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Measuring the Level of Readiness for Integrated Business Startup System Adoption for SMEs Using the E-Readiness Model Approach

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Abstract.
The study aims to analyze the level of readiness for the adoption of the IBS (Integrated Business Startup) system for SMEs in the city of Palembang. The method used is the e-readiness method using 6 indicators, namely: Awareness, government, commitment, business resources, human resources, technology resources, and adoption. The method of determining respondents is by using the census method. The respondents are SMEs in South Sumatra Province, which is under the guidance of the Department of Cooperatives and SMEs of South Sumatra Province, and which has been registered as IBS users as many as 280 SME respondents. The measurement results show that SMEs in Palembang City have a level of readiness to use information technology facilities to market their products through the IBS system. Based on the measurement results on the indicators used, the results show that the awareness indicator has a value of 3.50, the governance indicator has a value of 2.98, commitment has a value of 2.95, business resources has a value of 3.90, human resources have a value of 2.64, technological resources have a value of 2.96 while adoption has a value of 3.20. The value obtained shows that the level is quite ready to adopt the IBS system.

Keywords: IBS, e-Readiness, adoption, SMEs, Department of Cooperatives and SMEs of South Sumatra Province

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1. Introduction

The Covid-19 pandemic condition that has occurred in Indonesia since March 2019 has had a very heavy impact on Small and Medium Enterprises (SMEs) and Cooperatives both in Indonesia, especially in South Sumatra Province. Many SMEs have experienced a drastic decline in business turnover and many have gone out of business because they are no longer able to incur business costs that are far out of proportion to the income they receive. This situation is of course not allowed and dragged on for granted, many activities and programs have been carried out by the Government, especially the Cooperatives and SMEs Service at the Regency and City levels.

It is realized that small business activities such as Micro, Small, and Medium Enterprises (MSMEs), can be said to be the least well-known sector for the Covid-19 national problem. SMEs and start-ups are widely recognized as playing an important and substantial role in the Indonesian economy. Therefore, the required ecosystem and standardization can facilitate the growth and development of SMEs and startups better.

One of the solution steps is the construction and implementation of an Integrated Business Startup (IBS). The mobile and website-based IBS (one-stop startup) system has been implemented in the community, especially in South Sumatra Province. This startup system, like an e-marketplace, integrates cooperative managers and SME players who are driven by local governments, in this case, the Cooperatives and SMEs Office. This system has never existed before where it connects the tourism sector, cooperatives, and SMEs to offer their products and or services so that they can function as online services and government operations. Therefore, the Department of Cooperatives and SMEs can also monitor the development and performance of these cooperatives and SMEs. Business owners/managers who can take advantage of the IBS system are SME players, cooperative managers, tourist destination managers, rental entrepreneurs, and tour guide service providers at the level of 13 districts and 4 cities in South Sumatra Province. This IBS also provides a monitoring dashboard that can help the South Sumatra Provincial Cooperatives and SMEs Office become a new way to monitor the use of the IBS marketplace which was initiated by the South Sumatra Province Cooperatives and SMEs Office. This monitoring method supports the performance of the Prov. South Sumatra in the use of the marketplace, the extent to which the IBS marketplace has an impact on increasing SME turnover, the extent to which cooperatives through the IBS marketplace benefit from market solutions that have never been done before, the availability of updated cooperatives and SME data, and the potential for scaling up or new innovations in building market (blue ocean market) raised by IBS, as well as monitoring developments and development needs that have been and will be implemented by Prov. South Sumatra.

Because it has only been implemented for one year, it is necessary to measure the readiness of the IBS e-marketplace implementation so that the system can be implemented optimally. Thus, this system is a solution, especially in the midst of the Covid-19 pandemic. According to the OECD analysis, there are a number of factors that hinder the level of ICT use by SMEs. The factors in question include 1. incompatibility of business processes, 2. limited knowledge in terms of managerial and use of ICT, 3.

costs of developing and maintaining electronic systems, 4. problems with computer and communication network infrastructure, 5. problems of trust and security in the use of ICT, 6 7. legal uncertainty related to the use of ICT in business, and challenges associated with the adoption of electronic business processes [1].

