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Cultural Differences Factors Affecting Perceived Impact of ICT on Rural Business Potential: The Mediating Role of Productive Internet Usage

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Abstract

This study aims to determine the mediating role of productive internet usage in the relationship between cultural differences and the perceived impact of Information and Communication Technology (ICT) on rural business potential. Cultural differences factors comprise of uncertainty avoidance, collectivism, power distance, and construct masculinity. Productive internet usage act as the mediating variable, whereas the perceived rural business potential impact of the ICT serves as the dependent variable in this study. The findings indicate that the perceived rural business potential impact of ICT was influenced by two cultural differences dimension: uncertainty avoidance and collectivism. This finding implicates the mediating effect of productive internet usage. On the other hand, power distance and construct masculinity do not influence the outcome of this study. The findings also explain the need for the authority to consider the prospective users' cultural attributes during the design and implementation phases to enhance the efficacy of ICT implementation. Besides that, through the mediation model analysis, this study signifies how mediation model analysis helps to assess in intervention's effectiveness on the expected outcome. This study helps determine the effectiveness of internet usage for rural business potential. It gives insight into how productive internet usage plays its role in mediating the impact of cultural differences factors on the perceived impact of ICT on rural business potential.

Keywords: Productive Internet Usage, Rural Business Potential, Cultural Differences.

Introduction

The internet had given a tremendous impact on our daily lives as a medium for communication, knowledge sharing, information access, and learning. By investigating the community's perception on the impact of ICT on business potential, it will enable the service provider to assess to what extent the internet can play its role in transforming the rural community.

This study considers the cultural differences, internet adoption, and rural community's perception on the impact of internet usage on cottage industry. Productive internet usage in

this study refers to the extent to which an individual in the community uses the internet in their daily lives. Rogers (2003) defines innovation diffusion as the decision of an individual to make use of an innovation as the best course of action available. In this study, internet adoption is the innovation.

This study integrates productive internet usage as a mediator. A mediator variable explains the relationship between the dependent variable and the independent variable. The process of complete mediation is defined as the complete intervention caused by the mediator variable. (Kenny, 2018). A mediation effect will most probably occur when the relationship between the determining factor and mediator, as well as the relationship between the mediator and the dependent variable are established. (Kenny, 2018) Therefore, previous research on the determining factor and productive internet usage, as well as productive internet usage and its economic impact were referred to establish a new mediation model for this research. (See Figure 1)

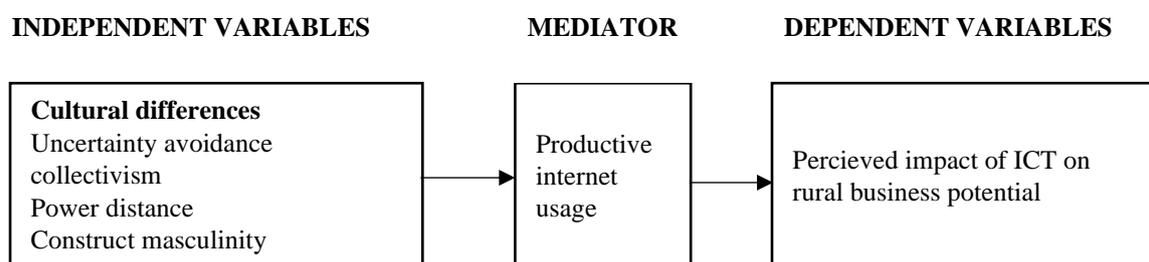


Figure 1. Conceptual framework

Many studies were published in recent years on cultural differences impact on internet diffusion (Ravi Nath & Vasudeva Murthy, 2004; Moghadam & Assar, 2008; Azam & Quaddus, 2013; Erumban & De Jong, 2006), they were done mostly in developed countries. Considering that these issues might not share similar cultural or insight characteristics directly applicable to the rural community, this research investigates the perceived rural business potential impact of ICT specifically in the Malay rural areas in Sarawak, considering the cultural differences among the community members.

Other than that, previous studies have been focussing on the impact and challenges of the internet adoption, and no known study which integrates the internet adoption as a mediating variable. In contrast to that, through the mediation model analysis, this paper helps assess the effectiveness of internet usage for economic purposes in the rural community.

