

Relationship between The Factors of Adoption of Information and Communication Technology and The Cultural Preservation of Vaie Ethnic in Bintulu, Sarawak: A Conceptual Feasibility Study

Siti Nur Rohani Hasbie & Mohamad Ibrani Shahrinin Adam
Assim

Department of Science Social & Management, Universiti Putra Malaysia Bintulu Sarawak
Campus

Email: rohanihasbie@gmail.com

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i5/16940>

DOI:10.6007/IJARBSS/v13-i5/16940

Published Date: 24 May 2023

Abstract

This study is about the relationship between the factors on the adoption of information and communication technology (ICT) and the preservation of Vaie ethnic culture in Bintulu, Sarawak. This study aims to determine the level of adoption of ICT, the level of cultural preservation factors and the level of behavioral intention on preserving the culture among Vaie ethnic groups. This study also describes the pattern of adoption of ICT in the context of the cultural preservation of Vaie ethnic culture. Sampling consisted of 385 respondents who were selected among Vaie ethnic groups aged 18 to 60 years. A 'non-sequential mixed-method' study design was used to obtain quantitative data and qualitative data for the study. This exploratory framework is expected to help researchers to explore the domains of interactions of the epistemological phenomena of socio-cultural sustainability of the Vaie ethnic group in Bintulu, Sarawak. The findings of this study is expected to provide benefits and understanding in increasing the adoption of ICT among ethnic minorities and become a guideline for the Vaie ethnic group to maintain their culture by using the ICT platform. The results of this study are expected to have an impact on Malaysia's adoption policy of ICT among ethnic minorities. Significant impacts will also be identified on the communications and networking industry as well as the discovery of new data for sociocultural and technological researchers. In addition, the results of the study emphasized on the policy of achieving ICT as well as its connection with the 16th goal of the Sustainable Development Goal (SDG) which is to prevent conflict and protect the rights of marginalized groups (ethnic minorities) by showing the importance of protecting culture, cultural diversity and social unity.

Keywords: Vaie Ethnic, Cultural Preservation, ICT Adoption

Introduction

Information and communication technology (ICT) can now be accessed by all ages without limitations because all information or work can be handled with the fingertips only due to society now in the 20th century in terms of business, public administration and daily life has been influenced by ICT (Choudhury et al., 2019; Ziamba, 2016). In fact, the construction industry sector also recognizes the acceptance and use of IT to ensure a viable and managed construction system (Yunis et al., 2018) and the consistent use of IT also drives socioeconomic development in the country (Sein et al., 2019; Shambare, 2014). According to Horn et al (2018) access to the use of the internet and digital devices is continuously increasing around the world, yet there is still inequality in the use of ICTs from various groups. The first worldwide survey in developed countries in the late 1990s to the turn of the millennium has shown a growing ICT access gap in the community between groups with high and low income or education and the ethnic majority compared to the ethnic minority (Dijk, 2017). This study is aimed at one of the ethnic minorities in Sarawak, namely the Vaie ethnic group, and the relationship between Vaie ethnicity's adoption of ICT and cultural survival factors as a way of maintaining cultural identity in the industrial city.

Magnificently, the Vaie ethnic group is known as Ba'ie or Bintulu, they speak using a language known by various names namely Ba'ie, Bintulu or Vaie (Asmah, 1983; Ibrahim, 1971; Hidayat et al., 2018). Generally, Vaie refers to the language of the community as well as the community itself. In fact, this ethnic language is known as Qaob Vaie or Vaie Segan (Pustaka, 2014). In fact, the Vaie community itself is more comfortable debating with the Vaie ethnic group than with the Melanau because their daily conversation norm is to use the traditional spoken language of the Vaie itself. Vaie people call themselves or their people Vaie or Ba'ie. In addition, the name Vaie also refers to the town where the community resides. The Vaie ethnic group is also known as part of the Melanau ethnic group because they have similarities or shared characteristics such as living in river sides and tributaries (King, 1994; Morris, 1978; Morni et al., 2022) and their main occupation is as fishermen (Chong, 2020). The socio-cultural characteristics and the relationship in history between the ethnic groups in Sarawak who live in the coastal areas with the ethnic communities in the interior have similar characteristics that can be seen in ethnic minorities (Clayre, 1973; Morris, 1967).

The Malaysian government welcomed the emergence of information and communication technology (ICT) with the establishment of Radio Television Malaysia (RTM) in 1946 and it was also welcomed by Malaysians where the acceptance of radio and television technology as one of the mediums for the people to obtain various information and also as entertainment in improving the quality of life. According to Jaafar (2021), the new movement with the emergence of ICT has made online social networks a container from an effective alternative in forming relationships and norms in the modern world. Therefore, the era of ICT development has become a practice around the world because it directly accelerates and facilitates business transactions in the world community both physically and virtually. The Communications and Multimedia Act 1998 is responsible for providing IT infrastructure to enable communication networks to be improved in order to operate for the benefit of infrastructure in the country (MCMC, 1998).