As is well known, IT capability constraints are a factor in IT adoption and subsequent use decisions, and in particular for SMEs. In general, increasing the benefits of IT/IS investments is a challenge for SMEs given their limited technical capabilities and human resources [2]. However, this can be overcome by using IT/IS together or integrated. The result is the creation of sustainable marketing channels, increase in short-term revenue and long-term sales, decrease in advertising costs by 70%, reduction in overall marketing costs, creation of competitive advantage, ease of promotion across social media platforms, increase in brand and product popularity, organizational recognition or companies to the community [3].

Febrianty shows that the effect of the adoption of accounting information technology on the performance of SMEs in order to increase the competitiveness and growth of SMEs in Palembang City is only 18% [4]. The results of the research Febrianty, et al. are related to the perception of the use of social media to market SME products and or services [3]. The results showed that Perceived Usefulness directly had a positive effect on Intention to Continue Usage of Social Media Marketing. Perceived Enjoyment has a positive effect on Intention to Continuing the Use of Social Media Marketing. Intellectual Capital has an influence on the intention to continue the use of social media marketing. The risk or Perceived Costs have a negative influence on the intention to continue using social media marketing. Intention to Continuing the Use of Social Media Marketing has a positive effect on MSME turnover. The risk or Perceived Costs have a negative influence on the intention to continue using social media marketing. Intention to Continuing the Use of Social Media Marketing has a positive effect on MSME turnover.

IBM defines e-Readiness as a measure of the quality of a country's information and communication technology (ICT) infrastructure and the ability of consumers, businesses and governments to use ICT http://cyber.law.harvard.edu/readinessguide/forward.html A Guide also explains that in the measurement of E-Readiness there are five categories, namely: access network, learning network, community network, economic network, policy network. Related to the community network being measured are People and organizations online, locally relevant content, ICTs in everyday life, ICTs in the workplace [5].

The process of measuring readiness electronically (E-readiness) for companies in the use of e-marketplaces needs to be carried out. Electronic readiness is a measure of national, economic readiness and preparation to receive benefits from the use of information and telecommunications technology (ICT). According to Lai and Ong, the meaning of readiness is a concept of change, namely a concept of development and movement [6]. The concept of readiness is not only about physical maturity but also the combination of emotional and situational stresses as a result of the learning process environment and the results of new operations. Readiness to change appears to be an important maturity or measure of enthusiasm in implementing e-business. E-Business activities are seen as a social system in which workers are the most important aspect. So it is necessary to know how to help workers accept some of the changes in e-business in the organization. Therefore, knowing the readiness of workers to understand the use of e-business in the company is very important for the success of the e-business operation itself. So this study by Lai and Ong develops the concept of change to measure the readiness of workers in implementing e-business using technology, structure, and task factors which are described in the constructs of benefit, security, collaboration, and certainty [6]. Some indicators of this electronic readiness, such as the number of telephone connections per 100 people or the percentage of GDP on ICT infrastructure. So that electronic readiness is often interpreted within the scope of a country [7]. However, Molla and Licker state that electronic readiness is not only in the macro (country) scope, but also in the micro (company) scope, such as the role of managers, commitment, and available resources in the organization [8]. Readiness to use e-commerce can be measured through the ”8C” namely: Connectivity, Content, Community, Commerce, Capacity, Culture, Cooperation, and Capital [9]. In this study, the research model uses the model developed by Molla and Licker [8]. The construct to be developed consists of six factors of internal/organizational readiness (KI). Internal readiness includes readiness awareness (Awareness), commitment, human resources, technology, business resources, and governance.

The success of implementing e-marketplaces lies in the extent to which we form self-preparedness in responding to existing weaknesses. Furthermore, the effectiveness of the e-readiness measurement results is determined by how effectively we photograph the existing problems, formulate solutions and determine the relevant e-readiness factors and indicators. For this reason, studying the developing situation at the national and regional levels is an important factor in determining indicators and related factors.

The measurement of e-readiness was first carried out in 1998 by the Computer Systems Policy Project (CSPP) This e-readiness model is referred to as society's readiness for participating in the network world [10]. After that, several other assessment tools began to be developed by agencies, research organizations, universities, companies, and individuals according to the orientation of their respective needs. However, related to this Beig et al said that we should not assume that the assessment for the same factor will give the same result even though it is in different environmental situations. For this reason, it is necessary to study every existing e-readiness model to adapt it to the environmental situation to be assessed, so that it is not uncommon for assessors to modify these e-readiness models. In addition, the problem often faced by assessors in evaluating e-readiness is the lack of common standards with integrated measures that support comparative analysis [11].