Objectives of the Study

Main objective

To find out if productive internet usage mediates the relationship between cultural differences and perceived impact of ICT on rural business potential.

Specific objectives

1. To find out if productive internet usage mediates the relationship between uncertainty avoidance and perceived impact of ICT on rural business potential .
2. To find out if productive internet usage mediates the relationship between collectivism and perceived impact of ICT on rural business potential .
3. To find out if productive internet usage mediates the relationship between power distance and perceived impact of ICT on rural business potential .
4. To find out if productive internet usage mediates the relationship between construct masculinity and perceived impact of ICT on rural business potential .

Literature Review

World overview

The role of the internet has reached a new dimension in our lives. Globally, the internet user has increased 2.4 per cent over the past year, amounted 124 million users in overall (Kemp, 2020), and 59 per cent online penetration rate (Clement, 2020). The internet has become a fundamental pillar of the modern information society, with its potential in connecting billions of people worldwide (Clement, 2020). The largest number of internet users is recorded in Asia Region, which amounted to 2.3 billion.

Internet adoption in Malaysia

The internet adoption rate in Malaysia has been increasing over the years (Malaysian Communication and Multimedia Commission, 2018). In 2018, Malaysia recorded increases in the percentage of internet users at the national level from 76.9% in 2016 to 87.4% (MCMC, 2018). By considering an individual as an internet user if the individual accessed the internet at least once in three months, the Internet User Survey conducted by the MCMC found out that the percentage of the internet user in Malaysia in 2018 is 87.4%, recorded an increase of 10.5% from 2016, which is 76.9% (MCMC, 2018). This percentage shows more than three-fourths of the entire national population is using the internet.

The survey also found out that most of the users accessed the internet from mobile broadband, following by free Wi-Fi. Apart from that, it was also reported that the most common online activities of the users are communication by text (96.5%), visit social networking platform (85.6%), getting information (85.5%), entertainment such as video streaming (77.6%), for work-related purposes (61.9%). The result shows low usage of the internet for maintaining blogs/homepage (9.8%), selling goods or services (16.9%), and for online job applications (27.5%). Additionally, the number of internet user has increased in between 2019 and 2020 by 3.6%, making 26.69 million internet users in Malaysia as in January 2020.

In the effort to increase the usage of internet and to bridge the digital divide between rural and urban area, National Broadband Initiative (NBI) was implemented to bring broadband to the whole country, targeting that by the end of 2010, 50% household broadband penetration, through 5 initiatives, which includes:

- i. Rakyat internet Centers and Mini Community Broadband Centers
- ii. 1 Million Netbook Initiative to distribute notebooks to poor students nationwide
- iii. Setting up of E-Kiosks
- iv. CBC to the Home
- v. Expansion of Cellular Coverage

To assess the extent to which this initiative meets its purposes in Sarawak Malay rural areas, the population selected for this study are the communities that were provided with those facilities. The focus of this study is the usage of the internet for working, business or online marketing, education, e-government, e-banking, e-health, and news reading, and set aside the unproductive usage of the internet such as for entertainment (video streaming, music, games) and social networking.

Cultural Differences as the Determining Factors of Internet Adoption in the Rural Community

Research works on the topic of technology diffusion and cultural factor have been done for quite sometimes. Barnett (1953) noted that prior to people's diffusion of technology, cultural

psychological social and institutional arrangements must first exist. Over the years, cultural differences were proved to be one of the significant challenges of internet adoption (Ravi Nath & Vasudeva Murthy, 2004; Moghadam & Assar, 2008; Azam & Quaddus, 2013). There are several dimensions measured in cultural differences based on Hofstede's (1990) national cultural dimensions, including uncertainty avoidance, power distance, collectivism, and construct masculinity. In this national cultural dimension, uncertainty avoidance refers to the degree to which members of a society feel uncomfortable with uncertainty and ambiguity, while power distance dimension measures the extent to which inequality of power distribution is seen as irreducible fact of life. On the other hand, collectivism is the degree to which people focus on working together in groups rather than as individuals, and construct masculinity is defined as the extent of emphasis on work goals (earnings, advancement) and assertiveness, as opposed to personal goals and nurturance (Hofstede, 1990).