In the Seventh Malaysia Plan the infrastructure and environment required in the period of development of information and communication technology (ICT) have been prepared to enable Malaysia to move quickly into the Information Era. Starting with the Eighth Malaysia Plan throughout the period from 2001 to 2006, a more concerted effort has been implemented in making Malaysia a competitive knowledge-based economy by using ICT to

drive development. In this connection, ICT infrastructure is also expanded especially in rural areas to bridge the digital divide and allow all residents to have equal opportunities to obtain information and knowledge. The government has also allocated as much as RM7.9 billion to carry out ICT programs and projects in the country and more than a third of the allocation is spent for the purpose of reducing the digital divide among urban and rural communities. Next, in ensuring continuous and consistent support for the development of ICT, the government has channeled funds amounting to RM12.9 billion in the Ninth Malaysia Plan. This shows that the Malaysian government has been seriously involved in the development of ICT because it is seen as a powerful technology (Kenny, 2002) and a valuable tool (Shahrimin & Butterworth, 2002) in increasing efficiency and effectiveness to improve the quality of life (Gani & Clemes, 2006; Hasan et al., 2022).

Wawasan Kemakmuran Bersama 2030 (WKB 2030) (Pejabat Perdana Menteri, 2019) is expected to further accelerate the development revolution of information and communication technology (ICT) in the country. The ICT development policy in Sarawak is also not lagging behind in participating to expand ICT infrastructure and infostructure as outlined in the WKB 2030. With that, the Sarawak Digital Economy Strategy in its actions also accelerates social development support for disadvantaged communities through the use of digital technology and data as well as to develop big data and support systems for communities that need protection and recovery in order to be consistent in facing the fourth Industrial Revolution since mid-2016 (Straits Times, 2021). In addition, the Sarawak state government supports the fourth Industrial Revolution movement by accelerating the launch of the Industry 4.0 initiative with the Human Resource Development Fund (HRDF) in Sarawak as an incentive to stimulate the efforts of the Malaysian government. In meeting the needs of the industry, organizations under the Ministry of Human Resources are also targeting funds for training programs in 'ICT adoption & Big Data' in Sarawak (Utusan Borneo Online, 2017). Overall, this study was designed to examine the relevance of adoption among Vaie ethnic groups, behavior in using information and communication technology (ICT) applications and how ICT affects the survival of Vaie culture as a culture for future generations. In fact, this study is also related to taking into account the Technology Acceptance Model (TAM) pioneered by (Davis, 1989) and also the determinant in the moderator of the study obtained from the Unified Theory of Acceptance and Use of Technology (UTAUT) by (Venkatesh et al., 2003) where this theory will be the main guide in the study (Figure 1)

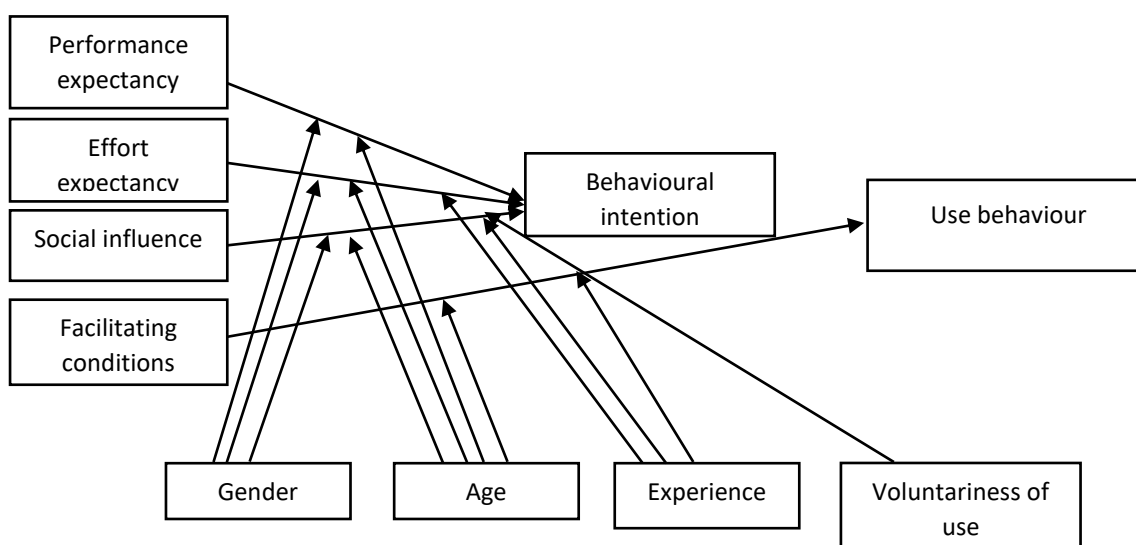


Figure 1: Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al., (2003)

In conclusion, there are two research questions that will be emphasized in this study:

- 1) What is the level of adoption of ICT, the level of cultural survival factors and the level of behavioral intention among Vaie ethnic groups?
- 2) What is the role of ICT in the context of the survival of Vaie ethnic culture in Bintulu?

