International Journal of Engineering & Technology, 7 (2.29) (2018) 86-90

International Journal of Engineering & Technology

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

Research paper

Barriers to digital marketing adoption at remote rural tourism destinations in Sarawak: an exploratory study

Sharon Cheuk[1]*, Azuriaty Atang[2], Lo May Chiun[3], T. Ramayah[4]

[1]*Senior Lecturer, Universiti Malaysia Sarawak*
[2]*Lecturer, Universiti Malaysia Sarawak*
[3]*Professor, Universiti Malaysia Sarawak*
[4]*Professor, Universiti Sains Malaysia*
**Corresponding author E-mail: ccssharon@unimas.my*

Abstract

Rural tourism has been shown to benefit local communities from the economic perspective. Digital marketing allows marketing information to be transmitted directly to potential visitors without the need for an intermediary, in a low-cost but effective way. Rural tourism destinations in Sarawak now have an opportunity to benefit from the Sarawak state government's initiative, the Digital Sarawak Centre of Excellence, in terms of digital content creation and website maintenance. However, the current level of adoption is zero to minimal in rural tourism destinations. This study examines the barriers towards digital marketing adoption from the perspective of rural tourism providers. Fieldwork was performed at two sites, Ba'kelalan and Long Lamai, in July 2016 and February 2017 respectively. In-depth interviews were conducted with a total of 19 respondents. The study revealed that tourism providers currently depended on word-of-mouth recommendations or direct contact for bookings, but were willing to adopt digital marketing with the assistance of knowledgeable parties. However, certain physical, logistical and social constraints may have a detrimental effect on the community's readiness level to entertain tourists on a larger scale and may further impede the overall progress of digital marketing adoption, at both the individual and destination levels.

Keywords*: *Digital marketing adoption; Tourism Service Providers; Rural Tourism

1. Introduction

Tourism has been envisaged to greatly benefit rural communities from the economic and social perspective, especially in bringing employment/income opportunities and much-needed regeneration (Kotler, Haider, & Rein, 1993; Liu, 2006; Sharpley, 2002). However, a rural destination may not be well-recognised in the tourism marketplace, and hence tourists need to be made aware of its existence as well as its tourism potential prior to visiting. Destination marketing that is effective will, therefore, promote rural tourism by increasing tourist arrivals; tourists would be also more satisfied, return to a particular destination, as well as recommend the said destination to others (Ekinci & Hosany, 2006; Murphy, Moscardo, & Benckendorff, 2007). Digital marketing has been noted as a low-cost and effective method of providing essential information to target customers (Garren, 2012); such information can include those of a visual nature (Choi, Lehto, & Morrison, 2007; Greaves & Skinner, 2010). As such, digital marketing can bypass the physical barriers of transmitting information transmission to the intended market, a feature particularly important for rural tourism destinations.

In Malaysia, ICT in general, and telecentres in particular, have helped to advance tourism at rural destinations (Lo, Mohamad, Songan, & Yeo, 2012). More recently, the Sarawak statement government has, via the setting up of the Digital Sarawak Centre of Excellence (DSCOE), led an initiative towards the digital transformation of the state economy. The DSCOE would be involved in research and development by partnering with higher education institutions and industry players. Tourism has been earmarked as a priority sector in this initiative (Aubrey, 2017). In view of the rural tourism destinations' need for effective digital marketing and the availability of the state government initiative, rural tourism destinations should capitalise on the opportunities presented and profit from them accordingly (Chua, 2017).

The adoption of digital marketing by rural tourism destinations in Malaysia is still in the infancy stage. The two rural destinations examined by this study, Ba'kelalan and Long Lamai, have solar-powered telecentres which were installed under consultation with Universiti Malaysia Sarawak (Unimas), which connected the villages to the internet (Ba'kelalan to get its own ICT centre, 2010; Richards & Yeo, 2014). Subscription to internet service was provided by a local telecommunications company; telecommunication towers were installed thereafter, providing general internet access to those with mobile internet devices (Zaman, 2016).

