

## Single Mother in The Digital Economy: Stimulating Entrepreneurship & Covid-19 Challenges

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### Abstract

Empowering women is a prerequisite for a healthy nation and robust economic performance. This vision poses huge challenges to developing female entrepreneurs, especially single-mother entrepreneurs. Single mothers are the breadwinners for their family and are often responsible for accommodating the needs of family members. The paper aims to identify the tendency of single mothers to become successful entrepreneurs. Using a quantitative design, surveys were conducted with 521 female entrepreneurs with online businesses. Expensive technology and the lack of relevant knowledge and skills in using digital tools are among the leading constraints single-mothers face in growing their business. Findings showed that single mother entrepreneurs who use internet applications in their business tend to have a high level of skill and high motivation in digital entrepreneurship world. For inclusive growth, it is critical to increasing women's participation in business and the global marketplace by developing their capacity to fully participate in the digital economy. The effects of COVID-19 which hit for two years gave a lot of lessons and experience to women entrepreneurs to continue trying to face the current economic challenges with full tenacity and patience. The government has provided training to increase knowledge and skills to improve the economy of single mothers as provided by the Women's Department and Department of Social Welfare.

**Keywords:** Women entrepreneurship, Single mother, Digital economy, Entrepreneurial tendency, Barriers

### 1.0 Introduction

The world is experiencing rapid digital transformation due to constantly evolving information and communication technology. This offers many opportunities and challenges to the economy and society. It also results in ongoing changes in how people interact with digital



devices as they adapt to these changes. Digitalisation creates a huge shift in digital environments and is creating ever more opportunities for entrepreneurship.

The world is being reshaped by the efficient management of ICTs and diversification of the digital economy. Women are part of this change but need to increase their capacity to engage the digital economy. In Malaysia, the Economic Planning Unit (2015) reports that the establishment of human capital under the Eleventh Malaysia Plan (11MP) 2016-2020 is pursuing an agenda of producing knowledgeable, skilled and positive human capital to advance in the global economy.

Malaysia is seeking to promote integrated entrepreneurship to meet the needs of Industry 4.0. The digital economy is recognised as digital technologies used in an economic context with vast potential to support inclusive global economic growth. In Fact, Malaysia regards women as the 'backbone' of economic growth and a major catalyst in reducing gender inequality. Hence, the 'most powerful engine' of global growth has been created through an unbiased digital platform as it does not discriminate by gender.

In the Regional Conference on Women in Latin America and the Caribbean technological infrastructure and language are the main issues arise regarding women involvement in digital economy. The lack of involvement of women in the digital world seen consequences of inequalities in the education sector, professional training, employment and income accessibility. These differences are seen in the many enterprises conducted by women in ICTs application, call centre services and the electrical and electronics industry (ECLAC, 2013). Such limitations justify calls for change towards empowering women by creating a level playing field.

Intaratat (2016) debated three main factors concerning Thai women homeworkers' use of ICT, namely the 'marginalisation of women in the labour market, the invisibility of women and masculine culture of technology'. These women are not categorised as the main users of technology since they are 'invisible' as compared to men in economic activities. Hence, ICT proficiency creates creates opportunities and increases one's capacity to engage the digital economy. It is a vital requirement for the increased presence of women in digital entrepreneurship.



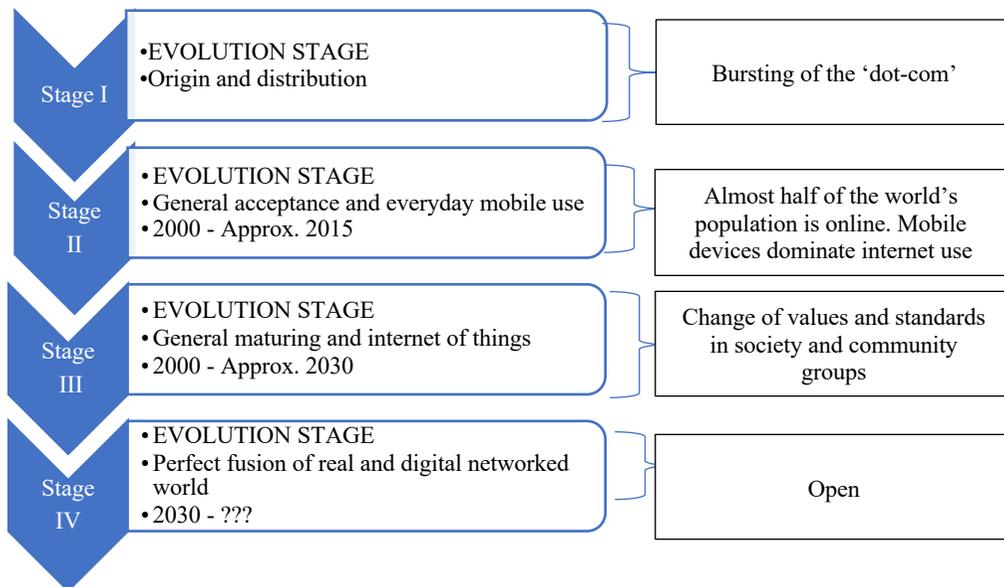


Figure 1 : Evolution of The Digital Age  
 Source: Lemke & Brenner (2015)

