International Journal of Engineering & Technology, 7 (4.35) (2018) 635-638

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

The Effects of Internet Usage on Business Sustainability of Small Technology-based Rural Business in Malaysia

Mohd. Amin Mohamad[1]*, Othman Chin[2]

[1]Universiti Teknikal Malaysia Melaka
[2]Universiti Tenaga Nasional
**Corresponding author E-mail: amin@utem.edu.my*

Abstract

This study examines the effects of internet usage on the business sustainability of small technology based rural business. It adopts the quantitative study methodology using self –administered survey method. The findings of this study shows that internet usage has positive and significant effects on the business sustainability of small rural businesses in this study. This study utilized IBM SEM AMOS 21 in analyzing the effects of internet usage on business sustainability of small technology based rural business in Malaysia. This study has contributed to the literature of small business entrepreneurship by adding perspective of internet usage among the technology-based rural business and its effects on business sustainability.

Keywords: *technology-based rural business, business sustainability, internet usage, Structural Equation Modeling (SEM)*

1. Introduction

Most research related to small business sustainability concentrated on those in the cities rather than in the rural settings (Kamunge, Njeru, & Tirimba, 2014). Nevertheless, entrepreneurial researchers need to determine the business sustainability factors for small rural businesses because they react with the business environment differently with their urban counterparts (Battisti, Deakins, & Perry, 2013).

Previous research have identified several business sustainability factors for small business, for example Mohd. Zin (2015), mentioned marketing support as important factors and Hayden et al. (2014) reported that business networking as important business performance and sustainability factor for small business.

Adoption of internet marketing has also been mentioned in literatures as success factors for rural business to market their products, even though they are located in remote areas (Mokhtar, 2015; Canavan, O., Henchion, M., & O'Reilly,2007). However, many small rural businesses chose to stay with their traditional marketing methods rather than using the internet as business process and marketing tool (Mokhtar, 2015). The objective of this study is to build on the scarcity of data related to the effects of internet usage on the sustainability and performance of small rural business in Malaysia.

2. Literature Review

Previous research related to business sustainability have been reported by Rezaee (2016), Bartkus & Grunda (2011) and Nadim & Lussier (2012). According to Rezaee (2016), business sustainability is the results of taking into account the economic, social and environmental factors when making business decision to satisfy the businesses' stakeholders. Nadim & Lussier (2012) indicated that small rural businesses need to engage and network better with their nearby communities to make strategic business decision related to business sustainability. This particular study will concentrate on the internet networking usage as marketing tool which effects sales and business sustainability. It will look into the economics and social improvements of the small rural business.

Internet usage in marketing can assist small rural businesses to reach their customers and give information about their products and services, even though they are located in remote areas. Therefore, rural entrepreneurs need to have the competencies for information and communication technology (ICT). Radzi, Nazri, & Nor (2017) reported that technology competencies such as internet usage is one of the important success factors for technology based rural business. Those who have better internet usage competencies can grow their business better than those who do not have the required skills in internet usage. According to Boumediene, Delroy and Densil (2013) the availability of technology, organisation and environmental contexts also impact small businesses adoption of enterprise application and internet usage.

The findings by Jaganathan, Mahmood, & Ahmad (2014), Gan, Inversini, & Rega (2018) and Lim, Baharudin, & Low (2017), mentioned that businesses need to adopt ICT to gain competitive advantage and to survive in the challenging businesses environment. ICT adoption has been found to enhance the competitive advantage of a business (Gan, Inversini, & Rega, 2018). This findings were supported by Noor (2018) who reported that the internet usage through the internet centers established by the government have become a place for the rural entrepreneurs to promote their products and services through internet networking. Mokhtar (2015) studied small business entrepreneurs in Malaysia to look into their perceptions of the adoption of Internet marketing in their business marketing strategy. The study utilized qualitative study methods whereby 10 in-depth semi-structured interviews were conducted with small business owners located in Malaysia. The study concluded that Internet Marketing assisted small business to increase sales, decrease cost, and enhance community relationship.