A study by Ravi Nath and Vasudeva Murthy (2004) found out that uncertainty avoidance, and masculinity culture have significant impact on the internet diffusion rate of a nation, in which societies that avoid uncertainty and have high masculine culture tend to have lower internet diffusion rates. Furthermore, in a study conducted in Iran, it was found that there is higher ICT adoption rate in the individualist culture as compared to collectivist culture. (Moghadam & Assar, 2008) Individualist culture represents a society which is oriented around the self, independent. Additionally, it suggested that countries with high uncertainty avoidance index have low ICT adoption rate and countries with high power distance index have low ICT adoption rate. (Moghadam & Assar, 2008). On the other hand, from the Bangladesh's SME perspective, collectivism and power distance did not produce any significant effects on the behavioural intention to use ICT, while uncertainty avoidance dimension significantly influence the intention to use ICT. (Azam & Quaddus, 2013). From these findings, we see a similar pattern when it comes to uncertainty avoidance culture. Other than that, a different study conducted by Erumban and De shows a strong relationship between cultural factors and ICT adoption.

All the factors discussed above provides an insight in developing a conceptual framework of the mediating effect of internet adoption in the relationship between cultural differences and cottage industry in the rural community.

Impacts of Internet Adoption on Business Activity

One of the advantages of the information technology is its capability to process and spread information widely and make it possible to the users to access any kind of information at any time anywhere. One of the common economic activities in the rural area is agriculture. In the recent years, IT has a great influence on agricultural development as it provides access to information on agricultural activities (Jones, 1997; Reza & Morteza, 2016). The access to this information can contribute to the development of agricultural activities and encourage the younger generation to venture in this activity. Other than that, ICT adoption in the rural community is one of the strategies that provides possible opportunity to overcome some of the barriers in the entrepreneurial activity (Hollifield & Donnermeyer, 2003). The internet access also enables better and timely access to the market prices, consumer information (Mangtsl, 2008) and provides information related to updated agricultural issues at any place and time (Musa et al., 2008), which extends the competencies of farmers to engage in agri-business.

Methodology

This study adopted a case study quantitative survey design approach, involving three villages based on the types of ICT facilities available (See Table 1). Taking a positivist stance to investigate the mediation effect of productive internet usage on the relationship between the cultural differences and perceived ICT impacts on rural business potential. This study uses a case study approach to investigate the impact of productive internet usage on the community's perception about the potential business impact of ICT. The survey method was chosen for the collection of quantitative data from the rural community. This method is one of the effective ways to measure the attitudes and characteristics of large populations. The quantitative questionnaire was adapted and modified from previous studies (OECD, 2015; Davis, 1989; Huang, 2003; Virtual System Processing Company ICT Professional Group, 2006) conducted in Malaysia and other countries. Few changes were made on the items in the questionnaire to make sure of the suitability of its content with the situation in the local community. Therefore, pre-test and pilot test were conducted to test the reliability of the instrument. Pre-test was conducted in Kampung Telaga Air with five local people, in which they were asked to answer the survey and critique the questionnaire to make sure that the questionnaire was understandable by the local community. The pilot test was also conducted in Kampung Telaga Air with 70 data collected.

This study reviewed various literature on internet and ICT usage related to entrepreneurship and agriculture to identifies gaps. The literature review focused on two (2) types of information searching: theories and concepts adopted in the previous studies, the findings, and the methodology used in the study. The review implicates that further understanding is required on how productive internet usage can affect the perceived impact of ICT on rural business potential based on cultural differences factors. Can the relationship be described by the mediation process of productive internet usage on the relationship between the cultural differences' factors and the perceived impact of ICT on rural business potential?

This study design takes into consideration the purpose of the study, types of investigation, unit of analysis, and timeframe, along with the research design adopted in the previous studies, which have been analysed in the literature review phase. From the considerations, this study adopts a cross-sectional study that uses a survey to collect data from the selected community.

A power analysis was conducted using G*Power to determine the sample size for the mediation analysis. The analysis was based on the linear multiple regression used in this study. With a large effect size (f^2) of .15, an alpha of .05, a standard power level of .80, and a total of 7 predictors, the results of the power analysis showed that a minimum of 153 participants was needed to achieve an appropriate power level for this study. The actual data collected was 240 data, but only 220 data was analysed which exceed the requirement of the sample size.