Figure 1 shows the 'digital age' stores information digitally at unprecedented volumes beginning primarily in 2002 (represented by stage I with the onset of 'dot.com'). Digitalisation through mobile usage dominates internet use globally (stage II). Entrepreneurship on a digital platform has digitalised communication and information and created a global market. It has changed the values and standards of many societies. Based on Lemke and Brenner (2015), people are moving to the third stage of the digital evolution which is the internet of things as a network of connected devices and represents the fusion of the real and digital world.

### 1.1 Digital Entrepreneurship and Single Mother

Drnovsek et al. (2010) defined entrepreneurship based on 'entrepreneurial self-efficacy' as comprising three dimensions, namely business start-up or growth, outcome goals and control beliefs. In general, entrepreneurial self-efficacy describes one's capacity to overcome challenges while starting a business. Self-efficacy is crucial for entrepreneurial success and business growth (Baum et al., 2001; Krueger, 2003; Segal et al., 2005). Self-efficacy is part of the entrepreneurship discussion since it is related to internal (personality)

and external (environment) constraints and possibilities. It also concerns action and action intentionality (Boyd and Vozikis, 1994).

Entrepreneurship is gaining attention from all around the world since it has been integrated into the digital world and triggering with new term, so-called 'Digital Entrepreneurship'. Based on Hull et al. (2007), digital entrepreneurship can be defined as 'a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized'. On the other hand, Guthrie emphasized digital entrepreneurship as 'the sale of digital products or services across electronic networks.

Female entrepreneurs are often associated with online businesses due to their creativity and diversification of sales and marketing strategy. It is important for women entrepreneurs to be proficient in website designing and social media to market their products and have customer loyalty (Farah, 2010). Therefore, single mothers do not miss out on finding income sources easily without the need for business premises and venturing into entrepreneurship as one of their livelihoods.

In this regard, concerns over the single mothers have been voiced by the Ministry of Women, Family and Community Development (KPWKM). This ministry is a manifestation of the country's aspirations, pursuant to the Fourth World Conference on Women, which was held in Beijing in 1995, with the aim 'Establishment of a full-fledged ministry that demonstrates the government's commitment to raise the status of women in this country' (KPWKM, 2019). The Single Mother Empowerment Action Plan 2015-2020 has been established through three key thrusts, namely empowering the economy, enhancing social well-being and enhancing research and coordination of development of single mothers (Single Mothers Empowerment Action Plan 2015 - 2020, 2015).

Generally, single mothers can be defined as '*a mother who has a dependent child or dependent children and who is widowed, divorced or unmarried. As a single mother, she has sacrificed her social and financial independence*' (Collins English Dictionary, 2019). In Malaysian society, women who have separated or died husband known as widow or single mother (Diyana, Doris dan Nor Aini, 2009). According to the Terengganu Family Development Foundation (2015), there are six categories of women being categorized as single mothers, namely 'women who are married to the husband and continue to raise children; divorced women and custody of children; women who are not



given a living by the husband to support their lives and children; women who are in the divorce process; husbands and unable to provide maintenance and need care and lastly women raising other children without the help of their husbands.

Studies show that single mother businesses have shown reasonable performance well to pass the 'Existence and Survival stage' based on the five phases of small business growth cycle. However, the most bitter challenge is in moving to the next level which is the lack of knowledge and management experience. Personal matters are doesn't show main obstacles for themselves, on the contrary, they may remain either in the sub '3-Growth stage (3-G)' or '3-Disengage sub-stage (3-D)' (Suraiya et al., 2021).

In terms of women entrepreneurs, single-parent families are seen as being able to venture into the business world even though they face many challenges and obstacles. In the context of digital entrepreneurship, single mothers are seen as 'family leaders' who need to take great responsibility to accommodate family needs. Most of these studies put these single mother entrepreneurial criteria as those who are willing to take risks, are able to adapt to changing circumstances, the ability to see and seize market opportunities, be creative, and have the endurance to face failure (Rembiasz, 2016). The potential among single mothers can be considered as potential natural skills such as cooking and dressing that can be developed into a form of entrepreneurship through training provided (Rohayu et al., 2011).

