

**ICMC 2023****The 3<sup>rd</sup> International Conference on Management and Communication****DIGITAL INCLUSION MODEL FROM THE USER-CENTRIC  
PERSPECTIVE AMONG B40 ENTREPRENEURS IN SELANGOR**

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**Abstract**

Digital inclusion encompasses the issues of use and beneficial utilization obtained by a group of people. Starting at the digital divide, researchers have now shifted their focus to issues pertaining to digital inclusion. This study aims to develop a digital inclusion model among the B40 entrepreneurs in Selangor. The existing digital divide instruments focuses on access, skills and motivation towards ICT use along with the usage gap issue, while digital inclusion narrows down on how users benefit from ICT use while preventing the occurrence of digital imperfection. Digital needs are among the key aspects that need to be refined in developing and testing an antecedent model based on the targeted outcomes of digital inclusion as a whole. The formation of this model is a new prong in the efforts of measuring the development of B40 entrepreneurs. The objective of the study is to define the concept of digital inclusion and to test the identified domains of digital needs. Furthermore, this study will also develop a cause and effect model based on the need for digital inclusion. Research data was collected using a quantitative method via face-to-face surveys with a multi-stage sampling that is clustered and purposive. A total of 618 among B40 entrepreneurs from 5 districts in Selangor were chosen as respondents for the study. The expected result of the study is to introduce an antecedent model based on actual consequential digital needs among B40 entrepreneurs in Selangor based on several domains that have been tested and identified.

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*Keywords:* B40 Entrepreneur, Digital Inclusion, Empowerment, ICT Usage



## **1. Introduction**

Digital inclusion is more than just providing everyone with access to computers and the internet; it also includes technological literacy and the capacity to use pertinent online resources. Access, usage, power, and involvement are also closely related ideas. This study is to develop a model of digital inclusion based on a 'user-centric' approach which refers to users having more control, more choice or more flexibility. The group of B40 entrepreneur is chosen as respondent and this can help them out of the cycle of socioeconomic poverty and also digital poverty. The majority of research are now starting to look at the goal of individual participation in the Internet and its advantages, therefore studies on the gaps in Internet use are generally no longer the main focus. Access, skill, and motivation are three indicators that are linked to content engagement and, in turn, provide observable results. Tangible outcomes can further be related to empowerment and the economic as well as social fields. Thus, the focus of this study is on the combination of digital constraints, digital inclusion, and empowerment of B40 entrepreneurs based on various dimensions. The framework of this digital inclusion model is developed and tested to examine the relationships and strengths among the studied variables. Furthermore, a user-centric perspective serves as the foundation in this study, which is the main focus in testing the theories and models.

## **2. Literature Review**

### **2.1. Digital inclusion**

Currently, majority of the B40 group choose to change their lifestyle using Information and Communication Technology (ICT), especially in the efforts to increase their household income. Indirectly, digital inclusion is a catalyst for the B40 group to conduct entrepreneurial activities digitally. Digital inclusion is defined as careful and safe access to usage. Ragnedda and Mutsvairo (2018) defines digital inclusion as the capacity of a person or an organisation to access and utilise information and communication technologies. Furthermore, digital inclusion also involves the important element of increasing the public understanding of the many uses and benefits of digital technology (Omar et al., 2020) including entertainment, government, and employment and business services along with more efficient purchasing methods.

According to the National Digital Inclusion Alliance (n.d.), digital inclusion refers to an activity that needs to be carried out to convince all communities including the less fortunate to have access to the use of ICT which encompasses five core elements, namely, (1) sustainable and appropriate internet broadband services; (2) devices with the ability to access the internet that meet the user's needs; (3) having access to guidance in digital literacy; (4) having excellent technical assistance; and (5) the design of applications and online content intended to enable and encourage user collaboration and participation in a self-sustaining context. At the same time, the development of digital inclusion needs to go hand in hand with technological progress. Digital inclusion, however, goes beyond just having Internet access. Additionally, it entails the development of software and hardware, the provision of pertinent information and services, and the provision of training for mastering digital literacy in ICT use (Institute of Museum and Library Services, 2012).