Table 1
Sample distribution by location

Sample	No. of Sample
Kampung Niup, Samarahan	48
Kampung Pinang, Samarahan	93
Kampung Kolong, Kuching	79

The validity and reliability of the instrument was evaluated using internal consistency reliability test, indicator reliability test, convergent validity test and discriminant validity test (See Table 2). Composite reliability (CR) values exceeded 0.8 in all construct, demonstrating internal consistency of the instrument. All items loaded more than 0.7, indicated reliability except for two items in the productive internet usage construct which scores 0.662 and 0.627. These two items were retained since deleting it did not change the AVE values significantly. Convergent validity is demonstrated by the AVE values which are more than 0.5, and the discriminant validity was demonstrated by the square root of AVE showed in the Fornell Larcker table which are greater than the intercorrelation (See Table 3).

Table 2

Measurement model assessment

Item	Loading	CR	AVE	Convergent Validity (AVE>0.5)	
<i>Uncertainty Avoidance</i>					
UA1	It is important to have job requirements and instructions spelled out in detail, so people know what they are expected to do.	0.921	0.901	0.752	YES
UA2	It is important to always follow instructions and procedures.	0.825			
UA3	Rules and regulations are important because they inform workers what the organization expects of them.	0.853			
<i>Collectivism</i>					
C1	Being accepted as a member of a group is more important than having autonomy and independence on the job.	0.919	0.946	0.813	YES
C2	It is more important for a manager to encourage loyalty and a sense of duty in subordinates than it is to encourage individual initiative.	0.884			
C3	Group welfare is more important than individual welfare.	0.912			
C4	Group success is more important than individual success.	0.891			
<i>Power Distance</i>					
PD1	Managers should make most decisions without consulting subordinates.	0.844	0.891	0.734	YES
PD2	Employees should not question their manager's decisions.	0.941			
PD3	Employees should not show their disagreement to their managers.	0.777			
<i>Construct Masculinity</i>					
M1	It is more important for men to have a professional career than it is for women to have a professional career.	0.851	0.938	0.835	YES

M2	Women do not value recognition and promotion in their work as much as men do.	0.966				
M3	It is preferable to have a man in high level position than a woman.	0.920				
<i>Productive Internet Usage</i>						
PIU1	Working	0.662	0.894	0.549	YES	
PIU2	Business	0.627				
PIU3	Education	0.808				
PIU4	E-Government	0.771				
PIU5	E-Banking	0.789				
PIU6	E-Health	0.714				
PIU7	News	0.796				
<i>Perceived Internet Usage Impact on Rural Business Potential</i>						
RBP	ICT have positive impacts on producing local product	0.931	0.972	0.853	YES	
RBP	ICT have positive impacts on local product sales	0.870				
RBP	ICT have positive impacts on entrepreneurship activities	0.948				
RBP	ICT have positive impacts on the increase business product sales	0.914				
RBP	ICT have positive impacts on the increase in agricultural product	0.944				
RBP	ICT have positive impacts on the agricultural product sales	0.933				

Table 3

Intercorrelation matrix (Fornell & Larcker's criterion)

	CD_UA	CD_C	CD_PD	CD_M	PIU	LPPS
CD_UA	0.867					
CD_C	0.338	0.902				
CD_PD	0.058	0.137	0.857			
CD_M	-0.062	0.035	0.260	0.914		
PIU	0.165	0.179	0.146	-0.112	0.741	
LPPS	0.110	0.086	0.031	-0.030	0.163	0.924

Hypothesis testing is done using the measurement of mediation design. A mediation model attempts to identify and explain the underlying process or mechanism of an observed relationship between an independent variable and a dependent variable through the inclusion of a third hypothetical variable, namely a mediator variable (Pirlott & MacKinnon, 2016).

Findings and Discussion

Table 4 shows that majority of the participants in this study were female (61.8%); age between 26 to 35 years old (36.4%), SPM or certificate holders (38.2%); housewives (23.2%); and had income in a range of RM1500 and RM3000 (35.5%). These three villages show low

to moderate level of productive internet adoption which is between 46.1% to 53.2%, (See Table 5).