This study reviews the potential of single mother as female entrepreneurs to succeed in the digital economy. Specifically, it focuses on the factors contributing to successfully digital single mother entrepreneurs and barriers to their success. The level of entrepreneurial tendencies will be discussed as well. While another section also discusses the challenges of female entrepreneurs in facing the COVID-19 pandemic. The focus of this study is on the single mother group compared to the single father since women act as the 'backbone' in earning the family's main income. Women are seen as major contributors to the national economy and the well-being of a country's society (Brush, 2016). Furthermore, female entrepreneurs are now the fastest growing population of entrepreneurs (Guled, 2017). While Sarfaraz et al. (2014) said that today's women should play a greater role in the economic success of a country. The importance of female entrepreneurs to the development of family, regional and national institutions was also emphasized by Aliyu et al. (2019).



## **2.0 The Potential of a Single Mother as Women Entrepreneurs in the Digital Economy**

Many studies have been conducted on female entrepreneurs including factors that influence the tendency of becoming successful digital entrepreneurs. Although these subtopics are not specific on single mothers, nonetheless it is also helpful to review the case of single mothers as they are also a woman and can be applied into women entrepreneurship study. Most cases of single mother's success in the entrepreneurial world are almost identical to the success of other women entrepreneurs but are limited by some factors due to several factors such as lack of training and exposure to entrepreneurship aspects, informal sectors business categories, limited loan opportunity, working and family conflicts and weak business networking. This finding has been identified by Dewanita (Board of Women Entrepreneurs) (Rohayu et al., 2011). The integration of discussion can be explained by Theories of Entrepreneurship and Entrepreneurial Tendency.

### **2.1 Theories of Entrepreneurship**

The theories and concept of entrepreneurship is very complex since it has undergone changes over time from different view of point. It can be explained by many factors such as political, economic, social, cultural, psychological, technical, ethical and religious (Singh & Gupta, 2016). In this study, we adopt the Theories of Entrepreneurship as a basic theory to explain the continuously changing process in the field of entrepreneurship. There are six different theories that explain the characteristics of entrepreneurship such as Economic Theory, Sociological Theory, Psychological Theory, Integrated Theory, Innovation or Dynamic Theory and Cultural Value Theory. Although there are differences in opinion in theories presented, yet basically the key features expressed in the entrepreneurial concept are referring to the role of entrepreneurs as innovative, risky, decision-makers and organizer. None of the theories is comprehensive (Singh & Gupta, 2016).

Entrepreneurship development theory is a two-dimensional approach comprising 'psychological approaches' by Schumpeter (1971) and McClelland (1961), and 'sociological approaches' are carried by Weber and Cochran. Schumpeter (1971) states that factors affecting the participation of individuals in the entrepreneurial world (the



need for achievement) include the ability to predict future opportunities, the ability to think extraordinarily and the ability to do something contrary to the norms of society. Meanwhile, McClelland argues that the motivation to do something is practised during childhood. His earliest study on the individual aspects of entrepreneurs found that in some societies, existing social cultures could be the driving force behind entrepreneurial traits (McClelland, 1961).

## 2.2 Entrepreneurial Tendency

In the opinion of Martinelli (1994) and Thornton (1999), the two main factors of entrepreneurial success are the individual aspects of the entrepreneur and structural and business environment. The aspects related to individual entrepreneurs focus on the psychological and internal features of individual entrepreneurs. The personal characteristics of entrepreneurs can be explained through the ability to take risks, self-control, tolerance to any ambiguity, confidence and independence (Delmar, 2000). While aspects related to the structure and environment describe how sociocultural structures and current developments create opportunities for entrepreneurship. The three important indicators for an entrepreneur to initiate their business can be explained by economic factors, and social and personal reasons (psychological) (Carsrud & Brannback, 2011). Other factors that influence entrepreneurial behaviour include individual, community and environmental aspects (Hopp & Stephan, 2012).

The findings of Zuraini (2000) on Bumiputera entrepreneurs in Sungai Petani, Kedah found that among the factors that influenced their success were attitude, motivation, capital and goods, business ethics and training programmes. While Mamat (2009) states that the key determinant to the birth of a positive attitude in successful entrepreneurs is how far a person has a clear entrepreneurial goal. Attempting to learn something new and not easily satisfied with success is a key ingredient to a person's success in the business world. Babak, Hossein, Mina & Mehdi (2021) in their findings has stated that individual motivation, education, family structure, stereotype attitudes and social environments are the key driver to the women entrepreneurship as well as to build their enterprises. These key also regarding risk perception in the entrepreneurial process.