Nguyen (2022) defines digital inclusion as a form of social participation in the digital era broadly referring to the basic concept of digital inclusion by ensuring that every individual and community has the same opportunity and ability to access and use digital technology facilities more effectively. Every person and group in society also must be aware of and grasp the advantages of digital inclusion since it enables them to take advantage of possibilities in the fields of business, education, and social interaction. Moreover, Bradbrook and Fisher (2004, as cited in Helsper, 2008) also supported the '5 C's found in digital inclusion, which are capability (skill ability), confidence (effectiveness and self-confidence), connectivity (access ability), content (content found online) and continuity (continuity of ICT in life).

## **2.2. Digital needs**

The use of new media technologies in citizens' daily life is becoming more and more significant. To fully participate in a society that is digitally connected and where ICTs are increasingly being used as a kind of life mediation, one must have access to and use ICTs. A growing number of services, resources, opportunities, information, and social connections are moving online. Exclusion from the digital sphere has serious repercussions for both individuals and society as a whole. People and socioeconomic groups outside the digital mainstream—often those with lower incomes, immigrants, people with less education, those living in rural areas, elderly, or people with disabilities—are missing out on the potential benefits of ICTs. Those in these groups are further marginalised socially by their isolation from the digital world. For these reasons, an increasing number of organisations and initiatives are working towards creating a society where everyone has the opportunity to participate in the digital economy. Yet, despite being necessary, the mere presence of ICTs or Internet connectivity is no longer sufficient to be regarded as digital inclusion (Ragnedda & Muschert, 2013).

There are many barriers to achieving this digital inclusion. For example, the cost of infrastructure to deliver new technology is too high which dictates that investment and operating expenses of innovation to create and deliver to the rural population will remain high with the returns being low. Furthermore, this difficulty is caused by the lack of ICT infrastructure and human resources skilled in the use of new information systems, especially in rural areas (Sitti et al., 2015).

On the other hand, there are some who are still not connected despite living in areas with viable high Internet connectivity due to digital illiteracy and a lack of appropriate local content. Accordingly, GSMA (2014) explains that there are four types of constraints to Internet engagement namely, Network Infrastructure and Policy, Taxation, Illiteracy and Local Content. Ironically, ICT services cannot be used for many parties (GSMA, 2014). The ability to comprehend and analyse information from many sources when using ICT devices and the Internet is referred to as digital literacy (Ferrari et al., 2012). According to this concept, among the literacies that fall under the category of digital literacy are i) computer literacy, ii) information literacy, iii) social media literacy, and iv) network literacy (Leaning, 2019).

Forster (2013) defines information literacy more holistically in a way that goes beyond the function of gathering information and towards focus on the results, thus the concept of information literacy can have a wider application (Forster, 2013). Social media literacy, according to Vanwynsberghe et al. (2015), is the technical and cognitive proficiency of users who utilise social media effectively and efficiently for online social engagement and communication. Technical competence is the ability to

create and distribute material on social media, whereas cognitive competence is the ability to critically evaluate social media content for context-appropriateness (Daneels & Vanwynsberghe, 2017). The most recent addition to digital literacy is network literacy, which is concerned with computer network knowledge and abilities, such as how to utilise, value, and operate digital communication networks (Pegrum, 2010). Digital literacy can be seen as a progression from a more fundamental skill set, such as computer literacy, to a higher and more transformative level skill, such as network literacy, when considering multiple definitions of literacy in the context of digital literacy. It is impossible to deny the significance of information and communication technology in the world of entrepreneurship. More so given the increasingly difficult global economic climate in which SME entrepreneurs must continue to thrive despite an ever-increasing level of company rivalry. Compared to the local market, which is more limited, businesses that use e-commerce services are said to be able to penetrate a wider future market as well as increase sales of products produced (Md Fadzil & Mohd Rafi, 2017). This situation shows that the involvement of the Internet in the field of entrepreneurship has a great role that can transform the traditional business pattern.

Moreover, aspects of ICT use, along with skills, ability and motivation are also seen to explain the possible constraints faced by the B40 group of entrepreneurs. According to Litt (2013), past studies have revealed that people's experience with utilising technology and the Internet affects their level of proficiency by considering the amount of time and effort they devote to using it. This result is consistent with the assertion made by van Deursen and van Dijk (2011) that the ability to use the Internet effectively is a talent that is very important and vital in modern society. Digital inclusion encompasses a variety of aspects, some of which are hardware and software availability, relevant content and services, and teaching in the digital literacy skills required for effective information and communication technology usage. Access to the Internet is just one of these elements. Thus, it is essential to invest in the infrastructure and technologies that will improve Internet access as well as in the training and assistance that will be required for people to obtain the digital skills necessary in a society with a high degree of digital literacy.

