THE IMPLICATIONS OF DIGITAL INCLUSION: AN ANALYSIS AMONG ENTREPRENEURS OF SMALL AND MEDIUM ENTERPRISES (SMEs)

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ABSTRACT: *The rapid growth of Information and Communication Technology (ICT) has changed the way of many things in lives, and many people around the world are already online and mobile. In this new environment, the competitiveness of economies depends on their ability to leverage new technologies. This is also applied in the nature of business by the entrepreneurs of Small and Medium Enterprises (SMEs). The study examined the implications of digital inclusion towards business innovation of the entrepreneurial sector of SMEs in the Klang Valley (Bangi, Shah Alam and Kuala Lumpur) areas. The survey was conducted using a quantitative method. Sets of questionnaires were used as to collect data of 500 respondents comprising entrepreneurs (SMEs) aged 18 to 55. A sample selection was determined earlier by following the set criteria as in the current SME guidelines. Four domains of digital inclusion implications that have been identified are 1) innovation of entrepreneurs, 2) innovation of technologies, 3) business management and 4) satisfaction. The descriptive analysis comprised of frequency, percentage and mean were used to illustrate the results and objectives of the study. The results indicated that they agreed that the new technology of ICT helps in improving their creativity as entrepreneurs, business and marketing, more systematic of business management and also make them individually independent in managing their business.*

Keywords: digital inclusion; innovation; entrepreneur

1. INTRODUCTION

Information technology is used for the acquisition and use of knowledge to human development and economic growth [1]. This indicates that the knowledge society depends on technology to improve the quality of life and acquire a variety of opportunities such as the generation of economic, social interaction and so on. Thus, the main elements of the knowledge society are the use of information technology, which consisted of people who are highly educated and skillful. Obviously, these skills are necessary for an individual to use and operate ICT technology. Around the world, many countries have recognized ICT as an effective tool for engaging in economic activities and developing human resources. ICT has led to a change in aspects of communication, doing business, enjoyment and social interaction and thus, play an important role in the life of public in the digital era [2].

With the technological revolution that is so fast, ICT has become an influential global power in transforming the economic, social and political scene [3]. Subsequently, the business world today has been influenced by a variety of ICT, and ICT applications are increasingly being created and expanded. ICT quickly change the mode of production, labor and business and trade and consumption patterns between companies and consumers [4]. Meanwhile, the development of the business world is based on the decision made by the entrepreneur in making changes to the business environment [5]. One of those changes is the ICT revolution that covers opportunities and threats to small businesses. Therefore, it can be seen clearly that the business has been growing, and through changes in the presence of ICT as a catalyst for growth and change.

This article, in particular, will discuss the implication of digital inclusion among SME entrepreneurs. The objective is to analyze the impacts of digital inclusion on their businesses. It is to explore their action towards ICT usage and the digital inclusiveness.

2. LITERATURE REVIEW

Micro, small, and medium businesses form the SMEs [6]. Less than RM300,000 of sales turnover with employment of 5 full-time staff in services, manufacturing, and different sectors is categorized under businesses that are micro. A sales turnover of more than RM300,000 and employing 5 to 75 full-time employees in the sector of manufacturing meanwhile are listed under small businesses. In contrast, small businesses in the sector of services and others are defined as businesses with sales turnover between RM300,000 to RM 3 million with permanent employees employed between 5 to 30. Medium businesses finally, are defined as businesses with a sales turnover of RM15 million to RM50 million and employing a full-time staff of 75 to 200 in the manufacturing sector. The definition for medium businesses in the services and other sectors slightly differ i.e. their sales turnover are categorized from RM3 million to RM20 million and with full-time staff employed from 30 to 75. However, this demarcation does not include public listed companies in the main board, multinational and government-linked corporations, Ministry of Finance companies, State enterprises, and their subsidiaries.

Entrepreneurship and ICT today is inevitable. ICT tools are utilized for the development of entrepreneurial competencies [7]. Furthermore, ICT enables entrepreneurs to socialize for networking [8]. More importantly, entrepreneurs are given the opportunity to be engaged in e-commerce [9]. ICT was also adopted by entrepreneurs for innovation, R&D, collaborations, with well-educated and skilled workers, for decentralized decision making, and visionary leadership [10]. Entrepreneurs are engaged in e-commerce today in three ways i.e. marketing and image-building through websites, transacting through extensive use of mobile technology, and technical problem solving through establishing partnership

[11]. In the Turkish agro-food sector of SMEs, the use of ICT was a marketing success factor [12]. ICT offers multiple benefits to SMEs today in terms of providing efficiency, effectiveness, innovation, growth, and competitive advantages [13].