Therefore, based on the above discussion, the hypothesis for this study is proposed:
Hypothesis 1 (H1): Internet usage has positive and significant effect on business sustainability of small technology-based rural business in Malaysia.
Figure 1 below shows the conceptual framework of the study. The focus of the study is on technology based rural business. The study will look into the effects of internet usage among the small technology based rural business in Malaysia on its sustainability.

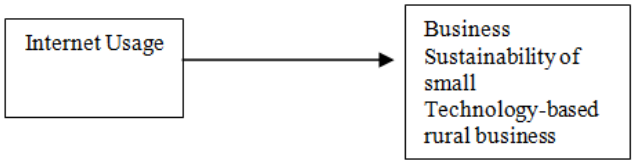

Figure 1: Conceptual Framework of the study

This research employs the Resource-Based View (RBV) Theory to explain how small technology-based rural businesses utilize the tangible and intangible resources to achieve sustainability competitive advantage. RBV proposed that businesses with tangible and intangible resources which are valuable, rare, inimitable and non-substitutable will gain sustainable competitive advantage (Barney, 1991). Internet usage is considered as technological capabilities which can be viewed as the resources of the firm in the form of capabilities which can have an impact on business sustainability of the small technology-based rural business.

3. Methodology

This study adopt survey methods to collect data. Data was analyzed quantitatively. The questionnaire was developed by adapting from the literature and customized according to this study. The items to develop the business sustainability construct was adapted from Sefiani (2013), Pfleger (2014) and Raderbauer (2011). The items for internet usage were developed by the researcher. After the customization process, pre-testing procedure was conducted to verify the content validity through focus group discussion and verification of measurement from an expert in research methods.
The population for this study is the small technology based rural business entrepreneurs in Malaysia. The samples are taken from the small technology based rural business in Melaka. This study is a cross sectional research method using self-administered survey instrument. The questionnaires were distributed to 150 small technology based rural business entrepreneurs from 12 rural transformation centers in Melaka. 110 usable questionnaires were collected out of 150 distributed. The number of samples achieved the minimum samples required as mentioned by Awang (2012) because this study has two constructs and each has more than three measuring items. Therefore, the minimum samples required is 100 samples. Data was keyed in from the usable questionnaires into IBM SPSS 21.
The Exploratory Factor Analysis using extraction method of Principal Component with Varimax Variation Maximization) Rotation was performed on the 11 items measuring Business Sustainability (BS) and 4 items of Internet Usage (INT). The results indicated that the Bartletts' Test of Sphericity is significant (P-Value < 0.05) for BS and INT. Furthermore, the measure of sampling adequacy by Kaiser-Meyer-Olkin (KMO) is excellent at 0.915 for BS and 0.828 for INT which are all exceeded the required value of 0.6 (Awang,2010,2012).
The results also showed that only one component or dimension emerged from EFA procedure based on the computed Eigenvalue greater than 1.0 for BS and INT. The eigenvalue for BS component is 6.9, while the variance explained for the components are 63.110%, Thus all the components and their respective items are excellent in measuring BS, exceeded 60% (Awang,2010,2012).
The eigenvalue for INT component is 3.5, while the variance explained for the components are 88.2%, Thus all the components and their respective items are excellent in measuring INT, which exceeded 60% (Awang,2010,2012).
The factor loading for every item in BS and INT are greater than 0.6. Thus, no item should be deleted since they achieved the minimum requirement for factor loading of 0.6 (Awang,2010,2012). In other words, all items are useful to measure the latent constructs.
The data was then used to run the Confirmatory Factor Analysis (CFA) and consequently the Structural Equation Modeling (SEM) using IBM SPSS AMOS 21.
The CFA result has been analyzed for the fitness index of the model. The index category and level of acceptance requirements are; Absolute fit (RMSEA <0.08); Incremental fit (CFI >0.90); Parsimonious fit (Chi square/df <5.0).

4. Findings

Figure 2 below shows the CFA results of the study.

