THE E-READINESS of Small & Medium Enterprises in SOCCSKSARGEN: An Explanatory APPROACH

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ABSTRACT

Inadequate infrastructure and resources of small and medium enterprises (SMES) hindered the adoption and integration of new technology into their business operation. This study aimed to determine the level of e-readiness in SOCCSKSARGEN as well the comparison of the difference of e-readiness in SMEs according to their characteristics. The researcher employed an explanatory sequential design to provide a better understanding of the study. The survey covered 150 purposively chosen executives from merchandising and manufacturing industries across the region. Moreover, five participants were interviewed. The quantitative results were analyzed through inferential statistics while the qualitative information was analyzed thematically. The findings revealed that e-readiness is evident and among its indicators, the e-commerce readiness revealed a very high level whereas digital technology readiness and e-business readiness were high level. The e-readiness is comparable regardless of the location, nature of organization, forms of business, number of employees, organization size, annual average profit level and product offerings. The quantitative findings of the study were supported by the fundamental themes that arose from the qualitative data. The e-readiness identified themes from the participants which helped strengthen and explain the profoundness of the level of e-readiness and also the comparison of the variable. The participants' perception suggests that they hold the belief that SMEs are well prepared and equipped for the digital era. These research findings offer implications for research and business practice.

KEYWORDS: *Business Management, SMEs, e-readiness, digital technology readiness, e-commerce readiness, e-business readiness, explanatory sequential mixed methods, thematic analysis, SOCCSKSARGEN, Philippines.*

INTRODUCTION

E-readiness is essential for small and medium enterprises (SMEs) to be able to participate in the digital economy (Harmawan, 2022). Despite the triumphant integration of technology into the operation of different businesses and the evident significant growth, yet some establishments are still reluctant to embrace e-commerce (Govinnage & Sakhitra, 2019). It was also mentioned by Kimana, (2020) that there were studies which had noted the advantages that technology brought to organizations, yet some SMEs lack the willingness to fully adopt electronic commerce.

Moreover, those that operate in rural regions experienced significant challenges in adopting new technologies due to insufficient financial and technical incentives, as well as support from public and local authorities (Fanelli, 2021). It is undeniable that technology has contributed enormously to the world economy. In spite of this, Llanto, (2020) stated that Philippines faces a multitude of obstacles, such as a deficiency in finances, poor technology, and a lack of digital literacy which impeded their capacity to fully adopt and utilize digital change. Notwithstanding the growing usage of mobile payment by SMEs, there is a lack of empirical evidence regarding the factors that drive its adoption and the resulting impacts. (Hernandez, et.al.,2022).

Technology preparedness or e-readiness is very significant as it could largely determine a company's ability to succeed and improve its performance (Verhoef et al. 2021). SMEs must maintain their competitiveness, get ready for digitalization, to be able to address the existing social, regulatory, technological, and economic problems, maximize the reach of digitalization, and seize new development prospects (Tham & Atan, 2021). Organizations operate in a dynamic environment that is always evolving, posing a multitude of real and prospective dangers as well as crises. They must be electronically prepared and advanced, since it has a big influence on crisis management (Allabadi & Al-Masaeed, 2021).

In the research conducted by Etim (2021), it was discovered that there was no significant statistical difference in the adoption of web technology portals or e-readiness among different types of business or genders across a number of sub-sectors. All things considered, the conclusion drawn from these results is that companies ought to concentrate on using web technology and enhancing their e-readiness rather than worrying about gender or the particular industry they work in. This underlines the significance of being digitally ready for all firms, regardless of gender or industry, and underscores the universality

and wide applicability of web technology to improve corporate operations. Based on the result in the study of Akinyemi et al. (2019), the potential advantages of digitization may differ between countries, which can assist knowledgeable policymakers and national leaders in establishing a strong framework for digitization. They can provide necessary facilities that will improve access and enable the utilization of opportunities and capabilities that digitization can offer for their respective nations. Furthermore, as stated by El Rassi (2020), different enterprise sizes have varied e-business adoption characteristics, and different sized "e-service firms" cannot all benefit from the same adoption model.

Several studies related to e-readiness were already conducted. However, limited attention was given to examining SMEs' e-readiness. Further, the researcher found that there are still limited and unrealized studies in the Philippines, particularly in SOCCSKSARGEN, using the explanatory sequential approach. This ignited the researcher's curiosity to ‘delve deeper to examine the SMEs level of e-readiness as well as their differences according to characteristics. Moreso, it was noted by Harmawan, (2022) that to assess the readiness of SMEs to embrace e-commerce, a comprehensive follow-up study is necessary. This may include detailed comparisons between different cities or on a nationwide scale. The researcher believe that this could enhance the current body of literature on the significance of e-readiness in facilitating digital inclusion, promoting innovation, and advancing socioeconomic development in the digital age. Ultimately, a variety of stakeholders will find value in the study's conclusions encompassing SMES, government agencies, chambers of commerce, trade organizations, technological innovations, banking establishments, academe, and researchers.

Theoretical Lens

The strategy that the researchers took to the research issues presented in the study was informed by pragmatism, which places a focus on reason and practicality. In the course of the investigation, a pragmatic epistemological attitude was adopted, which acknowledged the existence of one or more realities. Research adhered to the principles of pragmatism in the sense that it recognized and considered a wide range of perspectives, focused on practical applications, and attempted to find solutions to real-world problems. At some point in the past, pragmatism has been recognized as a viable paradigm for mixed methods research, as stated by Brierley (2017). When it comes to conducting research, one school of thought, which is known as pragmatism, focuses an emphasis on

finding solutions to issues and being as practical as possible (Morgan, 2013).

The Technology Organization and Environment (TOE) model that Tornatzky and Fleischer (1990) developed provides insight on the inner workings of innovation in the workplace. Taking into consideration the technological, organizational, and environmental aspects that have an impact on the degree to which a company is prepared to accept innovation is the paradigm that is being discussed here. The researcher also made use of Davis's (1989) Technology Acceptability Model (TAM), which is an attempt to determine the most significant factors that influence the attitudes and behaviors of computer users across a variety of populations and forms of computing. PU and PEU were the two primary concepts that served as the foundation for the initial rendition of the TAM paradigm.

In addition, the research was built on the foundation of VERDICT, which stands for Verify End-user eReadiness using a Diagnostic Tool. The first version of this method was created in 2006 by specialists from Loughborough University in the United Kingdom. K. Ruikar was the one who initially put it to use, and it was initially implemented in the engineering and automation industries. The research also made use of a paradigm known as the "Perceived E-Readiness model" (PERM), which has garnered praise from academics due to its complete analysis of both internal and external elements. Researchers from the United States named Molla & Licker (2005) developed the PERM model in order to evaluate the degree to which developing countries are prepared to adopt electronic commerce.

The research was also based on the Innovation Diffusion that was first introduced in 1962. It was Rogers (1995) who enhanced the theory. The hypothesis of innovation diffusion is centered on being aware of the how, why, and pace of new technologies and concepts proliferated in an arrangement of society (Rogers, 1962). Further, The Venkatesh et al. (2003) UTAUT (Unified Theory of Acceptance and Use of Technology) framework was also serve as the study's one of theory’s bases. Predicting behavioral intention for technology adoption is a common application of UTAUT and its expanded theoretical frameworks.

METHODS

Research design

The study employed mixed methods design specifically explanatory sequential approach to clearly understand the research issues and delve deeper into the study findings. The ever-evolving mixed-methods research strategy encourages the methodical integration of qualitative and quantitative data within a single study or ongoing investigation (Creswell, 2013). Yin (2014) emphasized the importance of allocating more time and effort to mixed-methods studies in order to combine quantitative and qualitative data.

The utilization of an explanatory mixed methods design is recommended by Fetters et. al. (2023) as a means of enhancing the validity and reliability of the findings obtained from the research. This manner makes it possible to combine different methodologies and data, which will make it possible to triangulate the data in order to validate the conclusions. This was accomplished by the researcher by doing an analysis of process notes, interviews, and questionnaires in order to make the study more precise.