### **2.3. Digital inclusion needs**

Dewan Dictionary stated that a necessity is something that needs to be done to achieve good governance. For this reason, the government is calling on society, especially entrepreneurs, to empower digital technology facilities to produce creative and innovative entrepreneurs in addition to realizing the government's desire to increase economic growth through digital entrepreneurial activities (National Entrepreneurship Policy 2030). Before the technology boom, entrepreneurs did business in a traditional way. There are various similarities and differences between running a traditional business and a digital business according to Norton (2017). First is in terms of marketing strategy. A marketing strategy that is carried out traditionally is seen as the best step to launch a product or brand while a marketing strategy that is carried out digitally can get the amount of engagement regarding the product or brand that is introduced as well as making it easier for users to differentiate the product from other brands.

Second, is the aspect of target audience. Audience targeting is traditionally done through certain demographic characteristics such as gender, age and location while digitally it is done through user behaviour and location. Digital audience targeting makes a brand more relevant due to the frequency with

which it is used by the general public and results in marketing effectiveness. Apart from that is the aspect of communication between entrepreneurs and consumers. Traditionally, it was difficult to create user interaction. This is because, some users will feel nervous when a seller asks various questions or follows the user around when choosing a desired product. Digital communication can make it easier for customers to choose a product according to their wishes by browsing a website or the catalogue provided regardless of the time and place. Third is campaign performance. Traditional entrepreneurs must wait for a long period of time to get campaign results done for their products while digital entrepreneurs can get campaign results that are carried out quickly and accurately through various facilities available online, for example via Google Forms.

Moreover, entrepreneurs who run businesses digitally are more cost-effective compared to entrepreneurs who run businesses traditionally. This is because users spend more time surfing the Internet to find information. Last but not least is customer service. Through traditional entrepreneurial activities, users are only able to get a slow response from the entrepreneur via letter or phone call. Way back when, only a few people in the community had a telephone because of its relatively high price. Therefore, entrepreneurs who run businesses digitally gain more benefits than entrepreneurs who run businesses traditionally. Through the digital business model, an organization has real-time access to their customers and potential customers. In addition, all questions posed by their customers or potential customers can be answered as quickly as possible.

Meanwhile, in managing entrepreneurial activities, entrepreneurs need to have the skill of creating and maintaining social networks between customers and suppliers. Social networking is a global phenomenon that has revolutionized the means of interacting with each other (Matthew et al., 2019). Social networks are seen to have affected almost every part of society's daily life including communication, employment, education, healthcare, politics, personal productivity and social relationships. Social networks are also seen as a foundation in shaping community life because we are interconnected and need each other (Hajar Arbain et al., 2019). Additionally, communication via social networks is a crucial component of modern human life (Subrahmanyam et al., 2008). Social networks, particularly in the current digital era, are the predominate means of inter-person communication (Gómez-Galán et al., 2020). Additionally, Riva et al. (2016) demonstrated how society might use social networks to satisfy and own basic needs like the demand for property ownership, social support, and expression. Additionally, social networks are present in many aspects of a person's life, including politics, work, and social interactions (Cuadrado et al., 2022). In addition, social networking is also defined as a behaviour carried out by an individual along with other individuals in performing an active behavior thus making a social network a necessity to form a business model (Doganova & Eyquem-Renault, 2009).

Next, entrepreneurs need to take the initiative to expand marketing for their businesses through the social network that has been built. According to the American Marketing Association (n.d.), marketing is a process and activity used to produce, convey, provide information, and trade offers that are valuable to clients, business partners, and society as a whole. In addition, marketing is also defined as a task that consists of management aspects and decisions directed by an entrepreneur to obtain opportunities in a dynamic environment by developing and offering a satisfactory market to consumers while being able to achieve business objectives (Cronje et al., 2004). Schiffman and Kanuk (1994) asserted that marketing is

a determination made by a company to meet the needs and wants of the market for a specific target group. Marketing also means anticipating and meeting consumer needs through a mutually beneficial exchange process for entrepreneurs and consumers with the existence of an efficient management process (Lamb et al., 2012). Previous entrepreneurs carried out traditional marketing activities. Therefore, entrepreneurs now need to upgrade digital marketing activities in line with the progress of digital technology in addition to increasing online activities (Kotler et al., 2017) and contribute towards a country that has a high capability in the use of current digital technology.