With mobile internet access and the involvement of Unimas in the role of advisor, we would expect an expedited transition towards full digital marketing adoption. However, to date, the rural tourism suppliers have not fully embraced digital marketing. In view of the foregoing, we explore and examine the barriers towards digital marketing adoption from the local community perspective, particularly amongst the tourism service providers.

Copyright © 2018 Authors. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

2. Literature Review

Much literature has been written on digital marketing adoption (DMA) in the development of tourism (Bonn, Furr, & Susskind, 1998; Bai, Elsworth, & Countryman, 2004; Luo, Feng, & Cai, 2004). In particular, DMA was examined amongst tourism organisations (El-Gohary, 2012; El-Gohary & Eid, 2012), travel agents (Abou-Shouk, Lim, & Megicks, 2016) and homestays (Yiamjanya, 2016). Internet marketing for rural tourism enterprises was explored by Clarke (2005), Duffy (2010) and Andreopoulou, Tsekouropoulos, Koliouska, and Koutroumanidis (2014). In terms of DMA perspective, El-Gohary (2012), El-Gohary and Eid (2012) and Abu-Shouk, Lim and Megicks (2016) designed or validated DMA adoption frameworks; Yiamjaya (2016) analysed tourism enterprises from the perspective of e-marketing features. ICT functions, level of ICT adoption and usage, and/or causal factors and barriers/challenges behind ICT adoption were explored by Duffy (2010), Reino, Frew, and Albacete-Sáez (2011), Andreopoulou et al. (2014) and Nkosana, Skinner and Goodier (2016). These studies reveal knowledge gaps from two perspectives. Firstly, none of the studies explored rural tourism destinations that were very remote. Secondly, none of the studies examined the adoption barriers amongst rural tourism organisations which displayed a negligible to zero level of adoption.

Previous studies pertaining to Ba'kelalan and Long Lamai were also reviewed. From the tourism perspective, Hitchner, Apu, Tarawe, Aran, and Yesaya (2009) investigated community-based transboundary ecotourism in the Kelabit Highlands (of which Ba'kelalan is a part). For Long Lamai, Siew, et al. (2013) used the SHIP (systemic, holistic, interdisciplinary and participatory) perspective to study ecotourism; Falak, Lo and Yeo (2016) examined the positioning of rural tourism from the perspective of local community. On the ICT front, Harris, Bala, Songan, Khoo and Trang (2001) examined the opportunities and challenges behind the introduction of ICT, especially in the form a telecentre, to the Kelabit community; a decade later, Cheuk, Atang and Lo (2012) examined the community attitudes towards an established telecentre in the same area. An initial sustainability model was presented by Cheah, Masli, and Mit (2013) to support an e-commerce project for the Long Lamai community; post-mortem findings on the same project were later presented by Cheah, Abdul Halin, Lu and Chee (2016) upon completion of the same. From the review of studies on the 2 research sites, it is noted that digital marketing adoption barriers, from the perspective of the local community and tourism service providers, have not yet been explored.

In view of the foregoing, the objective of this study is to investigate the aforementioned barriers, from the perspective of the tourism service providers in Ba'kelalan and Long Lamai. Such service providers would include homestay owner/operators, transportation operators, catering providers, handicraft makers and tour guides.

3. Methodology

The research sites of Ba'kelalan and Long Lamai were chosen not only because they were both remote rural tourism destinations, but both presented contrasting aspects of tourism. Ba'kelalan is relatively more economically established and has homestays that are active. It is also more accessible in the sense that there are flights servicing it. Long Lamai on the other hand, is less established in economic activities and is physically less accessible, in that it can only be reached through a boat ride from a neighbouring village which has flight access. Therefore these two sites are considered as good representatives of rural tourism destinations from two ends of a spectrum.

The study followed a qualitative research approach in order to appreciate in-depth the perceptions and motivations of the local community. For sample selection in the two research sites, a convenient non-random method was used; this method is consistent with current tourism research on investigating tourism supplier perceptions (Gao & Wu, 2017; Zhou, Chan, & Song, 2017). Only tourism service suppliers were selected, which included homestay owner-operators, transportation operators, catering suppliers and tour guides. The researchers ensured that interviews were held with only voluntary participants.