2. Methods

This research will be conducted using quantitative methods, as explanatory research in field survey research. To conduct this quantitative research, a field survey was conducted to obtain primary data from SMEs in South Sumatra Province. This research will be conducted with different objects and methods based on the formulation of the problem. This study will measure the extent of e-readiness from internal aspects in adopting the IBS system among SMEs in South Sumatra Province.

The method of determining respondents is by using the census method. The respondents are SMEs in South Sumatra Province which is under the guidance of the Department of Cooperatives and SMEs of South Sumatra Province which has been registered as IBS users as many as 280 SME respondents. The measurement of the level of readiness with the e-readiness model uses the following indicators: Awareness, Government, Concern, Business resources, Human Resources, Technology resources, and Adoption [8] The assessment of each measurement indicator uses a scale as shown in Table 1 below.

3. Result and Discussion

3.1. Characteristics of Respondents

Table 1: Measurement scale of readiness level indicators.

No	Scale	Description
1	5	strongly agree
2	4	agree
3	3	quite agree
4	2	do not agree
5	1	strongly disagree

3.1.1. Respondents Based on Annual Sales Turnover

Due to the Covid-19 Pandemic situation, SMEs registered in the IBS system were significantly affected, so they urgently needed a solution in the form of a marketplace. Based on the data processing of respondents as many as 280 people based on sales turnover in a year as shown in Table 2. it is known that the average sales turnover is less than 50 million as much as 35% and between 50 million - 100 million, each of which is 30%. While 35% have a turnover between 100 million - 500 million, while those who have a turnover between 500 million - 1 billion do not exist.

Table 2: Respondents based on sales turnover per year.

Turnover per year	%
Less than 50 million	35
50 – 100 million	30
100 – 500 million	35
500 million – 1 billion	0

Source: processed from primary data, 2021

3.1.2. Respondents by Age Group

Based on the age of SMEs using IBS, the majority of respondents aged 26-35 years (63%), aged 26-45 years were 30% while those aged > 46 years were 7% as shown in Table 3.

Table 3: Respondents by age group.

Usia	%
<25 years old	0
26-35 years old	63
36-45 years old	30
>45 years old	7

Source: processed from primary data, 2021

3.1.3. Respondents Based on SME Employees/Workers Who Fully Use IBS

Table 4: Respondents based on SME employees who fully understand the use of IBS.

Number of SME employees/workers who understand the use of IBS	%
There is not any	0
1	44
2-3	56
	0
>5	0

Source: processed from primary data, 2021

Based on Table 4. it can be seen that most SMEs in South Sumatra Province only have two to three employees who fully understand the use of the IBS system. In addition, some SMEs only have one employee who understands its use, which is 44%.

3.1.4. Respondents Based on Opportunities to Market Products Through IBS

Based on the opportunity to market products through IBS, it was found that respondents realized that the opportunity to market products through IBS was very promising with a percentage of 53%. Respondents who think that the IBS system is less promising are only 22% and the remaining 25% do not know as shown in Table 5.

Table 5: Respondents based on opportunities to market products through the IBS System.

Opportunity to use IBS System	%
Not Promising At All	
Not promising	
Do not know	25
Promising	22
Very promising	53

Source: processed from primary data, 2021

3.1.5. Respondents Based on Product Marketing Constraints Through IBS

The obstacle faced by SME respondents in marketing the products and or services offered through the IBS system is the lack of knowledge in running a business by

utilizing IBS. Lack of knowledge is seen from both the trader's and buyers' sides. As many as 34% of respondents said the same thing.

Table 6: Respondents based on constraints in marketing their products through the IBS system.

Obstacles encountered	%
Insufficient funds	2
Unprepared workforce	22
Inadequate telecommunications infrastructure	14
Lack of knowledge of running an online business through IBS	30
Consumers have not been able to use the IBS system	34

Source: processed from primary data, 2021

3.1.6. Distribution of SMEs in South Sumatra Province using the IBS system

The distribution of users with the status of SME actors is currently still limited to 8 regencies and 3 cities in the province of South Sumatra, which is presented in Table 7 below.

Table 7: Distribution of SMEs using the IBS System.