Place of Study

The study directed purposively among the SMEs in SOCCSKSARGEN that is a manufacturing or merchandising nature of business and is already operating for more than three years. SOCCSKSARGEN, formerly Central Mindanao, is a south-central Mindanao administrative region that is part of the Philippines' Region XII. The SMEs that the researcher chose to conduct her study were on the four key cities of the region.

It was the researcher who carried out the study in SOCCSKSARGEN because the researcher is noticing a gap in the data of related research in this particular region especially using the mixed method approach. Consequently, the SOCCSKSARGEN Regional Development Plan (2023-2028) stated that the region has a continued challenges faced with financial innovation.

Participants

The participants of the study were composed of 150 SMEs' executives that were distributed pro rata in the SOCCSKSARGEN who took part in the quantitative strand of the research as study participants. To choose the research subject, a purposive sampling technique was used. Fraenkel & Wallen (2010) describe this strategy as a sampling methodology in which the researcher exercises personal judgment in selecting participants from the population for the

study.

The following requirements were established in order to achieve homogeneity: the SMEs must be located in one of the four major cities of SOCCSKSARGEN, a manufacturing or merchandising nature of business and is already operating for more than three years. It has also assets between PHP 3 million and PHP 15 million for small businesses, and between PHP 15 million and PHP 100 million for medium businesses this is based from the Department of Trade and Industry (DTI) and Bureau of Small and Medium Enterprise Development (BSMED) of the Philippines. The survey did not include SMEs that provide other nature of business and those located in the municipalities.

Within the qualitative strand of this research, there were initially 5 participants for in-depth interview (IDI) and can be added until data is saturated. The participants of the second phase were selected from those who participated in the quantitative strand and were chosen via the purposive sampling method. Along with Lavrakas (2008), an intentional sample is a form of nonprobability sampling, sometimes known as a judgment or expert sample. Participants in this sample methodology will be selected based on their familiarity with the business.

Data Analysis

In order to assess the e-readiness of SMEs in SOCCSKSARGEN in quantitative strand, the researcher used the statistical tools of mean, standard deviation, t-test, and ANOVA to analyze and interpret the data in the quantitative strand. Mean, this was used to determine the status of SMEs' e-readiness in terms of the three indicators digital technology readiness, e-commerce readiness, and e-business readiness. The standard deviation, this was utilized to assess the extent to which the scores derived from the collected data were clustered around the mean. T-test, this was used to find out the significant difference between the means of two groups, such as the e-readiness between the different nature of organizations, number of employees and organization size. ANOVA (Analysis of Variance). ANOVA was utilized to find out the significant difference between the means of three or more groups to determine whether they are significantly different from each other such as the e-readiness among SMEs location, forms of business, annual average profit level and products offerings.

In analyzing qualitative data, the researcher used thematic analysis in interpreting the gathered information through IDI. Qualitative researchers

employ thematic analysis, a versatile approach to data analysis, to derive themes from interview data. Therefore, the researcher optimized the five branches of thematic analysis in accordance with Braun and Clarke's (2013) recommendation.

Trustworthiness

Merriam (2009) outlined the following steps to determine whether a qualitative study is reliable. Among these tactics were methods such as triangulation, which incorporates the utilization of various sources of data to support a conclusion; member checks; and arrangements with data providers. Saturation, which involves continuously collecting data until there are no more irregularities or gaps, peer review, which involves consulting with experts, audit trail, which involves keeping a detailed record of data collection and the reasoning behind important decisions, and thick description, which involves providing rich detail about the context of the study, were some of the other methods that were made available. Furthermore, Lincoln and Guba (1985) stated that the qualitative researcher has concurred that the following characteristics of trustworthiness are indicative of it: credibility, transferability, dependability, and verifiability.

RESULTS

Quantitative Results

Characteristics of SMEs

Table 1

Characteristics of SMEs

	Freq.	Percent (%)
Location		
General Santos City	59	39.3
Koronadal City	34	22.7
Tacurong City	21	14.0
Kidapawan City	36	24.0
	150	**100.0**
Nature of Organization		
Manufacturing	38	25.3
Merchandising	112	74.7
	150	**100.0**

Form of Organization		
Sole-proprietorship	82	54.7
Partnership	15	10.0
Corporation	53	35.3
	150	**100.0**
Number of Employees		
Small (10 to 99 employees)	123	82.0
Medium (100 to 199 employees)	27	18.0
	150	**100.0**
Organization Size		
Small (more than P3 million to P15 million Assets	121	80.7
Medium (more than P15 million to P100 million assets)	29	19.3
	150	**100.0**
Annual Average Profit Level (2021-2023)		
1 % or less	16	10.7
2% - 5%	49	32.7
6% - 10%	59	39.3
11% - 15%	17	11.3
Above 15%	9	6.0
	150	**100.0**
Product Offerings		
Food and Beverage	23	15.3
Ready to wear	5	3.3
Furniture and Fixtures	8	5.3
Appliances and Gadgets	17	11.3
General Merchandise	50	33.3
Agricultural Products	11	7.3
Medicines, healthcare and personal care products	9	6.0
Motorcycle	7	4.7
Hardware and Construction supply	11	7.3

Continuation…	**Freq**	**Percent (%)**
Automobile and car accessories	9	6.0
	150	**100.0**

The data on Table 1 shows the characteristics of SMEs. In terms of location, the highest number of SMEs are located in General Santos City (39.3%) while the least number (14.0%) are found in Tacurong City. Most of the participants are in merchandising (74.7%) nature of business. As to the form of organization, more than half of them (54.7%) are sole-proprietorship and only very few (10.0%) are in the form of partnership.

Adding on, the number of employees majority (82.0%) fall within the category of having a small workforce, with employee counts ranging from 10 to 99. Regarding organizational size, the majority of (80.7%) fall into the small category, with assets ranging from more than P 3 million to P15 million. A smaller percentage of SMEs (18.3%) have assets ranging from more than P15 million to P100 million. In terms of annual average profit level in 2021 to 2023, about two-fifths of them (39.3%) reported an average of 6 percent to 11 percent while only a handful of them (6.0%) claimed to have an average profit level of above 15 percent. Moreover, in terms of product offerings, those specified under general merchandise has a sub-total of (33.0%) which got the highest percentage and the least is under ready to wear (3.3%).

Status of E-readiness of SMEs in SOCCSKSARGEN as Assessed by their Executives

Table 2
Status of E-readiness of SMEs in SOCCSKSARGEN as Assessed by their Executives

Digital Technology Readiness *Their company is ready in using digital technology for …*	**Mean**	**SD**	**Description**
1. managing production planning.	4.24	.95	Very High
2. tracking business inventory.	4.23	.91	Very High
3. having group collaboration.	4.05	1.02	High
4. scheduling.	4.09	.98	High
5. outsourcing activities.	4.05	1.02	High
Category Mean	**4.13**	**.88**	**High**
E-commerce Readiness *Their company is ready in …*			

6. receiving purchase orders from customers through the internet.	4.25	.99	Very High
7. selling online to customers via the internet.	4.25	.98	Very High
8. offering customer services via the internet.	4.27	.93	Very High
Category Mean	**4.25**	**.90**	**Very High**
E-business Readiness *Their company is ready in ...*			
9. engaging electronic interactions with their customers.	4.19	1.02	High
10. having electronic interactions engagement with their suppliers.	4.23	1.06	Very High
11. transacting electronically with their customers using digital platforms, tools, and technologies in terms of communication with clients, payment of goods, and other business transactions.	4.15	1.11	High
Category Mean	**4.19**	**.97**	**High**
Overall Mean	**4.19**	**.79**	**High**

The data on Table 2 shows the status of e-readiness of SMEs in SOCCSKSARGEN. It shows that the overall mean of the e-readiness of SMEs is 4.19 described as high. This denotes that e-readiness of SMEs is evident. The standard deviation scores for e-readiness indicate that there is a minimal amount of variation in the responses for each category. These findings indicate that the majority of SMEs possess a uniform degree of e-readiness in utilizing digital technology, e-commerce and e-business.