Interviews, done in-depth, were conducted to answer the research objectives. Such an approach has the advantage of rendering the information gathering process more flexible; as new thoughts and ideas arise, they can be probed further immediately. Additional clarification or further discovery of underlying motivations would then be sought. To serve as a guide to the interview and to ensure that research objectives are covered, a standard semi-structured interview sheet was used by the interviewer. Respondents were permitted and in fact, strongly encouraged, to expound on their views (to increase the richness of the data), and the interviewers would attempt not to interrupt, only providing clarification if respondents appeared not to understand the questions asked. If responses were unclear, prompting would ensue. Two interviewers attended every interview session; one to conduct the interview (ask questions) and the other to write down the responses. This was done to ensure that the first interviewer could concentrate on asking the questions and evaluating the sufficiency of the answers before taking follow up action, if and when necessary. The immediate recording of the oral responses in writing also served as a visual reference for the first interviewer in his/her decision to seek further clarification or to probe for deeper responses. Voice recorder usage would not allow for this as the transcript of the interview would be written up much later.

The length of the interviews generally were about an hour, and had to be scheduled according to the interviewees' convenience. As such, some interviews had to be carried out at night as the respondents had to conduct their day time activities, such as padi planting or harvesting. The qualitative nature of the study meant that there was no predetermined sample size. Instead, the respondent number was considered as sufficient when saturation point was achieved. Data collection was done in Ba'kelalan over a five-day period in July 2016, and in Long Lamai over another five-day period in February 2017.

The research study objectives were first introduced and explained to each respondent prior to the interview proper. The following questions were then asked in-depth:

1. Does your tourism business utilise a digital marketing vehicle (e.g. social media, website)?
2. How do your customers (tourists) locate you?
3. What are your perceptions/attitudes towards employing digital marketing for your tourism business?
4. What are the barriers/problems against the adoption of digital marketing for your tourism business?

From the recorded verbatim comments of the respondents, content analysis was performed. The qualitative-phenomenological approach was utilised to derive meaning from the data and people examined (Patton, 2002). The responses were thoroughly analysed. A single phrase, or meaningful and significant statements, form the basis of the unit of coding. Themes pertaining to the perceptions and barriers preventing the adoption of digital marketing, from the perspective of tourism suppliers, were generated. The identified themes were grounded in the respondents' own descriptions, and hence the findings' validity and reliability are enhanced.

4 Results and Findings

We first present a brief background of the research sites Ba'kelalan and Long Lamai. Both are remote rural destinations, but Ba'kelalan is more accessible than Long Lamai. Ba'kelalan is comprised of 9 villages in the Kelabit Highlands and can be accessed by flight (via a 19-seater plane) or by land (via logging roads which are unsealed) (Wikitravel). Long Lamai is a village located on the Upper Baram River; it does not have direct flight service. Usually travelers will take the flight to Long Banga, and

then thereafter a 1.5 hour boat ride into Long Lamai. Long Lamai can also be accessed by land via unsealed logging roads followed by hiking through dense forest (Zaman, 2016).

The main economic activities in Ba'kelalan and Long Lamai are agricultural in nature, mainly rice production. Ba'kelalan is more engaged in the tourism activity as compared to Long Lamai. At the time of the study, we noted 25 homestays in Ba'kelalan which were organised into a ministry-approved homestay association and located throughout the 9 villages, with the bulk (16) of the homestays at Buduk Nur (the largest village). We were informed by Ms. Corina Balang, the homestay operator and secretary of the Ba'kelalan Homestay Association, that in terms of activity, only 4 homestays were considered more active. For Long Lamai, the total number of homestays is 9, but there were plans for 2 more to be started. Food catering services, transportation (boat and four-wheel drive) and tour guide services are also offered. We were informed by Mr Gary Jengan, a long-timer resident at Long Lamai, that visitors had comprised of researchers and students, whose stays were longer than that of standard tourists, and church-related visitors, but not normal tourists.

The total number of participants of this study was 19 and their details are summarised in Table 1.