Subsequently, entrepreneurs are also encouraged to participate in the various ICT training courses that have been provided by various parties such as the eUsahawan Program (Malaysian Digital Economy Corporation), Urban Community Economic Empowerment Program (Ministry of Housing and Local Government) and so on. Such programs are conducted so that entrepreneurs are able to get guidance and advice while making another's success a source of inspiration for them to continue their business. Furthermore, the various ICT courses and training offered are aimed at helping entrepreneurs, especially B40 entrepreneurs, to improve their socio-economic status through conducting business activities online (Tati, 2017). ICT training is seen to play an important role (Boukamcha, 2015) in being able to improve an entrepreneur's cognitive ability and interest in running a business digitally.

#### **2.4. B40 entrepreneur empowerment**

Hasanah and Sriminarti (2019) explicated that empowerment and entrepreneurship are closely related. This is because entrepreneurial activities can empower entrepreneurs. Increasing a person's or group's capacity to make decisions about a situation that will have an impact on their life in the future is referred to as empowerment. However, there are several meanings for the word "empowerment." According to Bailey (1992), a group or organization's empowerment depends on its living conditions and organisational structure. In addition, empowerment is also defined as a belief that a person has in their own abilities in addition to knowing how to obtain various necessary resources. In other words, an empowered person is able to control themselves as well as everything around them so as not to give up easily facing the various trials that are beyond their control.

In relation to that, the ability of an individual or group to make a choice that has an impactful effect so as to make that choice a desired action can also be known as empowerment (Alsop et al., 2006). In addition, empowerment is also a very important aspect to a company (Alkire, 2005). This is true as if there is an increase in empowerment, indirectly the company will reap its benefits. Empowerment is a multi-dimensional social procedure (Page & Czuba, 1999). It aims to help an entrepreneur or a company to gain certain mastery to carry out something that can lead to the achievement of the desired objective. According to Rowlands (1995), empowerment is a process to give some individuals the opportunity to believe that they have the required ability and can be involved in decision-making.

However, an individual or a company is not able to achieve success without appropriate action or steps even if they feel that success can be had quickly through empowerment. Therefore, Connell (2015) has introduced three steps that need to be taken to achieve success in running a business. First, entrepreneurs will need to be willing to learn whatever they need to know. Second, entrepreneurs will

need to make efforts themselves in starting something. Third, entrepreneurs will need to always move forward to achieve success in the future despite facing various constraints or obstacles.

In the same context, in order to achieve success in empowering entrepreneurship, Shipley (2015) has outlined four approaches that a company should always implement. First is the recruitment of youths, to increase their participation especially in the field of entrepreneurship. Second is the implementation of programs with the concept of developing young entrepreneurs. Third is the creation of a variety of job opportunities, especially during the holiday seasons. Finally, a company is encouraged to participate in programs that are based on their company's culture or mission. The approach introduced by Shipley (2015) is seen to focus on the empowerment of youths. Bakar et al. (2016) explained that the attitude of not expecting others to help is one of the factors of youth's involvement in the field of entrepreneurship. Furthermore, young people can cultivate their discipline and leadership talent through experience in managing their own businesses.

Currently, entrepreneurs of the Small and Medium Enterprises (SMEs) category are seen to be able to increase economic development through innovation carried out in business (Adnan & Ahmad, 2016). The definition of innovation is a risky and creative action that is willing to be taken by an entrepreneur in a firm to bring about changes in the way of work, products, processes and organizational structure with the aim of improving organizational performance and seeing the degree of effectiveness the innovation carried out brings (Bhaskaran, 2006; Damanpour, 1991; Ishak, Omar, Othman, et al., 2012; Johannessen et al., 2001). Furthermore, innovation also plays a role in maintaining the growth and survival of a business entity (Ishak et al., 2018). Therefore, it is assumed that the use of strategy to innovate on a product will be done by a number of entrepreneurs with the aim of creating an idea that can attract the interest of customers in addition to competing with other entrepreneurs. Bakan and Yildiz (2009) explicated that a company can remain ahead if they produce the most up-to-date products and services that are suitable for use by customers by utilizing latest technologies. As such, smaller companies are expected to face various challenges in implementing innovation in their businesses (Ishak, Omar, et al., 2012; Ishak & Omar, 2013) due to various existing constraints such as the constraints of manpower, time and money. Ultimately, ICT innovation has dominated the other facets of innovation because, according to Muhammad Fazil (2018), it is communication in general that causes change in society by spreading ideas and novel concepts across borders of space, time, and domain.