Digital Technology Readiness. The category mean of this domain is 4.13 described as high. As shown in the table, items in this category range from 4.05 to 4.24. The items in digital technology readiness pertaining to the readiness for managing production planning and tracking business inventory reflects a mean rating of 4.24 and 4.23 respectively described as very high. Meanwhile, the items relating to readiness for having group collaboration and outsourcing activities have the same mean of 4.05 described as high.

E-commerce Readiness. The category mean of this domain is 4.25

described as very high. As shown in the table, items in this category are ranging from 4.25 to 4.27. The item pertaining to readiness of offering customer services via the internet garnered the highest mean of 4.27 described as very high.

E-business Readiness. This domain has a category mean of 4.19 described as high with item mean ratings that range from 4.15 to 4.23. The item referring to their readiness in having electronic interactions engagement with their suppliers shows a mean of 4.23 described as very high while the item pertaining to their readiness in transacting electronically with their customers using digital platforms, tools, and technologies in terms of communication with clients, payment of goods, and other business transactions reflects a mean of 4.15 described as high.

Significance of the Difference in E-readiness of SMEs in SOCCSKSARGEN According to their Characteristics

Table 3
Significance of the Difference in E-readiness of SMEs in SOCCSKSARGEN According to their Characteristics

	Mean	SD	df	F/t	p-value	Remarks
According to Location			**3**	**.41**	**.75**	**Not Significant**
General Santos City	4.28	.64				
Koronadal City	4.11	.89				
Tacurong City	4.13	.72				
Kidapawan City	4.16	.97				
According to Nature of Organization			**148**	**-1.66**	**.10**	**Not significant**
Manufacturing	4.01	.90				
Merchandising	4.25	.74				
According to Form of Organization			**2**	**2.74**	**.07**	**Not significant**
Sole-proprietorship	4.06	.87				
Partnership	4.45	60				

Corporation	4.32	.67				
According to Number of Employees			**148**	**-1.21**	**.23**	**Not Significant**
Small (10 to 99 employees)	4.16	.80				
Medium (100 to 199 employees)	4.36	.73				
Organization Size			**148**	**-1.47**	**.14**	**Not Significant**
Small (more than P3 million to P15 million assets	4.15	.80				
Medium (more than P15 million to P100 million assets)	4.39	.71				
According to Annual Average Profit Level (2021-2023)			**4**	**2.24**	**.07**	**Not Significant**
1 % or less	3.96	.84				
2% - 5%	4.05	.73				
6% - 10%	4.06	.77				
11% - 15%	4.33	1.00				
Above 15%	4.69	.35				
According to Product Offerings	**Mean**	**SD**	**df**	**F**	**p-value**	**Remarks**
			9	**1.20**	**.30**	**Not Significant**
Food and Beverage	4.15	.80				
Ready to wear	4.07	.96				
Furniture and Fixtures	4.12	.76				
Appliances and Gadgets	4.30	.76				
General merchandise	4.26	.71				
Agricultural Products	4.00	.79				

Medicines, healthcare and personal care products	4.42	.65
Motorcycle	4.68	.55
Hardware and Construction supplies	3.77	.95
Automobile and car accessories	4.18	1.08

The data in Table 3 shows the difference of E-readiness of SMEs in SOCCSKSARGEN. The result shows that there is no significant difference in E-readiness of SMEs in SOCCSKSARGEN when grouped according to location, nature of organization, forms of organization, number of employees, organization size, annual average profit level and product offerings with their respective p-values which are greater than 0.05 level of significance.

Qualitative Results

Standpoints of the Participants on the Quantitative Results

Table 4

Profile of the Participants

Pseudonym	Gender	Nature of Business	Position
Ms. Creativity/ P01	Female	Manufacturing	Business owner
Mr. Adaptability/ P02	Male	Merchandising	Manager
Ms. Innovation/ P03	Female	Manufacturing	Accountant
Mr. Risk Taker/ P04	Male	Merchandising	Manager
Ms. Passion/ P05	Female	Merchandising	Manager

The data in Table 4 pertains to the profile of the participants who were involved in the in-depth interviews. They were composed of three females and two males. The two participants came from General Santos City, whereas the three participants came from three different cities such as Kidapawan City, Koronadal City and Tacurong City. The researcher used the characteristics of entrepreneurs as pseudonyms to protect their identities. The participants came from different nature of business such as manufacturing and merchandising. They belong in the executive position in their company. There were five

participants in in-depth interviews.

Table 5

Standpoints of the Participants on the Quantitative Results Regarding the Level of the Independent Variable

Probed Issues	Essential Theme	Core Ideas
E-readiness (variable)	**Confirmed high rating of e-readiness**	Revolutionized customer experience and enhanced business efficiency
		Expanded scope and competitiveness for modern marketing
		Boosted business and customer e-communication
		Strengthened geographical reach and expansion opportunities
		Online showroom experience facilitates sales transactions
Digital technology readiness (indicator)	**Confirmed high rating of digital technology readiness**	Automation of inventory system to eliminate errors, save resources and facilitate production decisions
		Streamlined procurement processes and well-organized record-keeping.
		Wider reach and reduced cost
		Easy access to critical data through remote monitoring.
		Utilization of digital tools to stay competitive.

E-commerce readiness (indicator)	**Confirmed the very high rating of e-commerce readiness**	Improved service quality through online platforms
		Expanded business reach and access to online markets
		Seamless interaction and transactions through digital communication
		Accelerated remote product viewing, aiding decision-making, and purchases.
		Demonstrating readiness for business growth through digital technologies
E-business readiness (indicator)	**Confirmed high rating of e-business readiness**	Systematized business approaches and easy identification of discrepancies.
		Reliance on digital communication channels
		Access to advanced international technologies inspires businesses to adopt e-business practices.
		Utilization of online platforms
Comparison of the status of e-readiness according to the characteristics of SMEs	**Confirmed comparable e-readiness according to the characteristics of SMEs**	Individual perspectives of business owners
		Selling as the ultimate goal
		Perception on digital adoption
		Skepticism and openness
		Integrating various technological tools and solutions

The data contained in Table 5 pertains to the standpoints of the

participants on the quantitative results, particularly on the level of e-readiness, digital technology readiness, e-commerce readiness and e-business readiness and contains the standpoints on the comparison on the status of e-readiness in terms of its characteristics. The information contains the essential themes and the typical reasons of the participants.

Confirmed high rating of e-readiness. The high results of e-readiness were confirmed by the participants considering their revolutionized customer experience and enhanced business efficiency, expanded scope and competitiveness for modern marketing, boosted business and customer e-communication, strengthened geographical reach and expansion opportunities and online showroom experience facilitates sales transactions.

> *People are now dependent on electronic devices because some workers will even be laid off and replaced by those computers, and that is now the trend. (P03)*

> *As of now if you are not able to keep up with the trend, then it is a great loss for your business. You will really get behind. There are big businesses out there not just the small business wherein they got toppled down. (P04)*

> *It is important because it is easier for you to gather the information that you need. It is also easier for you to come up with a decision, to come up with a plan, and to resolve any problems. (P01)*

> *I agree because it can really help the employer here. It can lessen the workload if you are using electronics compared before which is manual labor. (P05)*

Confirmed high rating of digital technology readiness. The participants claimed that digital technology readiness is evident in their respective SMEs in view of the automation of inventory system to eliminate errors, save resources and facilitate production decisions, streamlined procurement processes and well-organized record-keeping, wider reach and reduced cost, easy access to critical data through remote monitoring, automated systems to eliminate errors, saving time and resources and utilization of digital tools to stay competitive.