Table 1: Details of Respondents

Attribute	Item	Frequency	%	Cum %
Gender	Male	9	47	47
	Female	10	53	100
Tourism business type	Homestay	10	45	45
	Catering service/canteen	3	14	59
	Transportation (boat)	3	14	73
	Transportation (4-wheel drive)	1	4	77
	Tour guide	4	19	96
	Handicraft maker	1	4	100

It is usual in rural regions for community members to hold multiple roles at the same time. For example, a boat operator could also be a tour guide, and a homestay owner could also run a boat operating business. Hence, the total types of tourism businesses represented in Table 1 does not equate the total number of respondents interviewed.

Our findings revealed that none of the tourism suppliers interviewed had adopted zero to minimal digital marketing for their business. The homestays at Ba'kelalan used to be promoted on a general blog featuring Sabah and Sarawak homestays; however the said blog is now offline. Currently the said homestays are listed on the Homestay Borneo Facebook page; however the said page had not been updated in the past 2 years at the time of writing. Guests communicate with the tourism suppliers by calling directly, via private message through SMS or Facebook, or via a designated agent. Guests would also walk-in without prior bookings. A large number of guests patronised the homestays through links with the World Challenge and Gap Challenge programmes. World Challenge organises team-building and educational school expeditions for students from the Western Hemisphere, as well as New Zealand and Australia, whereas Gap Challenge organises engagement programmes for volunteer teachers in rural destinations. These programmes involve Ba'kelalan as a regular destination; one particular homestay serves as an annual host for programme participants. The tour guide respondent advised that other being booked directly by tourists, fellow tour guides would refer jobs to him if they were not confident, due to poor English competency, to accept the business themselves. For Long Lamai, a main tourism coordinator (contactable via Facebook) acted as the main point of contact for tourists.

Reactions by the tourism service providers towards the adoption of digital marketing were generally positive, and the value of digital marketing is largely acknowledged. Although there was no discernible fear of technology usage, respondents admitted that they would be in need of help in digital content creation, website design and maintenance of any websites created. This would imply the involvement of outside parties who were accordingly skilled. However, other respondents were eager to learn how to create marketing websites. They would also be willing to consider the later adoption of a payment/booking engine for future service bookings, as it would enable earlier preparations to be carried out prior to the arrival of visitors, such as ensuring that food supplies were sufficient and that boats were in good condition. It is noted also that most respondents already possessed smartphones; this indicates that the digital divide between the community members and their urban counterparts is not that wide, and this in turn should facilitate the learning process. An older participant indicated his willingness to learn ICT to avoid having to depend on the younger community members in the use of technology. A sample of the responses relating to eagerness to adopt ICT are as follows:

"I would like to learn to design marketing websites for my homestay…(Interview informant 1); "Having a booking and payment engine in the future would be beneficial..(Interview informant 2); "A website would help in the booking process as well as for business promotion…(Interview informant 6); I don't have much idea in website design and content and how to manage one, but I am open to using one when I am ready..(Interview informant 8).

Barriers to digital marketing adoption noted can be separated into 2 categories: one, those pertaining to direct barriers in website deployment, and two, those linked to the barriers to tourism as an industry. In the first category, respondents noted a lack of tourism attractions and regular tourism events that could serve as attractive content for marketing websites. For instance, Ba'kelalan used to hold a Sukan Sempadan involving Brunei, Indonesia, Sabah and Sarawak, which has now been discontinued. Similarly, the Apple Festival used to be held due to the fact that the area has apple orchards; the festival has also been discontinued to poor apple harvest as a result of lack of orchard maintenance. A sample response relating to barriers to digital marketing adoption is as follows:

"We used to have a Sukan Sempadan but it is no longer held…I would like to fight for it to be reinstated…It can be a four-day festival…it would greatly boost the economy in this area. In fact tourists can make day trips to Long Bawan across the border which is also a tourist attraction in itself" (Interview informant 4).