Table 4

Participant's Characteristic

		Frequency (N)	Percentage (%)
Gender	Male	84	38.2%
	Female	136	61.8%
Age	14 years old and below	5	2.3%
	15 - 25 years old	43	19.5%
	26 - 35 years old	58	26.4%
	36 - 45 years old	42	19.1%
	46 - 55 years old	29	13.2%
	Above 55 years old	43	19.5%
Education	UPSR	35	15.9%
	PMR/ SRP	38	17.3%
	SPM/ Certificate	84	38.2%
	STPM/ Diploma/ Pre-U	30	13.6%
	Bachelor's degree	11	5.0%
	Did not finish primary school	8	3.6%
	No formal education	13	5.9%
Occupation	Sekolah Dewasa 1970-an	1	0.5%
	Manager	1	0.5%
	Professional	5	2.3%
	Technician	3	1.4%
	Office support	8	3.6%
	Salesman & customer service	11	5.0%
	Carpenter/ Skilled worker	2	0.9%
	Laborers	10	4.5%
	Farmer	3	1.4%
	Businessman/ Entrepreneurs	15	6.8%
	Student	35	15.9%
	Housewives	51	23.2%
	Unemployed	47	21.4%
Others	29	13.2%	
Income	Less than RM590	22	10.0%
	RM591 - RM910	7	3.2%
	RM911 - RM1500	47	21.4%
	RM1501 - RM3000	78	35.5%
	RM3001 - RM4500	45	20.5%
	RM4501 - RM6000	15	6.8%
RM6001 - RM7500	6	2.7%	

Table 5
Internet adoption rate

Location	ICT facility provided	Year	Level of internet adoption (productive internet usage)
Kampung Niup, Samarahan	Internet Centre and WiFi Community	2009-Present	53.2%
Kampung Pinang, Samarahan	Internet Centre and WiFi Community	2014-Present	46.1%
Kampung Kolong, Kuching	WiFi Community	2011-2017	48.0%

Findings

The mediation effect was analysed using the bias-corrected bootstrapping procedure in which mediation is said to occur if the confidence interval does not contain zero. The findings show that productive internet usage mediates the relationship between two cultural dimensions (uncertainty avoidance and collectivism) and the perceived cottage industry impact of the internet adoption. After that, tests for mediating effect size and effect size (f2) were conducted using the Bootstrapping procedure, while predictive relevance for the reflective endogenous latent variable (Q2) were conducted using Blindfolding procedures.

H1: Productive internet usage mediates the relationship between uncertainty avoidance and perceived cottage industry impact of ICT.

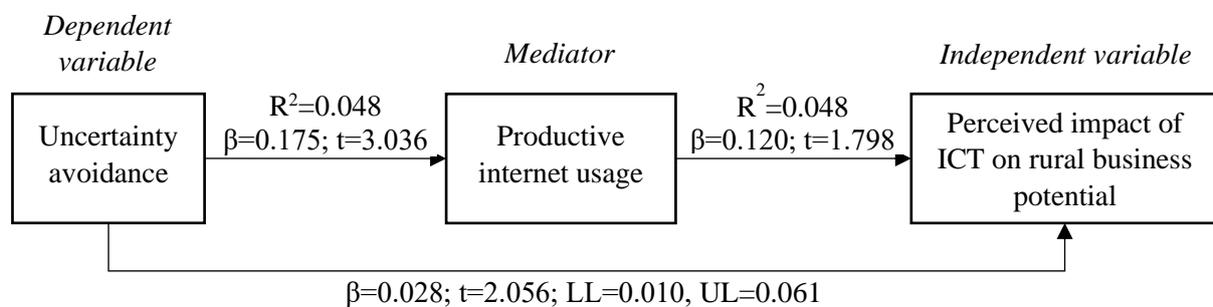


Figure 2. Analysis results for hypothesis 1 testing

Figure 2 shows the analysis result for hypothesis 1 testing. From the mediation analysis, productive internet usage is determined to have no influence on the perceived impact of ICT on cottage industry (β=0.120, t=1.798) and has been influenced positively by uncertainty avoidance (β=0.175, t=3.036). The inclusion of the mediating variable did not change the coefficient value between uncertainty avoidance and perceived cottage industry impact of ICT (R²=0.048). The analysis also showed that the indirect effect β=0.028 was significant with a t-value of 2.056. Also, the 95% Bootstrap Confidence Interval (CI) (Preacher and Hayes, 2008) does not straddle a 0 in between (LL=0.010, UL=0.061) indicates that there is a mediation. Thus, it was concluded that the mediation effect is statistically significant.