The importance of digital inclusion is that it provides access and usage of ICT to people. In the past, the rate of ICT is measured through the digital divide. Due to the rapid growth of ICT, now, the digital divide has evolved into digital inclusion [14]. Therefore, there is a need to measure the implication of digital inclusion so as to determine what digital inclusion could bring to society and the entrepreneurs in particular. Without digital inclusion, the social exclusion will occur [15]. The use of ICT is also an important means for communication between people. Besides that, there are other benefits of digital inclusion for people. For example, in a survey studying the impact and benefits of Internet access on residents of a social housing estate, the results revealed a change in behavior and capability of the residents [16]. They are able to do their job better, search for jobs, learn new things, communicate with friends and family, and pursue hobbies and interests.

Innovation in entrepreneurship occurs when a business develops new products and services to cater to the needs and wants of the customers. ICT has been found to improve the efficiency of the business however, market-oriented applications such as website design are able to create competitive advantage through product innovation [17]. Innovation also tends to improve the productivity of the company [18]. Entrepreneurs had been using ICT sophistication for business innovation [19]. For example, e-commerce tools had been used by entrepreneurs to innovate their businesses. The more ICT is used, the more likely innovations occur. Therefore, entrepreneurs take advantage of the latest technological trends such as the Internet of Things (TOT) for a business opportunity.

3. METHODOLOGY

This study employed a quantitative survey method. In order to obtain facts and information, sets of questionnaires were used to collect data of 500 respondents comprising entrepreneurs (SMEs) aged 18 to 55. A sample selection was determined earlier by following the set criteria as in the current SME guidelines. The use of the survey method is a method of data collection which is considered the best in social science research because this method can provide a proper explanation to represent a large population [20]. In fact, most scholars stress the importance of surveys in facilitating researchers conclude the findings of one particular group to give a description of a large population. The resulting questionnaire will cover several aspects such as the demographic profile, to test the relationship of variables, also to see the results of the use of ICT in their lives and opportunities for empowering entrepreneurs in social and economic life through ICT.

Pre-tests were performed from 15 to 30 October 2017 before the actual study began. The researchers conducted a pilot study on 30 samples to identify every item that is used in accordance with the study. Feedback obtained from this pilot study has guided the improvement of the weaknesses of the questionnaire. Pre-test has been carried out in Bangi area by the researcher. The questionnaire in the pre-test has been improved and modified for research purposes.

4. RESULTS AND DISCUSSION

Constructs formed was measured in terms of reliability and validity index to assess suitability. Pre-tests were performed on all variables to assess the reliability and validity of research equipment. In general, an instrument of research studies requires reliability test using Cronbach Alpha procedure. The closer the Alpha value to 1, then it indicates a high level of reliability. The level of reliability is good and acceptable when the Alpha is more than 0.70. In this study, the index of digital inclusion implications showed the validity and reliability of each dimension. Table 1 shows the index of validity and reliability of measurement instruments.

Table 1. The Index of Validity and Reliability of Measurement Instruments.

Variables	Cronbach's Alpha (α)	No. of Items
Entrepreneurship Innovation	0.919	5
Innovation of Technology	0.888	4
Business Management	0.925	6
Satisfaction	0.741	8

The demographic profile of the respondents as shown in the Table 2 indicated that the dominant characteristics of the entrepreneurs in the study are: male (288, 57%), aged between 28 to 37 (195, 39%), race of Malay (439, 87.8%), number of years in business between 2 to 4 years (173, 34.6%), initial capital of between RM 1,001 to RM 5,000 (150, 30%), and business performance based on ICT usage had increased (414, 82.8%).