The process of learning about digital marketing may be impeded by the low level of technical knowledge amongst community members and the low level of education amongst the youths. The adoption of digital marketing would usually lead to the need to carry on a dialogue with potential customers in some form, such as email; the current low English language competency amongst the community members may hamper online communications, especially with Western tourists. The general preference for the use of cash (as opposed to credit cards or online bank transfers) may serve as an obstacle towards the adoption of e-commerce that usually forms part and parcel of an online booking process. A sample of the responses relating to the foregoing are as follows:

"Online banking is not preferable to the folks in Long Lamai…people prefer cash" (Interview informant 9).

"I don't feel secure with online banking, however I have not yet used it so I can't say for sure" (Interview informant 13).

"I have problems in communicating in English with tourists, especially Westerners" (Interview informant 12).

Websites could be designed for the individual tourism supplier, and/or for the entire village. While the respondents at Ba'kelalan did not have a preference for either, respondents at Long Lamai were of a different view. The younger respondents in Long Lamai preferred to have individual supplier websites. The reason for this was that they would be free to post and receive booking information directly without going through the tourism coordinator; however, they were in agreement with the creation of a village-level website as well. On the other hand, the more senior respondents were of the opinion that a village-level website should be first created, with individual websites to be implemented as and when the providers are ready. This could be due to the egalitarian

nature of the village community, whereby advancement of a community had to be fairly experienced and enjoyed. They were of the opinion that that individual websites may lead to unequal income distribution within the village should there be some providers who were better at promoting their services than others. In other words, better income may be earned by suppliers with more attractive websites. Furthermore it may create different prices for similar products. Such an egalitarian psyche and collectivist attitude of the community, as well as general deference of all to the village elders, may slow the process of digital adoption at the individual level. A sample of responses pertaining to the foregoing are as follows:

"Different websites for different homestays may give rise to different prices for similar services or products, we don't want this to happen…a village-wide website can help to promote products like handicrafts, festivals and gatherings" (Interview informant 18).

"Having my own website would be good as booking of my services would be more efficient and the information can be passed to me directly. I would have more time to prepare for the guest's arrival" (Interview informant 13).

The second category of barriers/problems pertain to tourism as an industry within the villages. For Ba'kelalan, the respondents highlighted the lack of flight services to the area, especially compared to the nearby Bario. Ba'kelalan is serviced by only 3 flights a week, whereas Bario is serviced by 2 flights per day. Furthermore, the number of flight services are increased to 7 per day during the annual Slow Food Festival. Hence, Bario is perceived to be a direct competitor with Ba'kelalan in terms of number of tourist arrivals. A sample response pertaining to the foregoing is as follows:

"Bario has regular daily flights compared to Ba'kelalan…we don't have a big annual event to attract visitors which leads to increased flights..(Interview informant 6).

Although Long Lamai is even more inaccessible than Ba'kelalan, respondents did not point that out as a reason for low tourist arrivals. Instead, they highlighted various physical constraints to full engagement in tourism. Firstly, agriculture, especially rice-planting, is the main economic activity and is seasonal and labour-intensive. As per Interview informant 9: *"Harvesting is done on a gotong-royong (communal) basis…villagers will work in teams to help each other harvest their fields…they will move from field to field."* Such labour-intensive activity would compete with tourism in terms of available manpower and therefore priorities would need to be set.

Another major problem for tourism is the lack of readiness to fully engage in it, due to physical constraints such as electricity supply, water supply, food, and materials for building houses, boats and for making handicraft. Interview informant 9 advised: *"The water and electricity supplies are linked. Electricity is generated from the nearby hydroelectric generator installed at the nearby river. Supply may be interrupted if the generator is blocked by floating leaves in the river. Water is taken from the river via direct piping; like the hydro-generator, the piping could also be blocked by leaves which interrupts water supply.*"

As for food, the main sources are paddy and vegetables. Interview informant 9 also informed that *"a single paddy harvest would generally be sufficient for one family for half a year to a year. Vegetables are usually planted and if there is too much rain and poor drainage, the seeds could be killed."* Hence, the catering of food for tourists, on top of that for the community, may be a challenging process.