> *We are also starting to have that one little by little. We are adopting, and then the system is also advantageous. If we purchase something, we will make procurement of our orders online, and then we will only send that directly and the records can now be seen. (P02)*

> *As we are now in the era of advanced technology. With every item being encoded, it has become much easier to track inventory and updates. For instance, the process of updating becomes more streamlined with the use of technology, making it easier to monitor stock levels. (P05)*

> *For now, we are already on the electronic stage, so it would be a big help. First in our business, because aside from the fact that it would lessen work, it would also make it more accurate which can lessen errors because the data is already there. (P02)*

> *[…] we are doing that every day, for example, at the end of the day since our staff per store is reporting. They report about their inventory, and then we collect all of it that very night. By doing so, we can keep track of the current inventory and make informed decisions about production quantities in order to avoid overproduction and minimize the risk of having unsold items. (P01)*

Confirmed very high rating of e-commerce readiness. The participants' insights indicated that SMEs' executives improved their service quality through online platforms, expanded their business reach and access to online markets, seamless interaction and transactions through digital communication, accelerated remote product viewing, aiding decision-making, and purchases and demonstrated readiness for business growth through digital technologies.

> *If there are new products to introduce, I post them on social media so that the customers will know about them and they will be sold. (P01)*

> *Today, we are actively engaging in online order processing,*

sales, and addressing customer service inquiries through the internet. (P02)

[…]it is more convenient for the customers […] We are now in digital age so we can easily see the products from the other place then have it delivered. (P04)

[…] because it is also where almost all market views, and manual process are really rare. The use of faxes has become obsolete. as I already stated, what they truly need is the physical image itself. (P03)

Confirmed high rating of e-business readiness. Based on the insights of the participants to high rating of e-business readiness, they relayed the SMEs systematized business approaches and easy identification of discrepancies. Their reliance on digital communication channels and access to advanced international technologies which inspires businesses to adopt e-business practices.

It will be more efficient and convenient for both of us and our suppliers. Work will be easier, more organized if it is systematized, making it quicker to find discrepancies. Additionally, the personnel and their workload can be maximized. (P02)

They utilize online platforms for various activities such as posting, sharing pictures and videos, and having discussions on stock usage. Everything is conducted online for convenience and speed. (P05)

our suppliers are from China […] every time we have new features during our discussions, we have data we use which is from China, direct to us. There are also websites wherein we can use as we have the full access to it. Before, without technology, we do not have things like that. (P04)

[…]We engage in electronic interactions with our suppliers, mostly through messenger. (P01)

Comparison of E-readiness of SMEs in SOCCSKSARGEN according to their

characteristics

The participants confirmed comparable status of e-readiness according to the characteristics of SMEs. They shared that this are because of individual perspectives of business owners, selling as the ultimate goal, perception on digital adoption, skepticism and openness and integrating various technological tools and solutions.

> *Because it was like they had already adopted it. If they will not adopt that system, they would be left behind. Even small businesses nowadays are marketing digitally since maybe now social media has more markets. (P03)*

> *Even though you offer different products, the bottom line is still the same. You are selling. That's it. If the SMEs will not adopt, they will be left behind. (P02)*
> *It is really expensive to make systems, but for small businesses, you can just have patience in making them on your own, because every company has its own system. For example, you can have a system in marketing. Even in small processes, there are systems. You really need to have a system. (P03)*

> *[…]although it is pricy to invest with technology but in the long run, it will benefit us more compared to jeopardizing our business just because we did not upgrade. So, if you are a businessman, do not be a cheapskate when it comes to technology because it will really benefit you.[…]You can minimize losses if you apply technology. (P04)*

Data Integration of Salient Quantitative and Qualitative Findings

Table 6
Joint Display of Quantitative and Qualitative Results

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
Status of E-readiness	Survey result shows that the respondents' overall rating for	Informants/participants confirmed high ratings on e-readiness,	Connecting, merging (Confirmation)

	the e-readiness status is high meaning, the e-readiness of SMEs in SOCCSKSARGEN is evident. Refer to Table 2	inferring that e-commerce improves business operations and strategies.	
Level of Digital technology readiness	In digital technology readiness, a very high rating is garnered on the SMEs' readiness to manage production planning and tracking business inventory. Refer to Table 2	The validation of informants/participants on the high ratings of digital technology readiness, deduced that digital tools improve operations, decision-making, and competitiveness.	Connecting, merging (Confirmation)
Level of E-commerce readiness	In e-commerce readiness, all of the statements had high ratings such as SMEs' readiness to receive purchase orders from customers through the internet, readiness to sell online to customers via the internet and readiness to offer customer services via the internet. Refer to Table 2	Informants/participants agreed with the high level of e-commerce readiness, emphasizing that businesses utilized automation and online platforms to perform their diverse functions.	Connecting, merging (Confirmation)

Level of E-business readiness	SMEs exhibit strong readiness for e-business when they actively engage in electronic interactions with their suppliers, as reflected by their high ratings in e-business readiness. Refer to Table 2	The high level of e-business readiness is affirmed by the informants/participants, indicating that digital transformation enhances transaction efficiency and accelerates e-business processes.	Connecting, merging (Confirmation)
Comparison of the status of e-readiness of SMEs in SOCCSKSARGEN	The study revealed comparable status of e-readiness when grouped according to the characteristics of SMEs. Refer to Table 3	The informants/Participants confirmed that there is no significant difference in e-readiness status based on characteristics. They recognize the importance of technology for easier operations and sustained income, despite skepticism about survey results.	Connecting, merging (Confirmation)

The joint display of the quantitative and qualitative results is presented in Table 6. The structure of the integration of the results is based on the research questions of the study. The nature of integration is connecting, merging, and confirmation.

Status of E-readiness. Survey result shows that the respondents' overall

rating for the e-readiness status is high meaning, the e-readiness of SMEs in SOCCSKSARGEN is evident. The participants of the qualitative strand support and validate this quantitative finding, indicating that e-commerce enhances business operations and strategies. Thus, the nature of integration is connecting-merging confirmation.

Level of Digital Technology Readiness. A very high rating is garnered on the SMEs' readiness to manage production planning and tracking business inventory. The participants who took part in the qualitative aspect of the research agreed with the findings of the survey, which demonstrated that the utilization of digital technologies enhances operations, decision-making, and competitiveness. With this, the nature of integration is connecting-merging (confirmation) since the qualitative results confirmed the quantitative result.

Level of E-Commerce Readiness. All of the statements had very high ratings such as SMEs' readiness to receive purchase orders from customers through the internet, readiness to sell online to customers via the internet and readiness to offer customer services via the internet. Participants confirmed the very high level of e-commerce readiness in the quantitative result, highlighting that SMEs employed automation and online platforms to carry out their various duties. Thus, the nature of integration is connecting-merging (confirmation) since the qualitative results confirmed the quantitative result.

Level of E-Business Readiness. SMEs exhibit strong readiness for e-business when they actively engage in electronic interactions with their suppliers, as reflected by their high ratings in e-business. The participants in the in-depth interview proved that digital transformation improves the efficiency of transactions and speeds up the processes involved in conducting business online. With this, the nature of integration is connecting merging (confirmation).

Comparison of the status of e-readiness of SMEs according to their Characteristics

The study revealed that there is no significant difference of the status of e-readiness when grouped according to the characteristics of SMEs. The participants verified to the extent that it could be deduced that they acknowledge the significance of technology in terms of making operations simpler and maintaining sustainable income, despite skepticism about survey results. Thus, the nature of integration is connecting-merging confirmation.

DISCUSSION

Status of E-readiness of SMEs in SOCCSKSARGEN as Assessed by their Executives. The overall rating of e-readiness is high described as the e-readiness is evident in SOCCSKSARGEN. The result implicates that SMEs' owners enhanced their competitiveness, improved their access to information, increased their proficiency in digital literacy and skills, heightened their ingenuity and creativity, and their potential for growth in the digital economy. They have the capacity to lead to economic expansion, to generate job prospects, and to the empower the SMEs in the region. This finding supports the study of Hadiwijaya and Barovih, (2023) where the measurement results show that small and medium enterprises in Palembang City are ready to use IT facilities to market their products through the IBS system. This is also in line with the idea of Pangestu et. al, (2021) that being ready to measure and use information technology is essential for any entrepreneur and despite the presence of technology, they have the ability to enhance the quality of their products or services.