H2: Productive internet usage mediates the relationship between collectivism and perceived cottage industry impact of ICT.

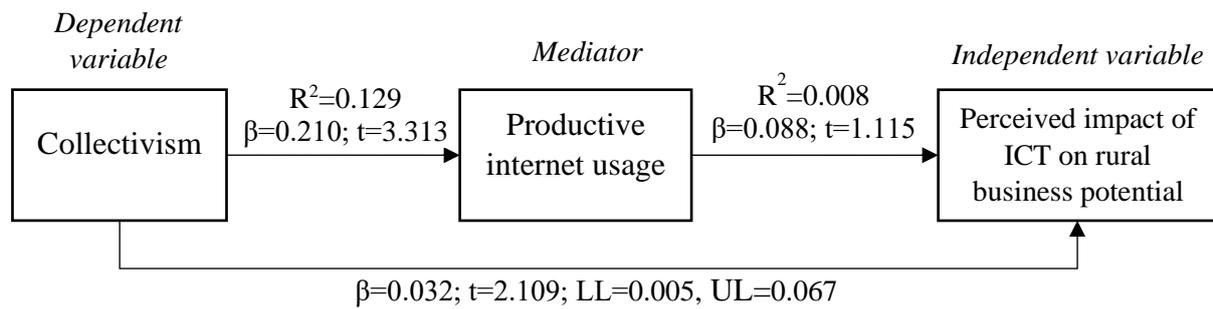


Figure 3. Analysis result for hypothesis 2 testing

Figure 3 shows the analysis result for hypothesis 2 testing. From the mediation analysis, productive internet usage is determined to have no influence on the perceived impact of ICT on cottage industry ($\beta=0.088$, $t=1.115$) and has been influenced positively by collectivism ($\beta=0.210$, $t=3.313$). The inclusion of the mediating variable reduces the coefficient value between collectivism and perceived cottage industry impact of ICT from 0.129 to 0.008. The analysis also showed that the indirect effect $\beta=0.032$ was significant with a t-value of 2.109. Also, the 95% Bootstrap Confidence Interval (CI) (Preacher and Hayes, 2008) does not straddle a zero (0) in between (LL=0.005, UL=0.067) indicates that there is a mediation. Thus, it was concluded that the mediation effect is statistically significant.

H3: Productive internet usage mediates the relationship between power distance and perceived cottage industry impact of ICT.

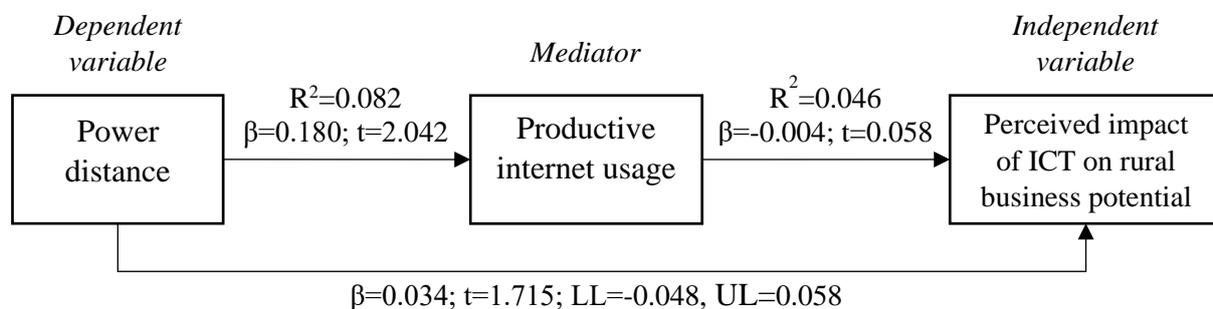


Figure 4. Analysis result for hypothesis 3 testing

Figure 4 shows the result for hypothesis 3 testing. From the mediation analysis, productive internet usage is determined to have no influence on the perceived impact of ICT on cottage industry ($\beta=-0.004$, $t=0.058$) and has been influenced positively by power distance ($\beta=0.180$, $t=2.042$). The analysis also showed that the indirect effect $\beta=0.034$ was not significant with a t-value of 1.715. Also, the 95% Bootstrap Confidence Interval (CI) (Preacher and Hayes, 2008) straddle a 0 in between (LL=-0.048, UL=0.058) indicates that there is no mediation. Thus, it was concluded that there is no mediation effect.