Finally, constraints for obtaining material to build houses, boats and to make handicraft exist. Interview informant 15, a homestay owner, informed that:

"…to build houses, suitable timber needs to be first located from the forest; the timber needs to be chopped, processed, and transported down the river to Long Lamai before the actual building can commence. The process of obtaining and transportation of timber involves significant time away from the village. Some houses in the village were left half completed because the owners needed to temporarily halt the building process to concentrate on agriculture planting and harvesting."

Handicraft-making is also a long and laborious process. Interview informant 16 informed that *"first a suitable species of rattan needs to be located in the jungle, which takes a long time as the said rattan is not common; thereafter, the process of cutting, decoring, softening, natural dyeing and weaving is also very time-consuming".*

The above findings can be summarised in the following Table 2:

Table 2: Summary of key findings

Item	Summary of findings
Existence of digital marketing vehicle	• None utilised adopted digital marketing for their tourism business. • For Ba'kelalan, homestays were represented on the Facebook page named Homestay Borneo. However the website had not received updates since 2015.
How customers locate the tourism provider	• Direct contact - Facebook messaging, phone/SMS to the main tourism coordinator • Peer referrals • Via a designated agent. • Via Homestay Borneo Facebook page. • Walk-in customers with or without word-of-mouth recommendations.
Perceptions towards adoption of digital marketing	• Largely positive and there is a general consensus on the value of digital marketing for tourism services • No fear of technology noted. However help is needed in the setting up of marketing websites in terms of content, design and management • Adoption of ICT in the booking process will allow more efficient operations.
Barriers/problems preventing the use of digital marketing	• Lack of tourism attractions and events to be used a promotional material on marketing websites • Lack of technical knowledge • Low level of education amongst the youths • General preference for cash - an obstacle to the adoption of e-commerce • Poor English language competence • The egalitarian psyche and collectivist attitude of community, and deference to the village elders may slow the process of digital adoption at the individual level • Poor accessibility (few flights to Ba'kelalan) • The need for manpower planning: tourism v. farming • Lack of readiness to fully engage in tourism, due to physical constraints

5. Conclusion

In conclusion, the Ba'kelalan and Long Lamai communities are generally open to adopting digital marketing, with the assistance of outside parties in digital content creation, website design and website maintenance. However, barriers exist in the form of those that pertain to problems in website deployment, and those linked to the barriers to tourism as an industry; the latter would affect the communities' readiness to receive and entertain tourists on a large scale. The collectivist nature of the Long Lamai community in particular, aimed at ensuring equal participation in economic benefits, may slow down the process of digital marketing adoption as a whole.

Practical suggestions would include fully utilising the local university to first set up the website infrastructure and brainstorming tourism attractions and events to be part of the website content. A village-level landing page with separate links to individual supplier-level websites would have better search engine rankings. The writing of Wikitravel pages, containing essential visitor infor-

mation, would be an easy way to create internet presence. Social media could be engaged in to create buzz around the villages as tourist destinations.

The value of this study arises from the investigation of the views and perceptions of local community tourism suppliers, located in very remote tourism destinations, towards the adoption of digital marketing. This study also attempts to fill in the literature gap whereby none of the previous studies examined rural enterprises that had very minimal to zero digital marketing adoption.

Limitations of this study include the lack of generalisability, which is expected due to the qualitative nature of this study, as well as the relatively small sample size. Future research could extend the sample to include more representatives from each type tourism supplier. As the data for this study was collected within short periods of time, the findings captured by this study would be limited in a temporal context. This constraint could be resolved by the utilisation of longitudinal studies in the future.

References

[1]. Abou-Shouk, M., Lim, W., & Megicks, P. (2016). Using competing models to evaluate the role of environmental pressures in ecommerce adoption by small and medium sized travel agents in a developing country. *Tourism Management, 52*, 327-339.

[2]. Andreopoulou, Z., Tsekouropoulos, G., Koliouska, C., & Koutroumanidis, T. (2014). Internet marketing for sustainable development and rural tourism. *International Journal of Business Information Systems, 16*(4), 446-461.