Moreover, this supports to the result in the study of Matias and Hernandez (2021) conducted in the Philippines, where evidence indicates that the combination of competitive pressure and regulatory backing motivates companies to embrace cloud computing. This study enhances the existing body of knowledge on technology adoption by offering a unique viewpoint on the adoption of cloud technologies.

It contradicts to the result in the study of Rafiah,et. al., (2022) that the research findings suggest that Indonesian SMEs have a low degree of Industry 4.0 readiness. Despite being aware of the phenomenon of digitalization, most respondents say they are not yet ready to exploit various technologies in their organizations or to adapt to it. Generally speaking, SMEs make up the majority of businesses in Indonesia. These companies are aware of the trend toward digitization but are reluctant to adopt it and need a lot of help from different sources in order to comprehend and integrate it into their operations.

Level of Digital Technology Readiness. In digital technology readiness, the result shows that the overall rating is high, described as e-readiness in this domain is evident. This domain emphasizes a very high rating on SMEs' readiness in managing production planning and tracking business inventory. It demonstrates SMEs preparedness for embracing digital transformation, thereby fostering creativity and collaboration. They are also

well-versed in overseeing the company's inventory management and production planning processes. The result supports the conclusion of Iskandar et. al. (2023) that SMEs that have adopted technology have increasingly demonstrated business success, especially when it comes to automation, digital marketing strategies, and online solutions. This is also parallel the study of Cimbaljević et al. (2023) that technological readiness influences attitudes and intentions about technology use, and personnel in the tourism sector are likely to accept new technologies, according to the report.

Additionally, the results demonstrate that perceived utility and ease of use act as some sort of mediating factor along the path connecting the technical preparedness and intention to use dimensions. Research shows that entrepreneurs are relatively flexible in technology readiness having implications not only for SMEs but also for government agencies in developing countries such as Indonesia (Priambodo et. al., 2021). Moreover, the finding is parallel to the study Quimba et. al, (2021) which concludes that the Philippines has a generally permissive policy environment for digital trade, indicating its readiness to integrate with the region in terms of digital trade.

The result opposes to the study of Nasution et. al. (2018) that a lot of businesses don't realize that distinct preparations are needed when using digital technologies. A sufficient level of digital preparedness is one of them. Additionally, the SMEs that were the subject of the study of Pirola et. al (2020) had a middle level of Industry 4.0 readiness. Although management is aware of the phenomenon, they are just beginning to determine which method would be most effective in addressing this Fourth Industrial Revolution. Moreover, the result contradicts to the study of Thuy (2024) where the analysis takes place in the context of Vietnamese SMEs, which are less ready for digital transformation than many countries in the region and internationally.

Level of E-commerce Readiness. The category mean of this domain is very high which means that e-readiness in this domain is very evident in SOCCSKSARGEN. This implies that SMEs has the potential to stimulate economic growth by fostering the expansion of existing businesses, the creation of new jobs, the enhancement of competitiveness, and the facilitation of access to goods and services. E-commerce gives companies the chance to reach a wider audience and make more money. It also has benefits for supply chain and logistics management (Ali, 2023). This is parallel to the conclusion of Judijanto et al., (2023) that the increasing prominence of e-commerce is driving

companies to make broader digital changes in their operations.

The result is congruent to the claim of Barik and Panda (2023) that nearly half of their respondents adopt online platforms along with new challenges to sustain their business during the pandemic. Also, In Thailand, there are encouraging trends in the digital services and other service sectors that use digital technology, like logistics and health (Jongwanich, 2023). The discoveries show that e-commerce best practices and favorable perceptions of e-services and e-shopping exist in Sultanate of Oman (Al Hamdani & Al Wishahi 2023). Moreover, the findings support Sekhar and Priyavardhini (2023) study that there is a rise of e-commerce in India which led to an increase in retail sales, making it easier for consumers to access products from even the most remote areas thanks to internet connectivity. Moreover, the findings align with study outcomes of Prabowo et. al., (2024) where the respondents said that the availability of e-commerce applications and their potential to be seen from each TOE factor significantly influenced how easy it was for MSMEs' owners to conduct transactions and promote their products. As a result, users were able to keep using e-commerce as a tool to assist them in conducting business and promoting their products. However, it contradicts to the inference of Ahmad and Siraj (2023) which indicate that while Indian SMEs are embracing e-commerce, the majority have not yet fully adjusted to the point of final integration.

This also argues the findings of Sartamorn and Oe, (2023) that have clearly shown how the Thai SMEs sector's lack of knowledge and resources prevented them from embracing or modifying cutting-edge technology into their operations. Nonetheless, expertise verified that with the right guidance and assistance from bigger corporations and the public sector, Thai SMEs might adjust to cutting-edge technologies. Further, it opposes the findings of Rahman (2023) where Bangladesh is not meeting the required standards for e-commerce. The absence of vital e-commerce infrastructure is the root problem. Also, SMEs in Saudi Arabia have generally reservations embracing electronically provided parts of their businesses. Saudi SMEs are scarce, primarily from the manufacturing sector have adopted e-commerce (Ali, 2021).

Level of E-business Readiness. The category mean of this domain is high which means that e-readiness in this domain is evident in SOCCSKSARGEN. This connotes that the e-business readiness fosters the ability to drive economic growth and development and exemplifies the agility and competitiveness of SMEs in the region, enabling them to promptly adapt to

the needs of their customers.This is parallel to the study of Shaharuddin et. al., (2023) that showed the importance of particular factors in affecting the uptake of e-business. In particular, the choice to implement e-business inside small and medium travel agencies was found to be significantly influenced by owner support, perceived ease of use, and government backing. Also, through a variety of systems, e-business has helped the country's online travel industry expand. It has also opened up new trade opportunities through the online retail sector (Mittal & Sharma, 2023).

Additionally, this is congruence to the findings of Setyowati et. al., (2021) where Indonesia is thought to be the potential state with the fastest-growing e-commerce or e-business. Also, it has been noted that the Ukrainian market holds great potential for the expansion of internet trading. The e-business sector is just one of several that can take advantage of the current climate (Lipych & Mokhniuk 2020). In light of the fact that Olayinka (2020) discovered that small businesses in Nigeria are utilizing e-business systems, this provides additional evidence in favor of the conclusion. Because of this case study, we were able to design and validate a methodology for establishing and implementing an e-business strategy within the context of small firms in Nigeria. This was accomplished by means of the case study. From the perspective of family-owned Maltese manufacturing SMEs, the research conducted by Baldacchino (2020) revealed light on the factors that propelled and held them back from adopting and investing in e-business.

Additionally, the findings suggest that electronic payments ought to be connected to e-business in order to get better outcomes. There are several methods and prospects for e-payments in the e-business space (Nasr et. al, 2020). Moreover, this is consistent with the study of Mthembo and Osakwe (2020) that Namibian SMEs are prepared to use B2C e-commerce. They urge the government to step in and help with financing and cyber security. Furthermore, this is also in line in the study of Acopiado et al, (2022) where in the Philippines, the process of economic recovery following the COVID-19 pandemic requires firms to undergo a transition towards digitalization. This invention enables them to sustain their activities amidst the new normal. Implementing digital payment systems is an often recommended business recovery strategy that is endorsed by the government.

This contradicts to the finding of Wynn and Olayinka (2021) on small businesses in Nigeria discovered that most companies in this sector lack an

e-business strategy.

