance, and market flexibility. Those SMEs that rapidly switched to e-commerce proved to be better able to deal with disruptions, and it confirms the idea that the digital transformation is not a just a trend, but it is a requirement to continue operations. That notwithstanding, such obstacles as cybersecurity worries, regulatory measures, and insufficient digital infrastructure are still posing challenges to the rate at which SMEs have embraced e-commerce to full extent.

All of these findings imply that even though the adoption of e-commerce brings quantifiable benefits, the final success of these enterprises depends mainly on the entrepreneurial potential of SMEs. The findings imply specific policy actions, capacity-building courses, and investments in infrastructure that will enable a more natural shift to the digital economy, especially of the traditional sector businesses. When SMEs are strategic in terms of achieving digitalization as well as entrepreneurial development, they are in the best position to enjoy long-term success in a highly competitive and technologically oriented market.

## **Conclusion**

Operating a small business is not an easy task nowadays, and in the case of the MSMEs in Metro Manila, the road toward sustainable growth is more than ever before becoming a two-fold phenomenon: adopting e-commerce and the entrepreneurial spirit. This paper clearly illustrates how becoming digital can open actual opportunities to grow the business, but what matters most is the attitude of such a decision-making process the readiness to innovate, make reasonable risks, and be first to jump the curve, which is what defines the scope of such possibilities. The most interesting part of the findings was that SMEs that had stronger entrepreneurial orientation did not only take the digital tools but were better at using them. They turned e-commerce into quantifiable financial benefits and created businesses, which could stand the test of time. This informs us of something: technology is as potent as its people and plans. It also came out that not every industry is progressing at a similar rate. The sectors that interact directly with the customer such as business in the trade, hospitality and transportation sectors have been faster to adopt digital platforms, and with reason. However, manufacturing and utilities have been laggards, restrained by the special requirements of their business and their digital preparedness. This disproportionate use is another lesson that digitalization cannot be based on a one-size-fits-all strategy. The COVID-19 pandemic, despite all its destruction, provided a telling example in the flexibility. Companies that already incorporated digital practices into their business and those able to swiftly shift were much more successful than companies that did not. It was a severe confirmation that e-commerce is no longer an option; to many, it proved to be the life-blood that held their doors open. With that said, the path towards complete digital adoption remains full of actual challenges. The threat of data security, cost of establishing and maintaining e-commerce systems, and the lack of technological infrastructure gaps are some of the issues that are still keeping many SMEs behind. They are not minor challenges; they are rooted in real problems that cannot be overcome with a few words of support. The conclusion of all this is simple, and should be

reiterated: it is not e-commerce that is going to make it. What it provides is opportunity - and it requires entrepreneurial impetus to transform that opportunity into the long run. In the case of SMEs, this should not only be investment in digital tools, but in skills, thinking and strategies that get these tools to work. To policymakers and business support organizations, it implies going a step higher with more practical solutions better digital infrastructure, available training, and more understandable regulatory frameworks that will make the digital transition less challenging. In a world that is merely growing tougher and smaller, the companies that will triumph are the ones that combine the digital adoption with entrepreneurial bravery. Such a mix does not only presuppose a growth formula, but it is the basis of resilience.

## **Recommendation**

In order to make the best out of the E-commerce adoption and sustainability of the business performance of the MSMEs in Metro Manila, some important recommendations are presented. The owners and entrepreneurs of SMEs should aim at empowering their entrepreneurial orientation, being innovative, taking risks, and embracing the proactive business approach in order to strengthen their competitive advantage in the digital economy. Digital literacy and skills training are also necessary investments because the business owners and employees should have education on digital marketing, cybersecurity, and online business practices to be in the position to operate in the changing E-commerce environment. As social media platforms like Facebook and Instagram have become the most popular among online transactions, SMEs are advised to augment their online offerings by building their own websites and using E-commerce market places to ensure that they do not rely on third party algorithms and build brand credibility. Since cybersecurity threats and online fraud are increasingly becoming a issue of concern, it is also advisable that SMEs should use secure payment gateways, data protection, and fraud prevention solutions to establish consumer confidence and guarantee secure internet transactions. Also, the use of data-driven decision-making is to be promoted where SMEs use analytics tools to track the behavior of consumers, optimize their marketing strategies, and improve the overall business performance.

To policymakers and government agencies, supportive digital infrastructure, such as better internet connectivity, digital transformation subsidies, and better regulations, are vital in order to allow the adoption of E-commerce by SMEs in a smooth manner. They should also be provided with financial aid in terms of grants, low-interest loans, and tax reliefs to assist SMEs to break the entry cost barriers related to digital integration. In addition, cybersecurity laws should be reinforced to defend both companies and consumers against web fraud, scams, and cyber-attacks and have a safer internet ecosystem. It is also suggested to encourage the formation of public-private digital training programs whereby government agencies, the tech businesses, and academic institutions are expected to team up in offering affordable and industry-oriented E-commerce training to MSMEs.

Industry associations and business networks may also be instrumental in promoting the adoption of E-commerce through the formation of online business communities where the SMEs can share best practices, get mentoring and teamwork in online marketing. As there is a difference in the adoption of E-commerce between industries, it is also necessary to market sector-specific digital solutions that may be applied in industries that are less represented in digital transformation, including manufacturing and utilities. Moreover, sustainable E-

commerce processes are to be promoted, which would direct SMEs towards the adoption of environment-friendly logistics, ethical business processes, and responsible management of digital products lifecycle to harmonize the business development and sustainability objectives.

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