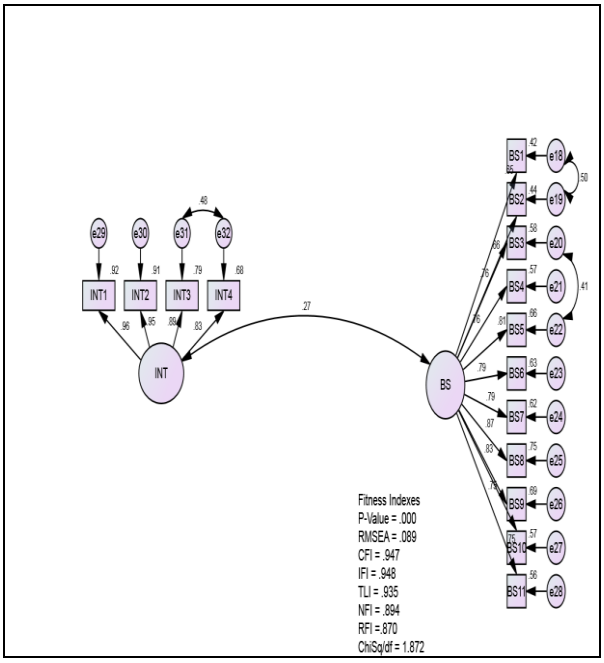

Figure 2: CFA results of the study

Referring to Figure 2, the model fulfilled the requirement for fitness index. Average Variance Extracted (AVE) for Business Sustainability (BS) construct is 0.623 and 0.826 for Internet Usage (INT) which is exceeding the required value of 0.50, indicating that the reliability of the measurement model in measuring the construct. The result for Composite Reliability (CR) is also achieved because the value of CR is above 0.6 which is 0.948 for BS and 0.950 for INT.

Table 1: The discriminant validity index summary of the constructs

Construct	INT	BS
INT	**0.908**	
BS	0.270	**0.789**

Based on Table 1, the discriminant validity for all constructs is achieved when the diagonal value (in bold which is the square root of AVE) is higher than the value in its row and column.
The data in this model is distributed normally because the Assessment of Normality Distribution of Data shows that the absolute value of skewness of 1.0 or lower.
0.275 is the estimated correlation between BS and INT which shows that the constructs do not correlate with each other. This shows that multicollinearity problem does not exist in this model.

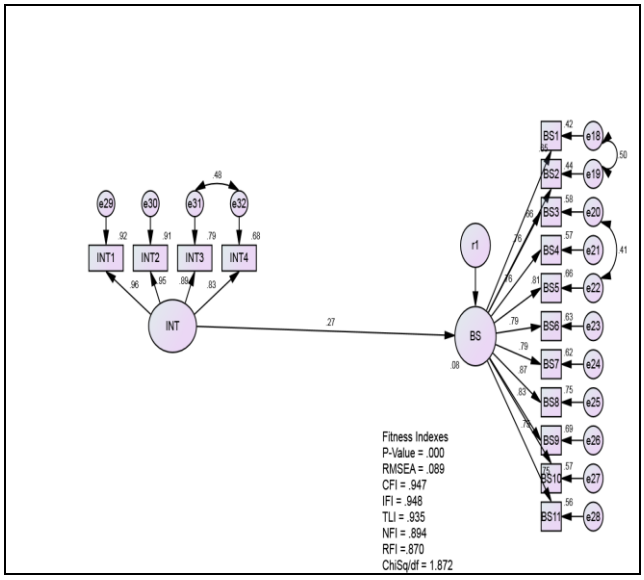

Figure 3: SEM results of the study

Based on SEM output in Figure 3, it is estimated that the predictors of BS explain 8 percent of its variance. In other words, the error variance of BS is approximately 92.5 percent of the variance of BS itself. Internet usage factor among the technology based rural business only explained 8 percent of the business sustainability construct in this study.