Since SMEs such as B40 entrepreneurs are seen to contribute to the growth of the country's Gross Domestic Product (GDP). Therefore, various programs have been and are being actively pursued by the government with the aim of developing the economy in addition to being able to improve the SMEs business performance (Shamsuddin, 2014). Business performance needs to be constantly monitored to ensure that any given business is moving in the right direction. Moreover, business performance will increase if entrepreneurs are able to diversify their ideas by innovating on their sales products (Sheerad et al., 2015). Kariya et al. (2012) stated that a company with high performance is often associated with having high and diverse resources. This signifies that a business managed by B40 entrepreneurs needs to broaden their product ideas and boost their resources if they wish to compete in the market. Lack of business resources prevents a firm from taking advantage of market prospects.

Similarly, when an entrepreneur wants to produce various types of innovation in order to maintain their business performance, they will also have to compete with entrepreneurs from different companies in order to get a return commensurate to the effort they have given. Competitiveness or competition is one of the basic aspects of life whether in education, business and other fields. Competition occurs when there are two parties with conflicting objectives, but with one party controlling the focus of the objective (Tidström & Hagberg-Andersson, 2012). In addition, competition also refers to an activity carried out by two or more parties to meet customer demands and compete among themselves to obtain resources that are limited (Easton & Araujo, 1992). Cunningham (1995) explained that competition is a dynamic process where there exists an active competition between companies. Kankam-Kwarteng et al. (2019) stated that fierce competition that occurs in a company, on the other hand could reduce business performance. Therefore, entrepreneurs need to carry out analysis from various angles to maintain their business performance even if they have to compete with other entrepreneurs. However, there are also external factors such as the environment that can influence the competition between any two parties (Chen et al., 2015). Environmental factors must always be observed because they are ever changing dynamically depending on the number of workers, technological developments or changes in regulations as directed enforced by the government.

### 3. Conceptual Framework

The conceptual framework below shows the model of antecedent and consequential needs of digital inclusion. It also describes the relationship between the variables: digital constraints (antecedents), digital inclusion and empowerment (consequences). These variables will be analyzed to test the relationship and form the model. Figure 1 shows the conceptual framework of the study.