Zeynab et al. (2015) identifies factors affecting the entrepreneurial intention of female students in Allameh Tabatabai University, Iran. They used the Theory of Planned Behaviour to capture



the variables having a significant impact on the female students' intention to become entrepreneurs. Based on attitude towards entrepreneurship, perceived behavioural control and subjective norms, the strongest correlation with entrepreneurial intention is the attitude towards the behaviour. Findings showed that intention is more dominant than subject norm and perceived attitude. The study suggested that entrepreneurial intention is developed primarily from educational programmes to encourage students to understand the target groups' features and attitudes.

Research on female entrepreneurs is a hotly debated discussion since the barriers facing women differ from those facing men (Suwastika Naidu & Anand Chand, 2017). Suwastika Naidu & Anand Chand showed that a major barrier to women's success in micro, small and medium enterprises is gender inequality. Also, there is a negative relationship between barriers faced by female entrepreneurs with success in micro, small and medium enterprises. Interestingly, national culture moderates the relationship between gender inequality and the success of female entrepreneurs.

There are many scholars focus on push and pull factors on female entrepreneurship. Most female entrepreneurs in developed countries are determined by pull factors, while developing countries are determined by both push and pull factors (Orhan & Scott, 2001). These push factors include 'unemployment, lack of a job, unacceptable job conditions, professional frustration, lack of childcare facilities and economic necessity' (Gray & Finley-Hervey, 2005; Kirkwood, 2009). While pull factors include 'independence, autonomy, self-fulfilment, self-achievement, job satisfaction, aspiration, social objectives, entrepreneurial drive and desire for wealth' (Orhan & Scott, 2001). On the other hand, Cabrera & Mauricio (2017) highlighted the term 'contact networking' to gain opportunities, support and resources to initiate business ventures. It depends on close relationships with many parties such as customers, suppliers and collaborators.

### **3.0 Research Methodology**

#### **3.1 Sample and Procedure**

The analysis in this paper is based on cross-sectional data derived from quantitative and qualitative surveys and specifically focusing on single mothers' group as women entrepreneurs. A total of 521 useable questionnaires were received from a total of 600



questionnaires sent to respondents selected using stratified random sampling among the women in Kuala Nerus District (Bukit Tinggi, Seberang Takir, Buluh Gading and Tepuh).

### 3.2 Measures

The questionnaire for this study is divided into ten parts consisting of demographic information, family profile, expenditures allocation, women's income generation, women well-being, social support, entrepreneurial tendency, the use of technology information, health information and others. Likert scale responses (5-point scale) varying from strongly agree to strongly disagree were employed. All measures were translated from English into the Malay language using the back-translation method (Brislin, 1970). In terms of measuring entrepreneurial tendencies, there are three scales (3-point scale) that are used, i.e., scale 1 represents 'tendency to be an entrepreneur', scale 2 represents 'having potential', while scale 3 has no response to entrepreneurial tendencies or 'nothing'.

### 3.3 Data Analysis

Once gathered, the data were tested for normality, validity, and reliability. An examination of the histogram output and the value of kurtosis and skewness indicate that all items are reasonably normally distributed. Cronbach's alpha coefficient was ascertained to establish its reliability with the value greater than 0.60 (Sekaran, 2003; Hair, 2010). Logistic regression was used to identify the tendency to become an entrepreneur among women (yes/no, coded 1/0). This variable will be used as a dependent variable in this analysis. The set of predictors (independent variables) includes age, dependent, skill, challenges, governments, resilience and technology. Each variable was subjected to the recoding of its original scores to ensure suitability for analysis. The categorical variables were recoded from their original coding so that 1=yes and 0=no. For continuous independent variables (age and dependent), high values indicate more characteristics of interest.

## 4.0 Findings and Discussion

### 4.1 Demographic Information

Respondents from Bukit Tinggi comprised 30.7%, Seberang Takir 22.3%, Buluh Gading 19.8% and Tepoh 27.3%. Out of 521 useable questionnaires, 173 (33.2%) women entrepreneurs (single



mother) have been in business while another 348 (66.8%) have not. Most respondents (443) were aged 41 years and above. Most respondents who are single mothers in this entrepreneurial study consists of those who are divorced (188) and widowed (319). The remainder consists of 'hanging loose' status, sick husband, in the process of becoming single and so on. Also, the duration of being a single mother is recorded for five to ten years for most respondents. All respondents in this study are Malays and most of them are those aged 41 and above (85 percent). Most of them have academic achievements between UPSR to SPM (83%). In terms of employment status, almost half the participants (44.9%) were unemployed, followed by self-employment (34.3%), private employment (17.9%) and, lastly, civil servants (2.9%).