Table 2. Demographic Profile

Demographic	Frequency	Percentage (%)
Gender		
Male	288	57.6
Female	212	42.4
Age		
18-27	115	23
28-37	195	39
38-47	111	22.2
48-57	38	7.6
58 above	9	1.9
Race		
Malay	439	87.8
Chinese	38	7.6
Indian	16	3.2
Bumiputera Sabah	7	1.4
Period of Business		
Less than 1 year	112	22.4
2-4 years	173	34.6
5-7 years	113	22.6
8-10 years	46	9.2
More than 10 years	56	11.2
Initial Capital		
RM1,000 and below	99	19.8
RM 1,001 – RM 5,000	150	30
RM 5,001 – RM	107	21.4
10,000	88	17.6

RM 10,001 – RM 50,000 RM 50,001 and above	56	11.2
Business Performance Based on ICT Usage Increase Decrease No Change	414 2 82	82.8 4 164

Basically, mean indicated the average scores from an item or a variable. Meanwhile, a standard deviation (SD) is a measure of variability of a data spread in a normal curve. The relationship between mean and SD is that mean sets the standard value in which how much data deviates from it can be seen. A low SD indicates data points are closer to the mean meanwhile a higher SD shows that data are spread out from the mean with a wider range value (away from the normal curve). In the analysis of the implications of digital inclusion, Entrepreneurship Innovation variable was analyzed first. Table 3 showed that all the means of the items in Entrepreneurship Innovation are slightly high (ranges from 3.16 to 4.13). They also showed a low SD (.79 to .83). This indicated that data are in the normal distribution mode. Similarly, overall mean and SD scores for Entrepreneurship Innovation is slightly high (4.03) and low (.81), respectively. From the scale of 1 to 5, most respondents (46.4% to 49.6%) scored 4 indicating that they agree that digital inclusion implicates entrepreneurship innovation. The item *"I am excited to expand my business relevant to the needs and wants of the consumers today"* scored the highest mean at 4.13 and SD at .80.

Table 3. Mean and Standard Deviation Analysis for Entrepreneurship Innovation

Item (Entrepreneurs Innovation)	1	2	3	4	5	Mean	SD
	Percentage						
Digital economic policy makes me an innovative entrepreneur.	1.2	2.8	20.4	49.6	26	3.96	.83
I am able to produce innovative product/ business.	0.2	3.4	20.6	49.4	26.4	3.98	.79
ICT applications help me to improve my creativity as an entrepreneur.	0.8	3.2	18	46.4	31.6	4.05	.83
I have produced a more creative technique of product marketing.	0.6	2	21	47.6	28.8	4.02	.80
I am excited to expand my business relevant to the needs and wants of the consumers today.	0.6	2.2	15.6	46.4	35.2	4.13	.80
Overall mean score						4.03	.81

1= Strongly Disagree, 2= Disagree, 3= Slightly Agree, 4= Agree, 5= Totally Agree (N=500)

Next, is the analysis of mean and SD for Innovation of Technology variable. From Table 4, mean for all the items ranges from 3.81 to 4.06 indicating that they are slightly high. Meanwhile, the SD for all the items which range from .80 to .94 demonstrated that they are low. This goes to show that the data are distributed along the mean in a normal curve. Similarly, the overall mean for Innovation of Technology variable is also slightly high at 3.91 and SD is low at .86. For all items, most respondents (43.6% to 47.2%) scored at 4 or Agree indicating that they agree that the implication of digital inclusion of entrepreneurs led to the innovation of technology. The highest mean score is recorded by item *"Communication technology today like (social media, Facebook, Instagram) had increased marketing innovations by the company/business"* at 4.06 and SD at .80.

Table 4. Mean and Standard Deviation for Innovation of Technology

Item (Innovation of Technology)	1	2	3	4	5	Mean	SD
	Percentage						
I am innovating the products produced in my company using the latest material. (Examples: Cloth fabrics, Food ingredients, etc.)	1.6	6.6	22.4	44.4	25	3.85	.93
Process/manufacturing innovation is also done by business companies using the latest technology/ machine.	1.8	7	23.6	43.6	24	3.81	.94
Communication technology today like (social media, Facebook, Instagram) had increased marketing innovations by the company/ business.		3	19.8	45.4	31.8	4.06	.80
The usage of latest equipment/ machine had improved the performance of my business.	1.2	4.4	21.4	47.2	25.8	3.92	.87
Overall mean score						3.91	.86

1= Strongly Disagree, 2= Disagree, 3= Slightly Agree, 4= Agree, 5= Totally Agree (N=500)