No	Distribution of the number of SMEs using IBS	%
1	Palembang City	133
2	Lubuk Linggau City	4
3	Prabumulih City	3
4	Lahat regencies	10
5	Muara Enim regencies	6
6	MUBA regencies	12
7	Banyuasin regencies	10
8	Ogan Ilir regencies	6
9	Ogan Komering Ilir regencies	5
10	Ogan Komering Ulu regencies	4
11	Musi Rawas regencies	4

Source: processed from primary data, 2021

3.2. IBS System Implementation Readiness Analysis

In the following section, the results of the analysis of the readiness for the implementation of the IBS system for SMEs in South Sumatra Province are explained through the e-readiness approach. Measurement of readiness level uses several indicators based on awareness, governance, commitment, business resources, human resources, technology resources, and adoption [8].

The results of the measurement of readiness for the implementation of the IBS system for SMEs can be explained as follows:

3.2.1. Awareness

In the awareness indicator, on average, respondents who are SME actors have a range of answers between disagreeing and agreeing with statements related to awareness indicators. However, the respondents' answers are quite agree and agree. The statement with the lowest average score of only 2.63 lies in the knowledge of the e-business model with the appropriate IBS. This means that respondents have a fairly low perception of this statement. This statement has a response that tends to lead to negative because the majority of respondents answered disagree to quite agree. Meanwhile, the statements that received positive responses from respondents were concerns and the desire to run a business using IBS. This is indicated by the acquisition of the largest average score, which is 4.02 with a range of answers agreeing to strongly agree. This means that most respondents have a high enough desire to do business by utilizing IBS services.

3.2.2. Government

Almost the same answer is also shown in the Governance indicator. On average, respondents answered quite agree and agree with the statement on this indicator. The trend of answers to this governance indicator is in a less significant direction because the average score is only 2.98. The statement with the highest average score of 3.05 is about the ability to analyze possible changes from within the organization, suppliers, partners, and consumers through the implementation of IBS. While the statement of the existence of a matrix to assess the impact of initiatives from the IBS system has the lowest average score of 2.74. This means that respondents' awareness of changes in business environmental conditions due to the implementation of IBS in their business is

Table 8: Average values of awareness indicators.

No	Statement	Mean
1	Concern and desire to run a business by utilizing IBS	4.02
2	Concern for competitors who run a business that is also supported by IBS	3.75
3	Knowledge of marketing models with IBS support	2.63
4	Understanding opportunities and threats in running a business by utilizing IBS	3.47
5	Understand the benefits of running a business with an e-marketplace for SME businesses	3.46
6	Understanding the positive and negative impacts of running a business with an e-marketplace like IBS	3.53
7	Understanding about the failure to run a business with an e-marketplace for a business business whether it will fail / lose in competition	3.63
	Average	3.50

Source: processed from primary data, 2021

quite high, but respondents do not understand the use of metrics to assess the impact of implementing electronic commerce through IBS. The complete data are presented in Table 9.

Table 9: Value of governance indicators.

No	Statement	Mean
1	Roles, responsibilities and accountability in IBS system utilization initiatives	3.00
2	Decision-making authority has been clearly assessed for IBS system utilization initiatives	3.04
3	Analyze possible changes from within the business/SME, suppliers, partners, and consumers through the implementation of the IBS system	3.05
4	We follow a systematic process for managing changes related to the utilization of the IBS system	3.01
5	We have metrics to assess the impact of IBS system utilization initiatives	2.74
6	All employees in our SMEs support the IBS system utilization initiative	3.02
	Average	2.98

Source: processed from primary data, 2021

3.2.3. Commitment

The majority of respondents answered quite agree and the second-highest average answer agreed. Table 10 also states with the highest average score of 3.43 for the statement that the respondent's organization has a vision and mission to run an electronic business. The statement with the lowest response was about the success of the initiative to run a business using the e-marketplace through IBS. The average score of this statement is 2.54. The average value of the commitment indicator is described in Table 10.

Table 10: Average Value of Commitment Indicators.