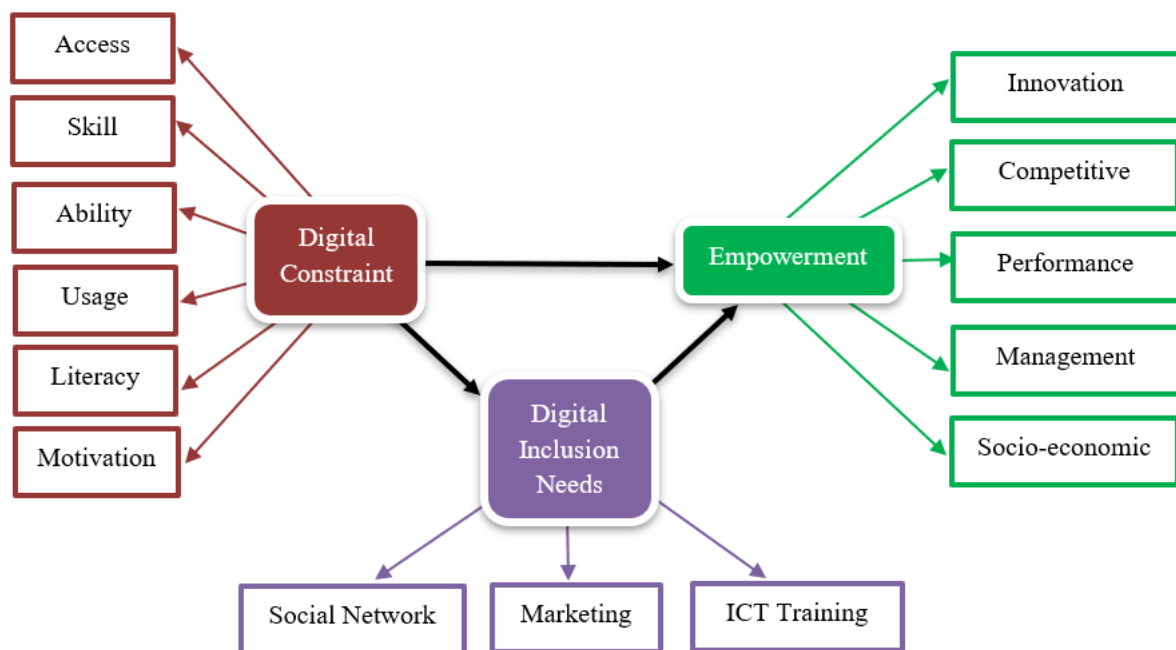


Figure 1. Conceptual Framework



## **4. Methodology**

This study used a survey study with a cross-sectional design as a quantitative technique. Using cluster and purposive sampling methods, a total of 618 B40 entrepreneurs who own enterprises and do business in Selangor took part in the study. The unit of analysis is at the individual level. Data analysis was conducted using several statistical techniques starting with descriptive analysis and structural equation modelling (SEM) with partial least squares (PLS).

### **4.1. Research design**

A quantitative approach by applying a survey study based on a cross-sectional design was used in this study after examining the research problem, the required information and the condition of the study sample. By examining a sample of the population, the survey design also offers a quantitative or numerical depiction of patterns, attitudes, or opinions within the population (Creswell, 2014). Thus, the application of the survey research in this study is done through the use of self-governed questionnaires with the help of appointed enumerators. The cross-sectional design in this study refers to the distribution of questionnaires to a group of study samples (B40 entrepreneurs) taken in a specific period of time only.

### **4.2. Population and sampling**

The population of this study comprises of B40 business owners who are registered business owners and who operate in the state of Selangor. These business owners are mostly Small and Medium Enterprise (SME) owners from diverse industries. The location of the study is only focused on a few selected districts based on the sampling technique used in this study.

The study sample was selected based on two sampling techniques, namely cluster sampling and purposive sampling. A cluster sampling technique was used to randomly obtain B40 entrepreneurs in the state of Selangor which consists of several districts. This random selection includes five of the nine districts in Selangor. The selected districts are Hulu Langat, Kuala Langat, Kuala Selangor, Sabak Bernam and Sepang. A purposive sampling technique is utilized since the focus of the study is on the group of B40 entrepreneurs who meet the criteria set by the researcher. A total of 618 B40 entrepreneurs were targeted by researchers as a study sample. According to Krejcie and Morgan (1970) Sample Size Determination Table, a sample of 384 persons may accurately reflect a population of one million people. The overall sample complies with this rule.

### **4.3. Data collection**

Data collection was carried out for four months starting in February up to June of 2022. Questionnaires were distributed face-to-face to respondents consisting of B40 entrepreneurs in the five study areas investigated. The researcher appointed five certified enumerators to distribute 125 questionnaires each to meet the specified sample size. The number of questionnaires distributed in each area involved exceeds the required sample size to account for incomplete or damaged questionnaires.

Data collection training as well as preliminary briefings were given to each enumerator in advance to ensure that each questionnaire is completely filled out accordingly and damage can be minimized. Next, each enumerator is asked to collect data according to the perimeter of the collection area that has been assigned to them so as not to overlap with the areas assigned to other enumerators. At the end of the data collection period, all questionnaires were returned to the researcher. All questionnaires received from each enumerator were first checked to ensure that they are complete and that there are no questionable answer patterns. The results of the screening found that 618 questionnaires had been filled out completely and could be accepted for analysis using the SPSS software.

#### **4.4. Research instrument**

A questionnaire is used as an instrument in this study which consists of five parts. Part A is a profile of the study respondents that contains the variables of gender, age, race, personal status, highest level of education and type of business. Part B consists of nine questions to describe the business background of the B40 entrepreneurs. Section C contains a set of questions to measure the construct of digital constraints consisting of 30 items in six dimensions. The development of this construct is based on six dimensions, namely ability (5 items), motivation (5 items), literacy (5 items), skills (5 items), access (5 items) and usage (5 items). Part D measures the dimensions of social networking, marketing and ICT training to illustrate the digital inclusion needs construct consisting of 15 question items. Each of these three dimensions contains five items in total. Part E includes 20 items divided into five dimensions to measure the B40 entrepreneur empowerment construct. This construct is developed through the dimensions of performance (4 items), innovation (4 items), management system (4 items), competitiveness (4 items) and socio-economics (4 items). All items in each dimension are measured in this study using an interval scale, which is a five-level Likert scale.