#### 4.2 The Level of Entrepreneurial Tendency

Table 1 provides the level of the entrepreneurial tendency among the women in Kuala Nerus District. Most respondents showed their interest in digital entrepreneurship (tendency to be an entrepreneur) with the highest percentage of 94.6% compared to those with 'having potential' (0.08%) and 'nothing' with 4.6%.

Table 1 : The Level of Entrepreneurial Tendency (N=521)

Characteristics	Categories	Frequency	Percent
The Level of Entrepreneurial Tendency	Tendency to be an entrepreneur	493	94.6%
	Have potential	4	.8%
	Nothing	24	4.6%
Total		521	100%

Based on Table 1, findings show that 94.6% of the respondents tend to be entrepreneurs. They claimed that technological knowledge and internet usage are the most important factors contributing to the success of female entrepreneurs. Most have technological gadgets such as smartphones, iPads, tablets, computers, and so on. From the historical background, most have experience attempting a small business, exposure to digitalised business and networking. 0.8% of the respondents scored 'have potential' for business whereby they were involved with local business but had not seriously initiated a business. Most of them have undergone entrepreneurship programmes but do



not have the capacity to start a business due to a lack of capital, lack of support from others and inferiority complex. Next, 4.6% of respondents belong to the 'nothing' category. This means that they did not show any interest in entrepreneurship.

In this study, logistic regression was used to predict the factors influencing entrepreneurial tendency (Table 2). Logistic regression is a good measurement to test the model's capacity to predict categorical outcomes with two or more categories. While the predictor (independent) variables can be either categorical or continuous, or a mix of both in a single model (Pallant, 2005). In addition, logistic regression allows the independent variable to be interval, normally distributed, linearly related or of equal variance within each group (Patry, 2008).

This paper examined the predicting factors that influence the tendency to become entrepreneurs. Since the number of respondents with the entrepreneurial tendency in Table 1 is 28 ('have a tendency' and 'nothing') out of 521, it is not significant to take into account. Hence, the analysis is focused on two groups, firstly, those who have a tendency towards digital entrepreneurship while the second group is the opposite. The value of 0 has been assigned to which response indicates a lack or absence of the characteristics of interest and vice versa for value 1.

Table 2 examined the correlation between the variables. It shows that the variables dependent ( $p < 0.05$ ), skills ( $p < 0.05$ ), government ( $p < 0.05$ ) and technology ( $p < 0.05$ ) have a positive relationship with the tendency to become an entrepreneur. While age ( $p < 0.05$ ) and challenges ( $p < 0.05$ ) have a negative relationship. Table 2 also provided the mean score and standard deviation for the variables.

Table 2 : Mean, Standard Deviation, and Pearson's Correlation Coefficients for Variables Used in this Study

	Mean	SD	1	2	3	4	5	6	7	8
Age	53.52	11.742	1							
Dependent	2.66	1.662	-.137**	1						
Skills	0.3896	0.48814	-.386**	.112*	1					
Challenges	0.6488	0.47782	0.035	-0.021	-.146**	1				
Governments	0.5336	0.49935	-.141**	0.06	.132**	-0.027	1			
Resilience	0.9155	0.27833	-0.023	0.069	.087*	0.037	0.076	1		
Technology	0.2668	0.44271	0.044	0.016	0.034	-0.02	.268**	-0.035	1	
Tendency	0.9463	0.22573	-0.022	.128*	.156*	-.140**	.187**	0.019	.105*	1



\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 \* . Correlation is significant at the 0.05 level (2-tailed).

Table 3 shows the logistic regression coefficient, Wald Test and odds ratio for each of the predictors. The Omnibus Tests of Model Coefficients gives an overall indication of how well the model performs, referred to as 'goodness of fit'. In this case, the significant value is less than 0.05. The chi-square value is 50.712. The chi-square value for the Hosmer-Lemeshow Test is 6.650, with a significance level of 0.575. Since this value is larger than 0.05, it indicates support for the model. The Cox & Snell R Square and the Nagelkerke R Square values provide an indication of the amount of variation in the dependent variable explained by the model, which is 0.121 to 0.366, suggesting that between 12.1% and 36.6% of the variability is explained by this set of variables.