H4: Productive internet usage mediates the relationship between construct masculinity and perceived cottage industry impact of ICT.

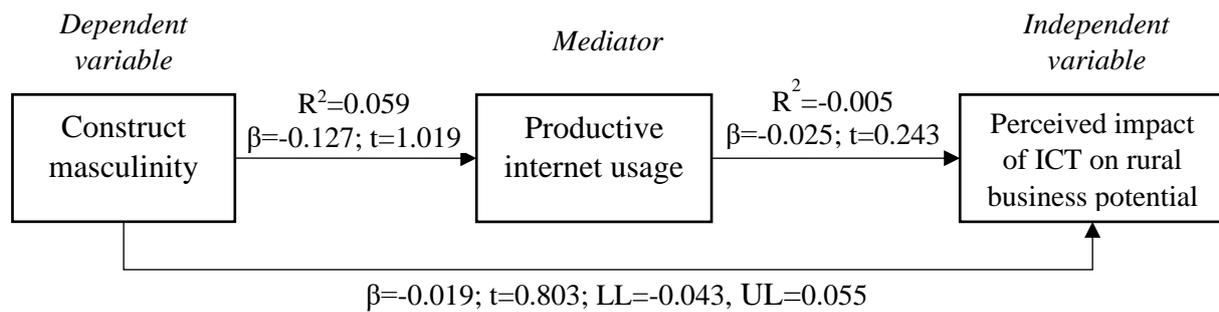


Figure 5. Analysis result for hypothesis 4 testing

Figure 5 shows the analysis result for hypothesis 4 testing. From the mediation analysis, productive internet usage is determined to have no influence on the perceived impact of ICT on cottage industry ($\beta=-0.025$, $t=0.243$) and does not influenced by construct masculinity ($\beta=-0.127$, $t=1.019$). The analysis also showed that the indirect effect $\beta=-0.019$ was not significant with a t-value of 0.803. Also, the 95% Bootstrap Confidence Interval (CI) (Preacher and Hayes, 2008 straddle a 0 in between ($LL=-0.043$, $UL=0.055$) indicates that there is no mediation. Thus, it was concluded that there is no mediation effect.

In summary, the results show that there is significant mediation effect of the productive internet usage in the relationship between the two cultural dimensions (uncertainty avoidance and collectivism) and the perceived impact of ICT on cottage industry. On the other hand, the productive internet usage does not explain the relationship between the other two cultural dimensions (power distance, and construct masculinity) with the perceived impact of ICT on cottage industry. The result is further explained in Table 6.

Table 6

Determination of Co-efficient (R2), Effect size (f2) and Predictive Relevance (Q2)

	Predictive Relevance Q2	Effect Size f2			
		Productive internet usage	Effect Size	Perceived rural business potential impact of ICT	Effect Size
Perceived rural business potential impact of ICT	0.049				
Productive internet usage	0.006			0.061	Small to Medium
Uncertainty avoidance		0.032	Small to Medium	0.009	No effect
Collectivism		0.046	Small to Medium	0.003	No effect
Power distance		0.034	Small to Medium	0.000	No effect
Construct masculinity		0.016	No effect	0.001	No effect

With respect to effect size, the results show that the relationship between uncertainty avoidance culture and productive internet usage had an f^2 value of 0.032, indicates the small effect (Hair et al. 2017), similarly to the relationship between collectivism and productive internet usage ($f^2=0.046$), and the relationship between productive internet usage and the perceived cottage industry impact of ICT ($f^2=0.061$). Meanwhile, there are no effect in the relationship between the two cultural dimensions and perceived impact of internet usage on cottage industry. ($f^2= 0.009$ and 0.003). In regard to predictive relevance, the results show that the value of Q^2 for cottage industry and productive internet usage were greater than zero for the reflective endogenous latent variable. The result has predictive relevance (Hair et al. 2017).