The standardized total (direct and indirect) effect of INT on BS is .275. That is, due to both direct (unmediated) and indirect (mediated) effects of INT on BS, when INT goes up by 1 standard deviation, BS goes up by 0.275 standard deviations. That is, internet usage construct does not correlated with the business sustainability construct in this study.

Table 2: Regression Weights and significance of the effects between the construct

Construct	Path	Construct	P-value	Result
BS	<---	INT	0.006	Significant at 0.01 level

The Unstandardized Estimate for SEM output is 0.167 and the Standardized Estimate is 0.275

Therefore, it can be concluded that when INT goes up by 1, BS goes up by 0.167.

When INT goes up by 1 standard deviation, BS goes up by 0.275 standard deviations.

Based on the SEM result in Table 2, it can be concluded that Hypothesis 1 (H1) is accepted. Therefore, internet usage has positive and significant effect on business sustainability of small technology based rural business. The results shows that internet usage is one of the factors that effects the sustainability of small technology-based rural business.

5. Conclusions

Based on the above findings, it can be concluded that internet usage has positive and significant effect on business sustainability of small technology based rural business. This study supported the findings by Mokhtar (2015), Riyad Eid & Hatem El-Gohary (2013) and Tarutė & Gatautis (2014) that internet marketing has positive impact on small business performance.

This study also supported the findings by Radzi, Nazri, & Nor (2017) who mentioned that technology competencies in internet usage is one of the important success factors for technology based rural business. Internet usage competencies enable the small technology based rural entrepreneurs to market their products and services online to gain more customers and thus, enhance success and sustainability for the business.

Therefore, small technology based rural entrepreneurs should follow the recommendations made by Jaganathan, Mahmood, & Ahmad (2014) and Lim, Baharudin, & Low (2017) for them to adopt ICT to gain competitive advantage and to sustain their businesses.

Although internet marketing has positive impact on business performance, small business tend to prefer the conventional methods for sharing information with their stakeholders rather than using more advanced technology such as cloud computing methods because of reliability issues (Gupta, Seetharaman, & Rudolph, 2013).

The information from this study will broaden our knowledge and understanding related to the impact of internet usage of technology based rural business on their business sustainability. The proposed model provided in this paper will help guide future research related to the sustainability for technology based rural business in Malaysia. This study differs from other similar previous research because it employed structural equation modelling using SEM AMOS to develop the proposed model. This method is known to be more rigorous in explaining the effects among constructs. Future studies need to be done by including more exogenous and endogenous constructs into the model and using a more rigorous methodology to confirm the suggested model.

References

[1] Awang, Z. (2012). Research methodology and data analysis. Shah Alam: Penerbit Universiti Teknologi MARA Press.

[2] Awang, Z.(2010). Research Methodology for Business and Social Sciences. Kelantan: Universiti Teknologi MARA.

[3] Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. Journal of Management, 17(1), 99–120. https://doi.org/10.1177/014920639101700108

[4] Bartkus, E. V., & Grunda, R. (2011). Business Sustainability Assessment: Comparing Results of Two Studies. Inzinerine Ekonomika-Engineering Economics, 22(1), 32–40.

[5] Battisti, M., Deakins, D., & Perry, M. (2013). The sustainability of small businesses in recessionary times: Evidence from the strategies of urban and rural small businesses in New Zealand. International Journal of Entrepreneurial Behaviour & Research, 19(1), 72–96. https://doi.org/10.1108/13552551311299260

[6] Boumediene Ramdani, Delroy Chevers, Densil A. Williams, (2013). SMEs' adoption of enterprise applications: A technology-organisation-environment model. Journal of Small Business and Enterprise Development, 20 (4), pp.735-753, https://doi.org/10.1108/JSBED-12-2011-0035

[7] Canavan, O., Henchion, M., & O'Reilly, S. (2007). The use of the internet as a marketing channel for Irish specialty food. International Journal of Retail & Distribution Management, 35 (2), 178-195.