Table 3 : Logistic Regression Predicting Factors That Influence the Tendency to Become Entrepreneurs

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Age	0.026	0.024	1.238	1	0.266	1.027	0.980	1.076
Dependent	0.517	0.242	4.555	1	0.033**	1.676	1.043	2.694
Skill	1.690	0.854	3.921	1	0.048**	5.422	1.017	28.891
Challenges	-2.330	1.052	4.909	1	0.027**	0.097	0.012	0.764
Governments	1.411	0.670	4.442	1	0.035**	4.101	1.104	15.238
Resilience	0.746	0.356	4.399	1	0.036**	2.108	1.050	4.232
Technology	2.011	1.080	3.466	1	0.063*	7.474	0.899	62.119
Constant	-1.800	2.184	0.679	1	0.410	0.165		
-2 Log likelihood	107.271							
Cox and Snell R <sup>2</sup>	0.121							
Nagelkerke R <sup>2</sup>	0.366							
Model x <sup>2</sup>	50.712***							
Cases correctly predicted	94.6%							
Hosmer & Lemeshow Test	0.575***							

\*\*\*Significant at 0.01, \*\*Significant at 0.05, \*Significant at 0.10



The contribution of predictor variables is shown by the Wald Test that contributes significantly to the predictive ability of the model. The major factor in this result is shown by the variables of dependent (p=0.033), skill (p=0.048), challenges (p=0.027), governments (p=0.035) and resilience (p=0.036) while the technology variable is significant at 0.10 level of significant (p=0.063). Age variable did not contribute significantly to the model. The B values (positive or negative) showed the direction of the relationship (which factors increase the likelihood of a yes answer and which factors decrease it). In this case, the more 'dependent', the more tendency to become an entrepreneur among the respondents (0.517). This suggests that most of these household dependents serve as assistants to household heads in strengthening their entrepreneurship. Next, the same explanation goes to these variables such as skill, government, resilience, and technology, whereby an increase of one unit of these variables contributing to the tendency to become entrepreneur respectively (1.690, 1.411, 0.746 and 2.011. While the 'challenges' variable shows the opposite whereby the more challenges they face, the less inclined they are to engage in the entrepreneurial world (-2.330).

In terms of odds ratio  $\text{Exp}(B)$ , there is a 95% confidence interval [95.0% CI for  $\text{EXP}(B)$ ], giving a lower and upper value. The odds ratio is 'the increase (or decrease if the ration is less than one) in odds of being in one outcome category when the value of the predictor increases by one unit' (Tabachnick & Fidell, 2001). The odds of a person answering 'yes', they tend to become an entrepreneur 5.42 times higher with skills rather than a person who does not tend to become an entrepreneur, all other factors being equal. However, the odds ratio for challenges (0.097) showed a value of less than 1. It means that for every extra unit of challenges they face, the odds of him/her reporting a tendency to become an entrepreneur by a factor 0.097, all other factors being equal. While the confidence interval for the variable skills showed 95% confidence. The actual value of or in the population lies somewhere between 1.08 and 28.89, which is quite a wide range of values. This explanation is the same when applied to the other variables.

#### 4.3 Information Technology Usage

Figure 2 provided the level of information technology use whereby most of the respondents score a mean of (M=3.35) for the statement 'I have less information about government's assistance' in



overall based on seven questions asked. It is followed by the government's welfare and government programmes towards improving the quality of life with means ( $M=3.02$ ) and ( $M=2.84$ ) respectively. Based on the government programme, most of the respondent agree (32.8%) that they have less information about government assistance such as financial support, entrepreneurial workshop, and motivation even though 34.4% from total respondents agreed with the statement that the government has successfully organised many welfare programmes. In addition, 29.2% of respondents agreed that government programmes were aimed to improve the quality of life among entrepreneurs. These three statements refer to the respondents' awareness of the programmes organised by the government. While another four statements refer to the self-awareness in digitalised economics with a mean between 1.6 and 1.4. 70.2% of respondents strongly disagree with 'online shopping'. Since the group is single mothers, most cannot afford the convenience of purchasing goods through smartphones application. So, it is not surprising that most of (78.1%) faced problems keep abreast of information technology usage. Furthermore, 74.3% do not have an intention to have a personal website. This factor means they have limited opportunity to promote and advertise online.

These findings are contrary with Faradillah et al. (2017) whereby internet usage among female entrepreneurs suggests that the frequency of accessing internet applications, internet use skills and motivation to use the internet had a significant impact on the success of digital entrepreneurship. The research also found that WhatsApp, Facebook and Instagram were the most frequently used applications of respondents versus WeChat, Telegram and Twitter. This is supported by Fauziah & Dafrizal (2017), who concluded that WhatsApp is the most popular platform today. The internet skill also can give an impact the women entrepreneur in way doing a business in terms of creativity and informational. Anuja, Priyanka, Eti & Shiv (2021) also found that women who are possessed an internet skill such as e-commerce have a high tendency to become an entrepreneur. The advantage of using smartphone also give high entrepreneurship intention among women. Hossain, Nurunnabi & Hussain (2020) has found that women have a high tendency to become entrepreneur since the smarphone because of lower risk and limited investment capability and virtually attract them to get into business activity.