### **5. Research Findings**

#### **5.1. Demographic profile**

Based on the total sample size of successful questionnaires in the research conducted, a total of 336 were male entrepreneurs (54.4%) and the rest are female entrepreneurs with a total of 282 people (45.6%). In terms of age breakdown, the majority of this group of B40 entrepreneurs consists of those aged 36 to 45 years which makes up a total of 203 people (32.8%), followed by a group of entrepreneurs aged 26 to 35 years totalling 190 people (30.7%) and 78 entrepreneurs between the ages of 15 and 25 (12.6%) as well as 41 entrepreneurs aged 56 and over (6.6%). Malays make up the majority of the group of B40 entrepreneurs who are the respondents of this study with a total of 556 people (90%). In terms of status, most of them are married, but there were also those who are still single, as well as single mothers and single fathers. In the aspect of education level, a total of 328 people had Sijil Pelajaran Malaysia (SPM) level education, followed by 149 with Certificate/STPM/Diploma, and the rest had UPSR, SRP/PMR, Bachelor's and Master's qualifications. Table 1 breaks down the specifics in terms of the demographic distribution of respondents.

**Table 1.** Demographic distribution of respondents (N=618)

	Item	Total Number	Percentage
Gender	Male	336	54.4
	Female	282	45.6
Age	15 - 25 years	78	12.6
	26 - 35 years	190	30.7
	36 - 45 years	203	32.8
	46 - 55 years	106	17.2
	56 and above	41	6.6
Race	Malay	556	90.0
	Chinese	26	4.2
	Indian	28	4.5
	Bumiputera Sabah/Sarawak	5	0.8
	Others	3	0.5
Marriage Status	Single	175	28.3
	Married	368	59.5
	Single Mothers	50	8.1
	Single Fathers	25	4.0
Education Level	UPSR	16	2.6
	SRP/PMR/PT3	83	13.4
	SPM	328	53.1
	Certificate/STPM/Diploma	149	24.1
	Bachelor's Degree	40	6.5
	Masters	2	0.3

## 5.2. Reliability test

The built instrument has a high dependability, as evidenced by reliability test results that are close to 1.00 (Bond & Fox, 2003). The analysis of the findings of the pilot study conducted shows a Cronbach's Alpha reliability value of 0.970 for the digital constraints construct which contains 30 items. Moreover, the result also shows the value of 0.962 for the digital inclusion construct which contains 15 items. While the entrepreneur empowerment construct shows a reliability value of 0.938 with a total of 20 items. Based on the Cronbach's Alpha value obtained, the construct of digital inclusion and entrepreneur empowerment of B40 is found to have a high reliability value and proves that the items in this construct has a good internal consistency along with a high level of consistency. Table 2 shows the result of reliability test.

**Table 2.** Reliability Test

Variables	Cronbach Alpha	Item
Digital Constraints	0.970	30
Digital Inclusion Needs	0.962	15
B40 Entrepreneur Empowerment	0.938	20