[3]. Aubrey, S. (2017, May 1). Digital transformation of state economy crucial for its people – Abang Johari. *Borneo Post Online*. Retrieved from http://www.theborneopost.com/2017/05/01/digital-transformation-of-state-economy-crucial-for-its-people-abang-johari

[4]. Ba'kelalan to get its own ICT centre. (2010, July 16). *The Borneo Post*. Retrieved from http://www.archive.unimas.my/institutes/isiti/index.php/isiti-in-the-news/item/210-ba-kelalan-to-get-its-own-ict-centre

[5]. Bai, B., Elsworth, J., & Countryman, C. (2004). Online travel planning and college students: The Spring break experience. *Journal of Travel & Tourism Marketing, 17*(2/3), 79-91.

[6]. Bonn, M., Furr, H., & Susskind, A. (1998). Using the Internet as a pleasure travel planning tool: An examination of the sociodemographic and behavioral characteristics among Internet users and non-users. *Journal of Hospitality & Tourism Research, 22*(3), 303-317.

[7]. Cheah, W., Abdul Halin, A., Lu, M., & Chee, G. (2016). Long Lamai community ICT4D e-commerce system modelling: an agent oriented role-based approach. *The Electronic Journal of Information Systems in Developing Countries, 75*(5), 1-22.

[8]. Cheah, W., Masli, A., & Mit, E. (2013). Sustainability Modelling of e-Commerce for Rural Community: A Case from Long Lamai e-Commerce Initiative. *2013 International Conference on Informatics and Creative Multimedia*, (pp. 282-287).

[9]. Cheuk, S., Atang, A., & Lo, M. (2012). Community Attitudes towards the Telecentre In Bario, Borneo Malaysia: 14 Years on. *International Journal of Innovation, Management and Technology, 3*(6), 682–687.

[10]. Choi, S., Lehto, X., & Morrison, A. (2007). Destination image representation on the web: Content analysis of Macau travel related websites. *Tourism Management, 28*(1), 118-129.

[11]. Chua, A. (2017, August 21). Sarawak businesses need game-changing mindset to embrace digital economy. *The Star Online*. Retrieved from http://www.thestar.com.my/metro/smebiz/news/2017/08/21/leap-frog-into-the-future-sarawak-businesses-need-gamechanging-mindset-to-embrace-digital-economy/#G7fskfxUdeZpwoM0.99

[12]. Clarke, J. (2005). Effective marketing for rural tourism. In D. Hall, I. Kirkpatrick, & M. Mitchell, *Rural Tourism and Sustainable Business* (pp. 87-102). Clevedon: Channel View Publications.

[13]. Duffy, S. (2010). Factors influencing technology adoption amongst tourism SME. *Tourism and Hospitality Research in Ireland Conference.* Ireland: Shannon College of Hotel Management.

[14]. Ekinci, Y., & Hosany, S. (2006). (2006). Destination personality: An application of brand personality to tourism destinations. *Journal of Travel Research, 45*, 127-139.

[15]. El-Gohary, H. (2012). Factors affecting E-Marketing adoption and implementation in tourism firms: An empirical investigation of Egyptian small tourism organisations. *Tourism Management, 33*(5), 1256-1269.

[16]. El-Gohary, H., & Eid, R. (2012). DMA Model: Understanding digital marketing adoption and implementation by Islamic tourism organisations. *Tourism Analysis, 17*, 523-532.

[17]. Falak, S., Lo, M., & Yeo, A. (2016). Sustainable rural tourism: an indigenous community perspective on positioning rural tourism. *Tourism, 64*(3), 311-327.

[18]. Gao, J., & Wu, B. (2017). Revitalizing traditional villages through rural tourism: A case study of Yuanjia Village, Shaanxi Province, China. *Tourism Management, 63*, 223-233.

[19]. Garren, K. M. (2012). Rethinking the marketing of rural destinations: a comprehensive model and case study of Gunnison County, Colorado (Bachelor thesis, Regis University, Colorado, US). Retrieved from http://epublications.regis.edu/cgi/viewcontent.cgi?ar

[20]. Greaves, N., & Skinner, H. (2010). The importance of destination image analysis to UK rural tourism. *Marketing Intelligence & Planning, 28*(4), 486-507.