Comparison of the status in E-readiness of SMEs in SOCCSKSARGEN According to their Characteristics

Location. E-readiness of the SMEs in different locations is comparable. This suggest that SMEs in different locations in the region are adopting digital tools and online platforms to expand their consumer reach and improve their efficiency. The impact of the e-readiness results in a direct consequence of the proliferation of internet connectivity and advancements in technology. The development of e-commerce and digital marketing has made it easier for SMEs to build an online presence to reach new clients regardless of where they are physically located. The outcome is parallel to study of Cahyadi and Magda (2023) that in terms of digital readiness, innovation, and competitiveness 4.0, they discovered that the G20 nations have the capacity for digital leadership. Global digitization was led by the G20 nations. In terms of innovation and digital readiness, a few of them were constant. This case shows how the digital business has developed into a major force in entrepreneurship, leading to a model and format that are far more adaptable and available to all customer segments, wherever they may be (Himki et. al., 2022).

This contradicts to the findings of Makumbirofa and Banya (2023) where the findings indicate that there is unequal e-readiness across countries, with those in the northern (Tunisia, Morocco, Algeria, and Egypt) and southern regions of Africa (South Africa, Namibia, and Botswana) achieving the highest scores. Moreover, this opposes to the study of Tan (2020) where he evaluated the readiness of the ten electoral management bodies (EMBs) in East and Southeast Asia to handle digital challenges. The result determines that the EMBs in Singapore, South Korea, Japan, Taiwan, and Thailand have a high degree of digital readiness; those in Malaysia, Philippines, and Indonesia have a medium level; and those in Cambodia and Myanmar have a poor level, based on existing legislative laws and cross-country factors. Further, it reverses the findings in the study of Putri et. al., (2023) that Singapore has a much higher average internet speed. Despite this, Thailand surpasses Singapore in terms of accessibility in e-commerce and electronic payment methods.

Nature of Organizations. E-readiness of the SMEs according to nature of business is comparable. This suggest that SMEs are starting to acknowledge and implement the fundamental principles and techniques of digital

preparedness, irrespective of their nature of organization. The increasing number of businesses across all sectors recognize the benefits of integrating digital technologies into their operations. This is consistent to the study of Etim and Daramola (2023) where it was discovered that the moderating variables for respondents' e-readiness—gender and business type—were not significant in terms of e-readiness for using web portal technology. Additionally, this agrees to the discovery of Nordin and Samsudin (2023) in which the association between TOE variables and e-business use was not moderated by the nature of organization suggesting that e-business adoption patterns are common.

Forms of Business. E-readiness of the SMEs according to forms of business is comparable. This infers that SMEs of any legal form, including sole-proprietorships, partnerships, and corporations, are needed to equip themselves with digital tools and technology in order to guarantee that their operations are done in an efficient and effective manner. When it comes to communicating with customers, optimizing operations, and reacting to a dynamic business environment, having this level of e-readiness is extremely vital.

This opposes to the study conducted in the Philippines by Acopiado et al., (2022) that the adoption of digital payments in the business operations of these firms was found to be predicted by factors such as being relatively younger, operating under a partnership business structure rather than sole proprietors, employing a larger number of human resources, having IT facilities, and experiencing business growth prior to the pandemic.

Number of Employees and Organization Size. E-readiness of the SMEs according to number of employees and organization size is comparable. This may suggest that small enterprises are equally equipped for digital transformation as medium organizations and are actively investing in digital technology. The need for SMEs to remain competitive in the digital age and the growing significance of digital technologies in business operations may be the driving forces behind this.

This opposes the study of Setiawan et al., (2023) that the effect of e-commerce on financial performance is found to be moderated by business size, which is proxied by the number of employees, albeit weakly. This indicates that the adoption of e-commerce by smaller micro and small industries improves their client base, brand recognition, and advertising more than that of larger

micro and small industries in terms of financial performance. The result is on contradiction with Urban and Putten (2023) claim that, among all the study parameters, the size of the firm was a major indication of e-commerce adoption.Moreover, the finding is different with Yu and Liu (2023) detection where there is noticeable differences between different SMEs, as evidenced by the SME classification data based on many factors such the size, location, and stage of development of firms. Clemente-Almendros, et al., (2024) demonstrated that firm size, internationalization, and the manager's educational background all positively influence the use of digital technology.

Annual Average Profit Level. The e-readiness of SMEs according to the average annual profit level is comparable. This result suggests that regardless of the revenue generated by SMEs, investing in digital tools and technology can help them satisfy client demands and grow their business. Their readiness for the digital era may be motivated more by their company's long-term growth objectives and vision rather than the immediate financial outcomes of their organization.

The result supports the findings of Kim and Park (2021) that although their study did not have a significant effect on long-term business performance indicators like business profit and net profit, it did reveal that government investment in joint research and development (R&D) projects contributed to the enhancement of short-term business performance metrics such as sales and assets for companies involved in these government-supported R&D initiatives.

Product Offerings. The E-readiness in terms of products offerings in SMEs is comparable. It is possible that this indicates that SMEs are competing on a level playing field when it comes to the online market. The finding coincides to the study of Wali et. al., (2023) that e-business executives ensure their platforms incorporate functionalities that allow customers to compare the prices of various products, as well as maintain a diversified product offering that includes both discounted and premium prices accompanied by enhanced services and additional features.

Standpoints of the Participants on the Quantitative Results Regarding the Level of the Independent Variable

Level of E-readiness. The overall mean of the level of e-readiness is high, which indicates that e-readiness is evident in SOCCSKSARGEN. In light

of this, it can be deduced that e-readiness has revolutionized the customer experience and improved business efficiency, broadened the scope and competitiveness of modern marketing, increased the amount of business and customer e-communication, strengthened geographical reach and expansion opportunities, and made it easier for sales transactions to take place online. The findings align with the research conducted by Santoso et al.,(2023), which indicates that there is a significant increase in the development of advanced technology, namely in the high-tech industry, in different parts of the world. The widespread use of mobile phones and the internet has been instrumental in driving these expansions, facilitating faster and more affordable communication exchanges. Also, due to the speed, connectivity, and transportation of goods and services, the primary purposes of e-commerce are to outperform competitors, enhance internal and external company processes, and improve service management (Ahi et al, 2022; Gong, 2023; Munoz et al,, 2023).

Level of Digital Technology Readiness. The result of this domain obtains high rating. This indicates that participants have the readiness of capability of digital technology with regards to the automation of the inventory system in order to eliminate errors, save resources, and make production decisions easier. Additionally, the participants have the readiness capability the streamlining of procurement processes and the well-organized record-keeping, the expansion of reach and the reduction of costs, the simple access to critical data through remote monitoring, and the utilization of digital tools in order to maintain a competitive edge. The finding coincides with the claim of Groenewald and Kilag (2024) that through the use of cutting-edge technologies like RFID and IoT, the study indicates a significant shift away from typical periodic audits and toward dynamic, responsive techniques that focus on real-time tracking and data analytics. Also, with that of Mishra (2024) who stated that digital technology is changing as a result of ongoing improvements, which are changing industrial networks, popular practices, risk profiles, governance frameworks, and operational models. Enhancing accessibility and productivity are two possible outcomes of integrating digital technology.

Level of E-Commerce Readiness. E-commerce readiness is very high which indicates that the participants has outstanding preparedness of SMEs to accept purchase orders from customers through the internet, the readiness to sell products online to customers via the internet, and the capability to offer customer services through the internet. The participants in the qualitative strand confirmed that SMEs enhanced service quality by using online platforms. They

also expanded their business reach and gained access to online markets. Furthermore, they found that digital communication facilitated seamless interaction and transactions, accelerated remote product viewing, aided in decision-making and purchases, and demonstrated readiness for business growth through the use of digital technologies. This finding is in congruence to the inference of Astaginy et al. (2023) which he specified that as to the small or medium enterprises (SMEs), selecting the right online selling platform may assist increase sales and broaden your consumer base. Additionally, SMEs are interacting with customers and launching fiercely competitive promotions via their online presence.