This finding is not surprising because single mothers are often associated with a lack of confidence in dealing with the outside world. They are sometimes confronted with self-conflict because of their personal trauma. Hence, they need time to 'rise' from memories to continue life as a successful single-mother entrepreneur.

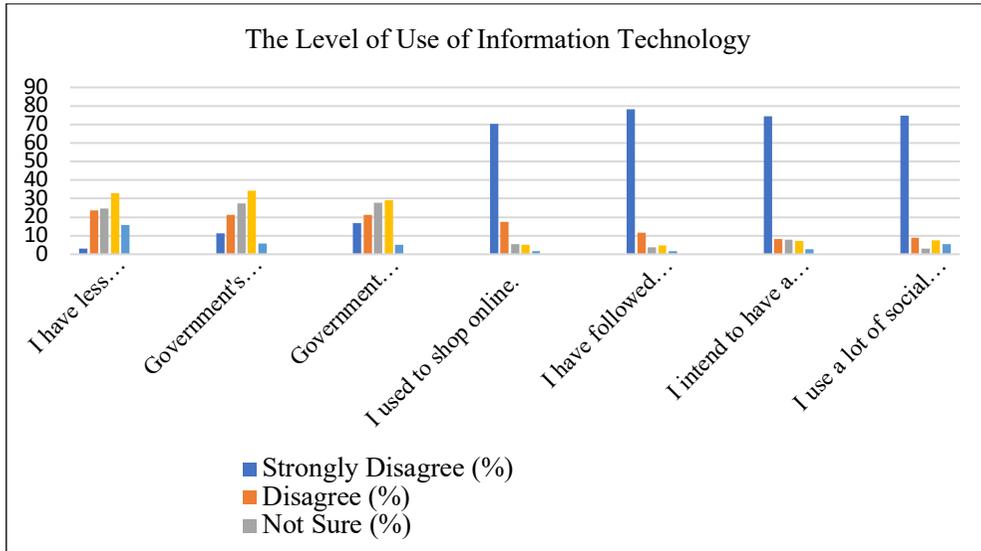


Figure 2 : The Level of Use of Information Technology

#### 4.4 Barriers Faced by Female Entrepreneurs as a Single-Mother in the Digital Economy

Entrepreneurship research showed that women faced many challenges in developing and running a business (McKay, 2001; Allen et al., 2006). They face many barriers to establish and grow new ventures. O’Gorman (2001) concluded that there are obstacles faced by female entrepreneurs, which prevent business development.

Many scholars have acknowledged that many indicators were contributing to the failure of female entrepreneurs in the digital economy such as technology literacy, enthusiasm in doing business, involvement in government entrepreneurial programmes, and limited networking and connections, among others. Karakire (2015) reported that the most influencing factors to the barriers in female entrepreneurship are ‘credit accessibility limitations, inadequate digital entrepreneurship skills and knowledge, lack of financial support, lack of support from extended family, sociocultural environment, less networking and connection and inhibiting laws and regulations.



Based on the interviews, most of the questions do not relate to information technology. It is merely to support the findings of the study obtained through their personal views on government efforts towards supporting women in digital business. Although these respondents have a tendency towards digital entrepreneurship, it is undeniable that they face obstacles and challenges in business. Among the major obstacles they face are financial factors (venture capital), limited exposure to the rapid development of digital technology and support from the people around them. This is also supported by Suhaila, Hairul & Zatul (2022) when they have found that in terms of infrastructural support, especially who are stay at rural area will face pretty much difficulties such as, limited technology access, limited proxy business services network access, deficiency technology advancement to drive product and services innovations. Furthermore, they are single mothers, meaning they lack confidence and sometimes feel embarrassed about being single.

Cabrera & Mauricio (2017) found that the most influential factor on female entrepreneurship, motivation, opportunity identification and resource acquisition if family and personal contact networks. The barriers are due to either their legal status or gender biases which exist in cultural and institutional surroundings. In the case of single-mother entrepreneurship, family support is a key driver of confidence in promoting business. Sociocultural perceptions are also reported among the leading barriers. Additional factors contributing to the lack of progress of women entrepreneurship is low levels of education, lack of sufficient skills, age, lack of supporting and government monitoring.