[21]. Harris, R., Bala, P., Songan, P., Khoo, E., & Trang, T. (2001). Challenges and Opportunities in Introducing Information and Communication Technologies to the Kelabit Community of North Central Borneo. *New Media and Society, 3*(3), 270-295.

[22]. Hitchner, S., Apu, F., Tarawe, L., Aran, S., & Yesaya, E. (2009). Community-based transboundary ecotourism in the Heart of Borneo: a case study of the Kelabit Highlands of Malaysia and the Kerayan Highlands of Indonesia. *Journal of Ecotourism, 8*(2), 193-213.

[23]. Kotler, P., Haider, D. H., & Rein, I. (1993). *Marketing places: Attracting investment, industry, and tourism to cities, states, and nations.* New York: The Free Press.

[24]. Liu, A. (2006). Tourism in rural areas: Kedah, Malaysia. *Tourism Management, 27*(5), 878-889.

[25]. Lo, M. C., Mohamad, A. A., Songan, P., & Yeo, A. W. (2012). Positioning Rural Tourism: Perspectives from the Local Communities. *International Journal of Trade, Economics and Finance, 3*(1), 59-65.

[26]. Luo, M., Feng, R., & Cai, L. A. (2004). Information search behavior and tourist characteristics: The Internet vis-à-vis other information sources. *Journal of Travel & Tourism Marketing, 17*(2/3), 15-25.

[27]. Murphy, L., Moscardo, G., & Benckendorff, P. (2007). Using brand personality to differentiate regional tourism destinations. *Journal of Travel Research, 46*, 5-14.

[28]. Nkosana, T., Skinner, J., & Goodier, C. (2016). Challenges of ICT adoption and utilisation in small rural restaurants: a case study of the KwaZulu-Natal Midlands. *African Journal of Hospitality, Tourism and Leisure, 5*(4), 1-11.

[29]. Patton, M. (2002). *Qualitative Research and Evaluation Methods (3rd ed.).* Thousand Oaks: Sage Publications.

[30]. Reino, S., Frew, A. J., & Albacete-Sáez, C. (2011). ICT adoption and development: issues in rural accommodation. *Journal of Hospitality and Tourism Technology, 2*(1), 66-80.

[31]. Richards, C., & Yeo, A. (2014). The Exemplary Dilemmas of Ecotourism in the Sarawak Rainforests: Towards an Integrated Partnership Model for the Future Sustainability of Resilient Wilderness Communities. *The Journal of Governance and Development, 10*, 121-139.

[32]. Sharpley, R. (2002). Rural tourism and the challenge of tourism diversification: the case of Cyprus. *Tourism Management, 23*, 233-244.

[33]. Siew, S. T., Yeo, A. W., Phoa, J., Lo, M. C., Kulathuramaiyer, N., & Nair, V. (2013). Sustainable Remote And Rural Eco-Tourism: Applying A Systemic, Holistic, A Interdisciplinary And Participatory (Ship) Approach. In M. Badaruddin, & A. Bahauddin (Ed.), *Proceedings of International Conference on Tourism Development: Building the Future of Tourism* (pp. 323-331). Penang, Malaysia: Sustainable Research Cluster, Universiti Sains Malaysia.

[34]. Wikitravel. (n.d.). Ba'kelalan. Retrieved from https://en.wikipedia.org/wiki/Ba%27kelalan

[35]. Yiamjanya, S. (2016). Endogenous and Exogenous Factors for e-Marketing Technology and Innovation in Homestay Establishments: A Case Study of Samut Songkhram Province, Thailand. *Journal of Economics, Business and Management, 4*(1), 40-46.

[36]. Zaman, T. (2016, September 15). It is not a village but people: Long Lamai, a case study of a smart village. *Smart Villages: New thinking for off-grid villages worldwide*. Retrieved from http://e4sv.org/es/not-village-people-long-lamai-case-study-smart-village/

[37]. Zhou, L., Chan, E., & Song, H. (2017). Social capital and entrepreneurial mobility in early-stage tourism development: A case from rural China. *Tourism Management, 63*, 338-350.