Level of E-Business Readiness. SMEs who actively participate in electronic exchanges with their suppliers demonstrate a strong readiness for conducting business online, as seen by their high ratings in e-business. The participants in the in-depth interview confirmed the applicability of the systematic business approaches and the ability to easily identify discrepancies, along with the reliance on digital communication channels and access to advanced international technologies, motivate businesses to adopt e-business practices and utilize online platforms. The result supports the proposition of Kunkel et. al., (2022) that digitalization is anticipated to transform the ways in which purchasing companies and suppliers work together in supply chains, particularly with regard to sustainability concerns, as Industry 4.0 in supply networks is widely heralded. It is anticipated that digital technology would promote information sharing and ease company-to-company cooperation on sustainability-related concerns.

From a similar point of view, Chen et. al, (2021) expressed that businesses are converting from "bricks and mortar" to "clicks and mortar" sales channels in the fiercely competitive global market by using cutting-edge information technology (IT) and Internet-based systems to function as electronic business (e-Business) enterprises. In this sense, businesses need to be able to incorporate their cutting-edge IT resources into their daily operations.

Comparison of the status of e-readiness of SMEs according to their characteristics

E-readiness of the SMEs according to their characteristics is comparable. This finding was supported by the participants through the individual viewpoints of business owners, with selling being the ultimate goal, perceptions on digital adoption, skepticism and openness, and the incorporation

of a variety of technical tools and solutions. This finding is in congruence with Han and Trimi, (2022) view that SME may become a useful and innovative partner in the power dynamics with its major buying counterparts by embracing I4.0 technologies, which will boost the SME's organizational agility, flexibility, and resilience to deal with today's competitive climate. In order to be competitive, companies must ensure the acquisition and upkeep of technology. This involves gathering knowledge on upcoming technology and devising strategies for maintaining and replacing assets (Nguyen et al., 2017).

Data Integration of Salient Quantitative and Qualitative Findings

The nature of integration is what makes the results of mixed methods noteworthy. Since one database is connect to another, the explanatory sequential mixed approaches often involve a connecting data integration procedure. Four techniques to integration were described by Fetters et. al, (2013) connecting for explanatory sequential design, building for exploratory sequential design, merging for convergent or any design, and embedding for embedded design. This strategy is used with data integration's fit: confirmation (the discovery that the outcomes of one set of data are supported by the other). The combined presentation generally shows that all quantitative results are supported by the qualitative results.

Status of E-readiness. In SOCCSKSARGEN, the e-readiness of SMEs is evident, as indicated by the survey results, which reveal that the overall rating for the e-readiness level of the respondents is high. This finding is supported and validated by the participants of the qualitative strand, which indicates that e-commerce improves business operations and strategy. The result of the data integration show that this aspect manifests the nature of connecting, merging confirmation.

The finding is parallel to the study of Kumar et al., (2023) that adoption of e-commerce enabled SMEs to expand into new markets, build a loyal customer base, improve their global presence, lower costs associated with building construction, distribution, and coordination, create an efficient proprietary distribution channel, and offer tailored product offerings to target specific customer segments.

Level of Digital Technology Readiness. Both the digital technology readiness of SMEs to manage production planning and the management of business inventory have received very high ratings. The findings of the survey,

which revealed that the exploitation of digital technology boosts operations, decision-making, and competitiveness, were agreed upon by the participants who took part in the qualitative portion of the research pertaining to the research. Thus, the results of the data integration show that this aspect manifests the nature of merging confirmation.

The findings of the study provide credence to the assertion made by Angelopoulos et al. (2023), which states that the implementation of digital technology in all aspects of operations management has resulted in a greater degree of flexibility in decision-making. This has led to the formation of new operational dynamics and commercial prospects.

Level of E-commerce Readiness. Koe and Sakir (2020) define e-commerce as conducting business over the Internet or in a digital format. E-commerce has been shown to positively impact economic growth regardless of a nation's degree of development (Kabir et al., 2020; Myovella et al., 2020), giving firms the chance to expand and thrive (Koe & Sakir, 2020). All of the statements about SMEs' readiness for online sales to consumers, accepting purchase orders from them over the internet, and providing customer support online received very high ratings for e-commerce readiness. Participants attested to the very high level of e-commerce readiness shown in the quantitative result emphasizing that business utilized automation and online platforms to perform their diverse functions. The results of the data integration show that this aspect manifests the nature of merging confirmation. From the interviews, participants highlighted the fact that SMEs utilized automation and online platforms to carry out their varied responsibilities.

The results of the study confirm the proposition of Subagja (2023) that the most recent advancements in information technology are heavily utilized in e-commerce in particular and its emergence offers businesses an additional avenue for business expansion.

Level of E-Business Readiness. SMEs exhibit strong readiness for e-business when they actively engage in electronic interactions with their suppliers, as reflected by their very high ratings in e-business readiness domain. The high level of e-business readiness in the quantitative result was validated by the participants considering the switching to electronic interactions with suppliers, as indicated by the findings of the in-depth interviews, not only improves communication but also increases productivity and demonstrates that

they are prepared to carry out digital transformation. It is a good fit with the current trend of conducting more and more business online using digital methods and making use of online platforms in order to reduce the amount of time it takes to perform transactions.

This finding is an affirmation to the statement of Mafini et. al.,(2020) that businesses, particularly small to medium enterprises (SMEs), need assistance in adapting to the rapidly changing technological landscape and leveraging e-procurement capabilities to gain a competitive edge. In an effort to stimulate the expansion of SMEs, information technologies like e-procurement have been more closely connected to other commercial endeavors like supply chain integration.

Comparison of the status of e-readiness of SMEs according to their characteristics. Based on the characteristics of SMEs, the study found that the status of e-readiness among the groups they were placed in are comparable. The participants confirmed, to the extent that it was possible to infer, that they recognize the relevance of technology in terms of simplifying operations and preserving a sustainable income, notwithstanding their skepticism regarding the conclusions of the survey. This result is an addition to the concept of Chatterjee (2022) that SMEs may create direct connections between buyers and suppliers as well as foster tight relationships with other stakeholders by utilizing digital technology platforms.

Implications for Business Practice

The results of the study have drawn implications to the business practices of SMEs in SOCCSKSARGEN. These may be in the form of policy, standard, or practice. The quantitative and qualitative results depicted that the level of e-readiness of SMEs in SOCCSKSARGEN is high. It connotes that with a high level of e-readiness, SMEs can benefit business practices in many ways, including increased productivity, competitiveness, customer satisfaction, cost savings, and risk reduction. Improvements in the availability of information, simplification of processes, and acceleration of communication can lead to economic expansion and increased wealth. As Khan (2023) asserts, this study demonstrates that SMEs have a multitude of tools at their disposal, which enables them to reach their target market at a low cost. This is made possible by the current proliferation of digital technology.

In the same manner, the level of digital technology readiness is high in

SMEs in SOCCSKSARGEN, as reflected in the quantitative and qualitative findings. As a general rule, the findings indicate that when digital technology readiness scores are high, nations, businesses, and individuals can all reap the benefits of increased creativity, efficiency, accessibility to services, and sustainability. Digital technologies have the potential to assist businesses in achieving success in a variety of areas, including product creation, customer service, and marketing. This result is congruence with Westerlund (2020) that the growing digitization of the global economy presents SMEs with numerous chances for internationalization, even as they are compelled to seek growth outside of their own markets.

The quantitative and qualitative results showed that the level of e-commerce of SMEs in SOCCSKSARGEN is very high. This result implies that having a very high rating in e-commerce may have a big impact on a company's operations. It can boost consumer loyalty, build credibility, and enhance brand perception. By providing superior goods and services, efficient customer support, and ongoing development initiatives, businesses can aim to keep their high ratings. When put to good use for development, the internet and online commerce can be instruments that ensure consistent economic growth over the long run. For the reasons stated by Malik (2023), e-commerce can increase accessibility to goods and services, give small businesses more leverage, and spur economic growth, all of which SMEs should continue to enjoy.