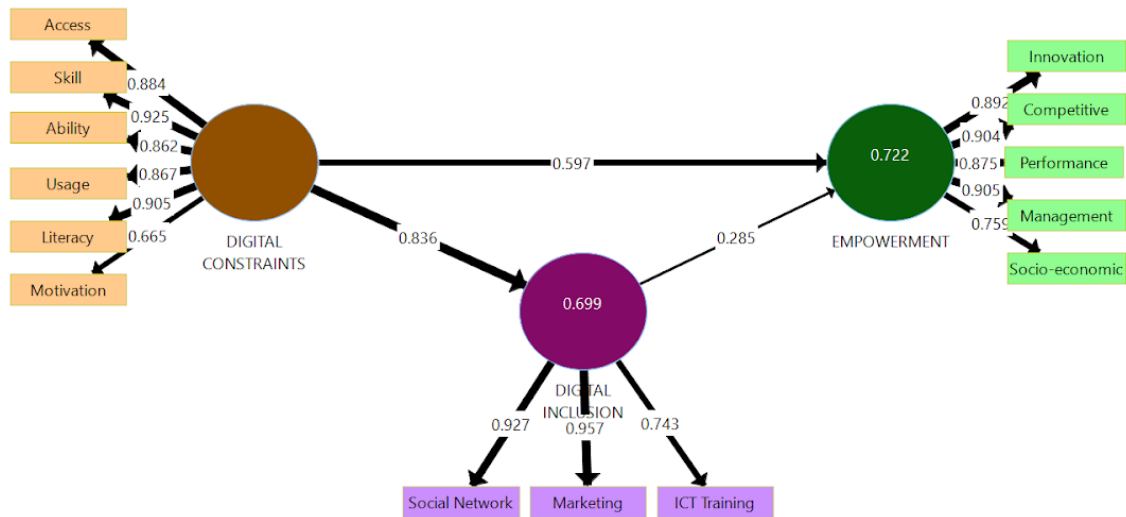
### 5.3. Relationship between variables

The formation of the research hypothesis model as in Table 3 shows that each construct is not overlapping with other constructs (VIF<5). The combination of constraints and digital inclusion constructs in this model has accounted for 72.2% of the variance of the B40 entrepreneur empowerment construct. Digital constraints positively affect the empowerment of B40 entrepreneurs ( $\beta=0.597$ ,  $p<0.05$ ). This finding shows that B40 entrepreneurs do not experience any problems in terms of access, skills, usability, literacy and motivation. Thus, it is considered as the absence of digital constraints among the B40 entrepreneurs. The ability of B40 entrepreneurs digital or ICT usage has been successful and effective enough in empowering their businesses. Digital constraints were also found to be significant in positively affecting digital inclusion ( $\beta=0.836$ ,  $p<0.05$ ). If B40 entrepreneurs do not experience any digital constraints, then their involvement in digital business activities will also improve so that they can in turn build social networks, market their products by using ICT and follow any ICT-related training. Digital inclusion is also significant in positively affecting the empowerment of B40 entrepreneurs ( $\beta=0.285$ ,  $p<0.05$ ). B40 entrepreneurs can succeed in business when the involvement of ICT is applied in their business model and subsequently can attract more customers to get their marketed services or products.

**Table 3.** The Relationship between variables

Relationship	Path Coefficients	t-value	p-value
<b>Total Effects</b>			
Digital Constraints $\square$ Digital Inclusion	0.836	71.118	0.000
Digital Constraints $\square$ Empowerment	0.597	12.685	0.000
Digital Inclusion $\square$ Empowerment	0.285	6.223	0.000
<b>Specific Indirect Effects</b>			
Digital Constraints $\square$ Digital Inclusion $\square$ Empowerment	0.238	6.351	0.000

After the analysis is completed, the test results produce a model to explain the relationship between the variables. This model shows in detail the reasons and results for digital inclusion needs of the B40 entrepreneurs. Figure 2 illustrates the measurement of the constructs of digital constraints, digital inclusion and empowerment of B40 entrepreneurs based on several dimensions.



**Figure 2.** Model of the Antecedents and Outcomes of Digital Inclusion among B40 Entrepreneurs (ACoDINE)

## 6. Conclusion

Overall, this paper describes the need for digital inclusion and its contribution to the empowerment of B40 entrepreneurs. Three dimensions have been identified to measure the need for digital inclusion in this study, namely social networks, marketing and ICT training. The results show that only two dimensions, social networks and marketing, has a significant relationship with and contributes to empowerment. As such, B40 entrepreneurs who have a good and wide social network with suppliers and customers and are consistent in carrying out online marketing campaigns are more likely to empower their business. Even without training related to the use of ICT or entrepreneurship, B40 entrepreneurs will not be prevented from moving forward and empowering themselves and their business. Moreover, B40 entrepreneurs need to improve their knowledge in the field of technology in establishing social networks as well as managing businesses with efficient marketing techniques while always being ready to compete in the market in line with current economic developments. This indirectly helps in strengthening and empowering B40 entrepreneurs as a community group that is competitive in business. The main objective of this study was to develop a model of the antecedents and outcomes of digital inclusion needs among B40 entrepreneurs. The focus was on the combination of digital constraints, digital inclusion, and empowerment of B40 entrepreneurs based on various dimensions. The study notes that the digital constraints aspect has a considerably positive significant effect on empowerment of B40 entrepreneurs. The findings indicate that B40 entrepreneurs do not experience any problems in terms of access, skills, usability, literacy, and motivation. As such the government should extend programs that focus on digital constraints to increase participation and income of the B40 entrepreneurs. The B40 entrepreneur's roles in the community should be empowered since it is presently effective in increasing incomes and the quality of their life. Thus, it is essential to first improve the standard of living of this B40 group through user centricity in increasing digital literacy, which will consequently also improve Malaysia's status as a developed nation.

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