[8] Gan, S. W., Inversini, A., & Rega, I. (2018). Tourism , Development and Digital Technologies : Insights from Malaysian Homestays. In Stangl B., Pesonen J. (eds) Information and Communication Technologies in Tourism 2018 (Vol. 1, pp. 52–63). Springer International Publishing AG 2018.

[9] Gupta, P., Seetharaman, A., & Rudolph, J. (2013). International Journal of Information Management The usage and adoption of cloud computing by small and medium businesses. International Journal of Information Management, 33(5), 861–874. http://doi.org/10.1016/j.ijinfomgt.2013.07.001

[10] Jaganathan, M., Mahmood, R., & Ahmad, S. (2014). Effect of Environmental Context on Ict Adoption Among Rural-Based Small And Medium Enterprises In Malaysia. Advances in Environmental Biology, 8(9), 563–569. Retrievedfrom https://www.researchgate.net/publication/273886924_Effect_of_Environmental_Context_on_Ict_Adoption_Among_Rural-Based_Small_And_Medium_Enterprises_In_Malaysia

[11] Kamunge, M. S., Njeru, A., & Tirimba, O. I. (2014). Factors Affecting the Performance of Small and Micro Enterprises in Limuru Town Market of Kiambu County, Kenya. International Journal of Scientific and Research Publications, 4(1), 2250–3153. https://doi.org/10.9790/487X-16148093

[12] Lim, S. C., Baharudin, A. S., & Low, R. Q. (2017). Factors Influence SMEs in Malaysia to Adopt e-Commerce: Moderating roles of

perceived strategic value. Journal of Engineering and Applied Sciences, 12(6), 1566–1574.
[13] Mohd. Zin, M. L. (2015). Determinants of Business Performance Among Rural Entrepreneur. In E-Proceeding of the International Conference on Social Science Research, ICSSR 2015 (Vol. 2015, pp. 114–121). Retrieved from http://worldconferences.net
[14] Mokhtar, N. F. (2015). Internet Marketing Adoption by Small Business Enterprises in Malaysia. International Journal of Business and Social Science, 6(1), 59–65. Retrieved from http://ijbssnet.com/journals/Vol_6_No_1_Januaryr_2015/7.pdf
[15] Nadim, A., & Lussier, R. N. (2012). Sustainability as a small business competitive strategy. Journal of Small Business Strategy, 21(2), 79–95.
[16] Noor, M. M. (2018). Rural Community Digital Technology Connectedness: Does ICT in Rural Area Contributes to Rural Development in Malaysia. The Social Sciences, 13(2), 316–322.
[17] Pfleger,R. (2014). Business Transformation towards sustainability. Business Research,7,313-350.https://doi.org/10.1007/s40685-014-0011-y
[18] Radzi, K. M., Nazri, M., & Nor, M. (2017). The impact of internal factors on small business success : a case of small enterprises under the felda scheme. Asian Academy of Management, 22(1), 27–55.
[19] Raderbauer, M. (2011). The importance of sustainable business practices in the viennese accommodation industry. University of Exeter as a thesis for the degree of Master of Science. University of Exeter.
[20] Rezaee, Z. (2016). Business sustainability research: A theoretical and integrated perspective. Journal of Accounting Literature, 36, 48–64. https://doi.org/10.1016/j.acclit.2016.05.003
[21] Riyad Eid & Hatem El-Gohary (2013) The impact of E-marketing use on small business enterprises' marketing success, The Service Industries Journal, 33:1, 31-50, DOI: 10.1080/02642069.2011.594878
[22] Sefiani, Y. (2013). Factors for success in SMEs: A Perspective from Tangier. A Doctoral thesis submitted to the University of Gloucestershire, Faculty of Business, Education and Professional Studies. Retrieved from: http://eprints.glos.ac.uk/id/eprint/1001
[23] Tarutė, A., & Gatautis, R. (2014). ICT Impact on SMEs Performance. Procedia - Social and Behavioral Sciences. Retrievedfrom https://s3.amazonaws.com/academia.edu.documents/35910023/TaruteGatautis_ICT_impact_on_SMEs_performance.pdf