Further, the level of e-business readiness is high in SMEs in SOCCSKSARGEN, as reflected in the quantitative and qualitative findings. The result implies that high e-business readiness among SMEs in SOCCSKSARGEN has generally beneficial effects and can support these companies' long-term viability and development. To maintain their competitive edge in the current digital economy and improve their e-business capabilities, SMEs must keep funding infrastructure, training, and technology. The result is parallel with Shaharuddin, et al., (2023) that electronic business, or e-business, has been widely adopted by organizations as a strategic initiative aimed at improving their mechanisms of competitive advantage in response to the unstable industrial landscape, particularly with regard to Small and Medium Enterprises (SMEs).

Proposed Intervention Program

Rationale: The quantitative analysis revealed that the e-readiness of SMEs in

SOCCSKSARGEN is evident. The findings were further supported by the individuals who took part in the in-depth interviews of the participants. As a result, the intervention program that has been suggested is intended to equip SMEs with the skills, knowledge, and resources that they require in order to thrive in the digital era and compete in the market. SMEs need to become more e-ready in order to take advantage of new opportunities, boost efficiency, and propel the growth of their companies.

Goal: The goal of the strategies that have been offered is to provide SMEs with the information, comprehension, and resources that they require in order to make successful use of digital technology in their day-to-day operations.

Table 7
Proposed Intervention Program

Issues	**Objectives**	**Proposed Strategies**	**Time Frame**	**Persons Involved**	**Success Indicators**
A.E-readiness Need to accelerate E-Readiness to a very high level	to significantly enhance our company's E-Readiness in order to enhance our competitiveness in the digital market and improve operational efficiency.	- Making sure that every cities has sufficient access to digital devices and high-speed internet. - Ensure a steady supply of electricity -Benchmarking - link SMEs with technology vendors and service providers	Whole year round	Program Manager IT Support Staff Mentors Participants Electric Companies	-Increase adoption of digital devices and internet usage - Improve operational efficiency through digital tools and technologies -steady supply of electricity
A.1. Digital Technology Readiness *Need to accelerate SMEs readiness in using digital technology for having group collaboration,*	To streamline operations, enhance productivity, and reduce expenses. This will enhance their ability to communicate effectively, efficiently manage their	-utilizing technology and automation technologies to simplify repetitive tasks and boost production. - Consider outsourcing non-core tasks to cut costs. -Permit SMEs to learn	6 months	Program Manager Digital Technology Trainers Business Coaches and Mentors in	-SME participation in the adoption of digital tools and technologies has increased. - a user-friendly and intuitive technology

scheduling and outsourcing	time, and have access to specialized knowledge.	from one another through networking and collaboration opportunities. -Develop partnerships with educational institutions		educational institutions Technology Vendors and Service Providers Participating SMEs	platform that seamlessly integrates automation technologies is implemented -SMEs offers comprehensive support and instruction to aid staff in acquiring expertise in the latest technology.
A.2. E-commerce Readiness *Need to maintain the very high rating of e-commerce readiness in SOCCSKSARGEN*	To ensure a conducive environment for online firms and promote seamless access and transactions for online consumers.	-Provide financial assistance to eligible SMEs for website building, online marketing, and e-commerce platform integration. - Help SMEs grow their online visibility and consumer base by partnering with prominent e-commerce marketplaces and platforms. - Give SMEs economical and easy-to-use e-commerce solutions including website builders, online shop templates, and payment processing tools to start and manage their online presence.	6 months	- Program Coordinator -ECommerce Specialists -Trainers and coaches with expertise in e-commerce, digital marketing, and online sales. -SME Participants	- Rising utilization of e-commerce technology and techniques by SMEs. - Enhanced the digital marketing capabilities and increased online visibility for SMEs involved. - Increased competitiveness and revenue growth for SMEs in the digital marketplace.

A.3 E-business Readiness *Need to accelerate the SMEs e-business readiness in engaging electronic interactions with their customers and transacting electronically with their customers using digital platforms , tools, and technologies in terms of communication with clients, payment of goods, and other business transactions.*	Improve the sustainability and competitiveness of SMEs in the digital economy by enhancing their e-business readiness	-Offer support and guidance in the technical aspects of e-business infrastructure implementation. -Encourage SME collaboration and networking in order to facilitate the exchange of best practices and experiences. -Provide continuous support and guidance while monitoring and assessing the progress of the participating SMEs. - Security measures must be given top priority by SMEs in order to safeguard sensitive client data and payment information. This entails updating software frequently to guard against cyber dangers, utilizing SSL certificates, and secure payment channels.	6 months -1 year	Program coordinator Digital experts and trainers Business mentors Participating SMEs	-Implementation of e-business strategies to expand market presence and enhance operational effectiveness. -Opportunities for increased networking and collaboration among SMEs. -The sustained expansion and prosperity of SME participants in the digital marketplace -SMEs offering digital platforms in payment of goods, and other business transactions.

CONCLUSION

In the light of the findings of the study, the following conclusions were drawn.

General Santos City boasts the largest quantity SMEs, primarily engaged in merchandising. The majority of these businesses are sole-proprietorships, characterized by a modest workforce and organizational size. The majority of SMEs possess assets valued between three million and fifteen million. These businesses have reported an average profit margin ranging from six percent to eleven percent. Tacurong City has the lowest quantity of SMEs, with just a

minor proportion of these SMEs operating as partnerships and general merchandise is majority product offerings.

Generally, the result manifested an overall high-level of e-readiness. Among the three indicators of e-readiness, the e-commerce readiness revealed a very high level whereas digital technology readiness and e-business readiness showed high level. This result indicates that SMES e-readiness is evident in SOCCSKSARGEN. The digital technology indicator showed that there is a need to accelerate the SMEs readiness in using digital technology for having group collaboration, scheduling and outsourcing activities. On the hand, e-business indicator revealed the need to progress SMEs in engaging electronic interactions engagement with their suppliers and transacting electronically with their customers using digital platforms, tools and technologies in terms of communication with clients, payment of goods, and other business transactions. When assessed, the comparison of the status of e-readiness of SMEs in SOCCSKSARGEN, it was revealed in both quantitative and qualitative result that the e-readiness of SMEs is comparable according to location, nature of organizations, forms of business, number of employees, organization size, annual average profit level and product offerings.

The quantitative results of the study were substantiated by the essential theme that emerged from the qualitative data. The identified themes helped strengthen and explain the profoundness of the level of the variable and also the comparison of the independent variable to SMEs characteristics.

Moreover, the integration of the quantitative and qualitative data substantiated the high level of SMEs' e-readiness in SOCCSKSARGEN which is crucial in the digital age for promoting social progress, economic expansion, and environmental sustainability. The results of the study confirmed the propositions that e-commerce may provide SMEs a competitive advantage, and by 2030, it is anticipated to make up the majority of the nation's digital economy (Bening et. al., 2023).

Further, an intervention program was developed to offer strategies to improve the sustainability and competitiveness of SMEs in the digital economy.

The study's findings confirmed the theory of technological, organizational, and environmental factors which affect a company's willingness to adopt new technology (Tornatzky and Fleischer, 1990) as well as the

perceived utility and ease of use as the foundation for the Technology Acceptability Model (Davis, 1989). Moreover, the finding also supported the Verify End-user eReadiness using a Diagnostic Tool in which a firm's management, personnel, procedures, and technology must be ready to move to electronic operations (Ermett, 2002).

Additionally, the findings corroborated to the Perceived E-Readiness model in which electronic procurement is influenced by many factors, both inside and outside organizations (Molla and Licker, 2005); and to Innovation Diffusion theory that focused on understanding how, why, and how fast new technology and ideas spread throughout society (Rogers, 1962); Further, the Unified Theory of Acceptance and Use of Technology was also established in which PE, EE, SI, and FC may indicate customers' purchase or usage intentions (Venkatesh et al., 2003).

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