No	Statement	Mean
1	Our organization has a Vision/Mission to run a business by utilizing e-marketplace	3.43
2	The organization's vision is to run a business by utilizing the e-marketplace that is met by all interested components in our business ventures	3.01
3	The initiative to run a business using e-marketplaces such as the IBS system has been successful	2.78
4	All initiatives to conduct business electronically including the use of the IBS system have been successful	2.54
5	Owners and/or business/SME leaders are sufficient to assist the initiative and implementation of running a business with an e-marketplace such as IBS	3.00
	Average	2.95

Source: processed from primary data, 2021

3.2.4. Business Resources

Respondents' perceptions of statements that explain Business Resource Indicators. The average score of respondents' answers is 3.69, indicating that the dominant respondents answered: "sufficiently agree and agree". In addition, many respondents also answered "strongly agree" with the statement on this Business Resources indicator. This means that respondents' perceptions are more positive about this indicator. In addition, Table 11 shows that the highest average score of 4.18 means that the businesses/SMEs they manage have a culture of sharing information with each other. This means that

the dominant respondents said that the businesses/SMEs they manage are quite open and trust each other. Meanwhile, the statement with the lowest average score is that business businesses/SMEs have policies to help the growth of initiatives to run business electronically through IBS, which is 3.6. The average value of the indicators can be seen in Table 11.

Table 11: Average Value of Business Resources Indicators.

No	Statement	Mean
1	Employees/workers in SMEs are quite open and trust each other	3.61
2	Communication is quite open in our business/SME	3.63
3	Businesses/SMEs have a culture of sharing information	4.18
4	Business enterprises/SMEs have policies to help grow initiatives to run businesses to take advantage of e-marketplaces such as IBS	3.69
5	Business enterprises/SMEs have policies to help grow initiatives to run a business using e-marketplaces	3.86
6	Failure can be tolerated by Businesses/SMEs	3.95
7	Businesses/SMEs are quite capable of facing change	3.78
	Average	3.90

Source: processed from primary data, 2021

3.2.5. Human Resources

Statements that represent indicators of Human Resources have a balanced response. This can be seen from the even distribution of respondents' answers to the two statements that explain the Resource indicator. These two statements have different perceptions. Statement one is positive while statement two is negative. So based on the average respondents' answers, it can be concluded that even though the SME employees/workers do not have an IT background, the employees/workers do not experience significant difficulties in using IBS. The average value of human resource indicators can be seen in Table 12.

Table 12: Average Value of Human Resources Indicators.

No	Statement	Mean
1	Majority of users have IT background	2.33
2	The majority of users have limitations in using IBS	2.94
	Average	2.64

3.2.6. Resource Technology

Respondents' responses to the statement of technological resources indicators are not very significant. On average, respondents only answered quite agree. Although those who answered agreed and strongly agreed were dominant but not as many as those who answered quite agreed. It can be seen from Table 13. The statement with the highest average score is the statement that describes the respondent's ability to adapt to the rapidly changing business environment. This is indicated by the average score for this statement which is 3.73. The lowest average score is 2.39 on the respondent's statement that they do not subscribe to the monthly internet to support the smooth use of IBS in their business processes. The average value of the technological resource indicator is described in Table 13.

Table 13: Average technological resource indicator values.

No	Statement	Mean
1	Have enough experience in using e-marketplace	2.98
2	Sufficiently able to deal with the rapidly changing business environment	3.73
3	Businesses/SMEs have used the internet well	2.42
4	Have internet channel	2.39
5	Has a fairly flexible system	2.42
6	Business ventures are supported by information systems that suit consumer needs	2.49
	Average	2.96

Source: processed from primary data

3.2.7. Adopt

Respondents' perceptions of statements explaining adoption indicators were 184 respondents who stated that they were ready to adopt the IBS system. While the

rest, there are 96 respondents who stated that they are not fully ready to use the IBS system.

TABLE 14: Average Value of IBS Adoption Indicators in SME business processes.

No	Statement	Mean
1	Ready to fully adopt the IBS system in running a business to support marketing	3.20
	Average	3.20

Source: processed from primary data

4. Conclusions

The results of the study indicate that the level of readiness for implementing the IBS system for SMEs in South Sumatra Province is quite ready based on the level of awareness, governance, commitment, business resources, human resources, and technological resources. The follow-up to the measurement of the level of readiness is that the Provincial Government through the South Sumatra Provincial Cooperatives and SMEs Service is also supported by the local government at the district/city level through the District/City Cooperatives and SMEs Office providing recommendations to encourage and increase the use of IBS.

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