Women entrepreneurship development mostly has been ignored both by government and society. Aini Suzana Ariffin, Shadiya Mohamed Saleh Baqutayan & Akbariah M. Mahdzir (2020) has conducted a systematic literature review on policy and institution gap and challenges faced by women entrepreneur in Malaysia. They stated that most women entrepreneur especially in rural area are not registered, informal, unorganized and generally less supported and empowered. Suraiya Ishak, Ahmad Rafli, Lohman Hakim, Nur Syaheera & Mohd Yusof (2021) also stressed the same barrier faced by single mother entrepreneur. The ignorance towards technical knowledge to manage a business has cause to lack of knowledge in gaining business opportunity especially venture in online business. Therefore, this problem has indirectly affected their business to growth extensively.



Although such obstacles exist among single-mother entrepreneurs, they are still grateful that they are still given space and opportunity by the government to venture into digital entrepreneurship. Through the face-to-face interviews, most agree that they have received information on government assistance and welfare programmes for single-mothers and benefitted from government programmes.

#### 4.5 Single Mothers Challenges in Terms of Entrepreneurship During Pandemic Covid-19

Single mothers are the one who affected from Covid-19 pandemic situation in context of economics survival. They faced challenges to gain income sources in order to raising their children. Based on the article from *The Edge Market* (2020), a majority of single mothers in Selangor earn less than RM3,000 per month, according to a survey conducted by the Selangor Women Empowerment Institute. Approximately 40% of them were also forced to take unpaid vacation or shut down their firms during the second week of the Movement Control Order's implementation (MCO). Furthermore, Mohamad Nawawy & Fatmawati (2020) has stated that many of single mother are still living in poverty because of low level of education, no job experience and unaware of financial aids and assistance channels. This problem has decreased their potential to become entrepreneur even though there are many numerous programs has been developed to train single mother to venture in business. In general, women entrepreneurs have historically struggled to obtain funding and balance work and family obligations. According to new research from Babson's Diana International Research Institute, the pandemic has further worsened these challenges. The institute investigated the obstacles women entrepreneurs experience as a result of COVID-19 in a recent four-part survey (Bobson Thought and Action, 2020). Furthermore, the start-ups program has been affected by the Covid-19 economic disaster (Griffith, 2020) and it had a substantial effect on the entrepreneurial activity in the developed countries and emerging economies (GEM, 2019).

#### 5.0 Limitation and Future Research

Many of the findings and recommendations in this paper apply to several states, and that there are significant socio-economic and



cultural differences among the various states in Malaysia. In fact, there may even be important differences in entrepreneurial effectiveness within the same states. Therefore, to be effective, the recommendations proposed in this paper may need to be adapted to suit the special circumstances prevailing in each state.

Researchers could focus their attention on female entrepreneurs who has ventured into business with government support and compare successful and unsuccessful entrepreneurs. Since social networking was found to be an important aspect in this research, future studies could investigate the link between social networking and entrepreneurial success. It would also be interesting to conduct extensive in-depth research using a qualitative approach on the differences between various ethnicities and their inclination towards entrepreneurship and their perceived barriers.

## **6.0 Conclusion and Recommendations**

The digital economy has successfully transformed society, economy and politics globally. Furthermore, rapid technological advancement has brought tremendous progress and sustainable economic growth. In the context of female entrepreneurship, digitalisation marks a major shift in how entrepreneurs conduct business.

The challenges and obstacles faced by female entrepreneurs, especially single mothers, have eagerly encouraged them to be more courageous in dealing with various risks in the future. They are resilient in the pursuit of the modernisation of the world's digital economy. Therefore, the government needs to integrate female entrepreneurs in formulating policies to ensure their needs are guaranteed and meet the aspirations of the country. In addition, the government can equip female entrepreneurs, especially single mothers, to run a sustainable business by promoting innovation, creativity and entrepreneurial spirit. Integrated commitments provided by the government include business and financial know-how, networking, entrepreneurial knowledge, digital platforms, products and services, and aim to help social businesses become more sustainable in the long run so that such groups can support meaningful social issues for the community. Collaboration between the government and female entrepreneurs can provide a 'win-win' situation for the good of both parties. This situation will further stimulate good and fair economic growth.



The empowerment of women seeks to improve their propensity to become successful female entrepreneurs. It involves the ability to use today's digital technology, access to resources as well as participation in decision making to generate lucrative income via business ventures. Consequently, in ensuring that women are able to compete with men and have the right to determine the direction of their lives, engaging the digital economy is essential.

The covid situation that hit has brought a lot of transformation from manual business to virtual businesses and online transactions. The lesson that can be taken from this covid situation is the importance of technical skills and business operations in making their respective businesses successful. In addition, the government and society can play their role to encourage women entrepreneurs in contributing to the national economy, increasing family income, reducing poverty and create jobs.

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