Discussion

The findings of this study demonstrate that productive internet usage acts as an important mediating variable in the relationship between uncertainty avoidance and collectivism with perceived cottage industry impact of ICT. On the other hand, the relationship between power distance and construct masculinity were not mediated by productive internet usage. The direct effect of these four cultural dimensions also showed the significant relationship between uncertainty avoidance and productive internet usage, which is similar to the previous research. On the other hand, construct masculinity did not relate significantly to productive internet usage, in contrast to the previous findings (Ravi Nath & Vasudeva Murthy, 2004; Azam & Quaddus, 2013). Other than that, this study found out that collectivist tend to use internet as compared to the individualist, which contrasts with the findings by Moghadam & Assar (2008). These findings show that different country shows different cultural insight when it comes to the diffusion of internet, except for the uncertainty avoidance culture, which shows a strong correlation with the internet diffusion in a way that the risk averse culture tend to reject new technology. Besides that, through the mediation model analysis, this study helps assessing the effectiveness of internet usage for cottage industry development in the rural community and give an insight of how productive internet usage plays its role in mediating cultural differences and cottage industry in the rural community.

Theoretical Implication

This study contributes to an understanding of the importance of productive internet usage in influencing the rural community perception on the impact of ICT on rural business potential, and develop an inconsistent mediation model illustrating productive internet usage suppressed the relationship between uncertainty avoidance culture and collectivism culture with perceived impact of ICT on rural business potential, when there is no direct effect established between the two cultural differences factors and perceived impact of ICT on rural business potential.

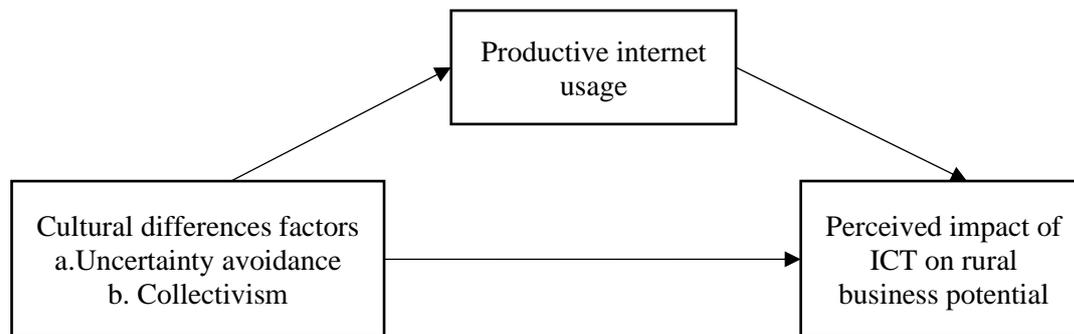


Figure 5.3: Mediation model of the relationship between cultural differences factors of internet adoption and perceived impact of ICT on rural business potential with the mediating effect of productive internet usage

Uncertainty avoidance and collectivism cultural dimension affect an individual's perception on the impact of ICT on rural business potential, with the intervening factor of productive internet usage.

Intervention Implication

The findings of this study explain the need for the authority to consider cultural considerations in determining user behaviour and internet adoption patterns. It is essential for the practitioner to consider the cultural attributes of the users to during the design and implementation phases to enhance the efficacy of ICT implementation. In the context of this study, the government has provided the community with ICT facilities and training. The capability of the service provider in designing the right training module for the target group will strongly invoke productive internet usage in the community, thus encourage more positive perception of ICT impact on the cottage industry development in those areas. Communities with high uncertainty avoidance tend to have lower internet usage rates. Certainly, in such communities, people are risk averse and unwilling to try new things. Also, the same pattern is observed in collectivist community. The collectivist communities seem to have higher adoption rate as compared to the individualist community. In such culture, the relationship among the community members and the interconnectedness between people plays a central role in each individual's decision to use ICT. Therefore, it is important for the service provider to mitigate the cultural factor in the intervention of digital community by educating the community on the benefits of ICT in a cultural-sensitive fashion. Besides that, the exposure toward the internet of things, success stories, and encourage knowledge sharing among the community members regarding the use of the internet in the cottage industry can also be considered in mitigating the cultural factor.

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