The third analysis for implications of digital inclusion is Business Management variable. The means for all items for Business Management ranges from 4.01 to 4.05 (see Table 5) out of the scale of 5. This indicated that the mean of Business Management variable is slightly high. Meanwhile, the SD for all items ranged from .75 to .79. This demonstrated that data deviated less from the mean and normal curve. The overall mean score also indicated slightly high at 4.03 and SD of low at .78. Most respondents (48.6% to 53.6%) reported at the scale of 4 (Agree) for all items for Innovation of Technology. Therefore, the digital inclusion of entrepreneurs implicated Business Management. Items *"Performance in customer data and information management is more organized and systematic"* and *"Improvises inventory management of products that are being produced"* scored the highest means at 4.05 and SD at .75 and .81, respectively.

Table 5: Mean and Standard Deviation for Business Management

Item (Business Management)	1	2	3	4	5	Mean	SD
	Percentage						
I am able to improve the quality of financial management.	0.2	2.8	20	49.8	27.2	4.01	.78
Human resource management is more efficient.	0.2	3.4	18.6	51.2	26.6	4.01	.78
Performance in customer data and information management is more organized and systematic.	0.2	2.4	17.8	51.8	27.8	4.05	.75
Products that are produced by the company are more quality and conform to customer preferences.	0.4	2.6	19.8	48.6	28.6	4.02	.79
Improvises inventory management of products that are being produced.	0.8	2.8	17.4	48.6	30.4	4.05	.81
I am able to deal with the stakeholders much better.		3.4	16	53.6	27	4.04	.75
Overall mean score						4.03	.78

1= Strongly Disagree, 2= Disagree, 3= Slightly Agree, 4= Agree, 5= Totally Agree (N=500)

The final analysis for the implications of digital inclusion is the mean and SD analyses of variable Satisfaction. The mean analysis for all items for Satisfaction showed that they are all slightly high (4.16 to 4.35). Low scores, however, were recorded for all items for SD (.70 to .77). Thus, data did not seem to deviate much from mean in the normal curve. Similarly, the overall mean score for Satisfaction also indicated slightly high mean scores at 4.24 and SD of low at .95. Most of the respondents (43.8% to 49%) responded to the scale of 4 (Agree) for all items in Satisfaction. This indicated that they agree that one of the implications of digital inclusion is Satisfaction. *"Business management makes me a more independent individual"* item scored the highest mean score among other items in Satisfaction at 4.35 (SD at 2.38).

Table 6. Mean and Standard Deviation of Satisfaction

Item (Satisfaction)	1	2	3	4	5	Mean	SD
	Percentage						
I am able to gain profits easier and faster from the business.	0.4	0.8	14	49.8	35	4.18	.73
I have a more flexible time with my family and friends.	0.8	1.4	14.2	48.6	35	4.16	.77
I am satisfied when all business transactions are done easily through ICT.	0.2	1.4	11.6	48.6	38.2	4.23	.72
Business management makes me a more independent individual.	0.4	1	12	46	40.4	4.35	2.38
I am happy to assist in providing job opportunity to other individuals.	0.2	0.6	12.4	49	37.8	4.24	.70
I am able to establish more and better client relationships through online.	0.6	1	13.8	45.2	39.4	4.22	.76
I am able to feel a healthy competition existed in the business world.	0.4	1.6	11.4	46.4	40.2	4.24	.75
I am able to contribute to the growth of the nation's digital economy.	0.8	1.2	11.6	43.8	42.6	4.26	.77
Overall mean score						4.24	.95

1= Strongly Disagree, 2= Disagree, 3= Slightly Agree, 4= Agree, 5= Totally Agree (N=500)

5. CONCLUSIONS

The findings indicated that the implications of digital inclusion of the entrepreneurs in SMEs are Entrepreneurship Innovation, Innovation of Technology, Business Management, and Satisfaction. By including digital inclusion in their practices, entrepreneurs in SMEs are able to be more creative and innovative such as in product design and marketing, more technological innovations will be produced like in process innovations, entrepreneurs will be more systematically involved in business management such as inventory management and financial management, and they are more independent in managing their business successfully, etc. Other studies also supported these findings [17,18,19]. Therefore, entrepreneurs in SMEs are encouraged to apply ICT in their business practices since it has the potential to yield multiple benefits such as being more

creative, produce more marketing innovations, and being independent.

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