Conceptual Framework

In this study, the theory that forms the basis of the study is the Unified Theory of Acceptance and Use of Technology (UTAUT). Venkatesh et al (2003) have introduced this theory of acceptance and use by providing a subtle insight into how the determinants of intention and behavior evolve over time. The theoretical framework in this theory serves as a basis for guiding research related to information and communication technology (ICT) (Figure 2). In this study, there are four main keys that are factors in the use of ICT, namely performance expectancy, effort expectancy, social influence and facilitating conditions.

Based on the theoretical background that was stated at the beginning, this study will try to examine the relevance of the adoption of information and communication technology (ICT) as well as how it affects the survival of Vaie ethnic culture. Then the factor will lead to how the behavioral intention (behavioral intention) will affect the survival of Vaie ethnic culture. Behavior intention is contained in the Theory of Planned Behavior by (Ajzen, 1991). Additionally, this study to identify the adoption of ICT as a potential role and will use age as a moderator in this study. Figure 2 is an illustration of the conceptual framework for the research.

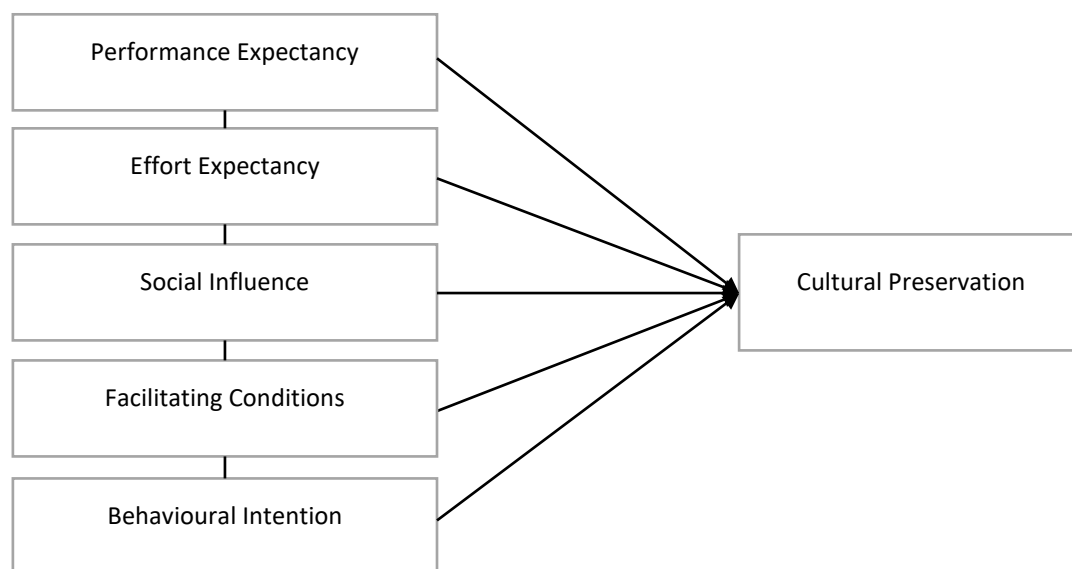


Figure 2. Research Conceptual Framework

Methodology

In this study, quantitative research was used as the main approach and qualitative data as supporting data which is a non-sequential mixed-method design (explanatory design) by (Creswell & Clark, 2007). A sample is a subset of the population consisting of members selected through the population (Kripanont, 2007) and provides an overview to researchers

on how to obtain a sample that represents a population so that the results of the study can be analyzed statistically (Sabitha Marican, 2005). In this quantitative study, the researcher will use a formula based on a confidence level of 95%, a sampling error of 5% which is $\pm 5\%$ (margin of error) and a population rate of 50% (population proportion) is used because the actual population is not publicly known (Cochran, 1963). By using this calculation formula, the result for the sample size from the calculation is as many as 385 respondents and the respondents are comprised of an age range of 18 to 60 years. In fact, IBM SPSS statistics version 22.0 and Smart-PLS version 6.0 software will be used to analyze the data that has been obtained after the data collection process is done while for qualitative data, content analysis will be practiced.

Expected Results of The Study

From the aspect of human development studies, this study is expected to be able to present suggestions on how to help and improve the adoption of information and communication technology (ICT) practices with the factor of ethnic minority cultural preservation. In fact, the results of this study are expected to be able to contribute to the understanding of how the adoption pattern of ICT is related to the continuation of ethnic culture. The expected result of this study is also in line with the socio-cultural theory developed by (Vygotsky & Cole, 1978) which is the existence of connection and understanding of how culture is transmitted from one generation to the next through social interaction. In addition, the results of this research are expected to contribute to the development and development of theory in the study because the Unified Theory of Acceptance and Use of Technology (UTAUT) is used as a guideline in this research. Next is the 16th Sustainable Development Goal (SDG), which is to promote a peaceful and inclusive society for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions for all levels. Therefore, in Goal 16 of the SDG one of which has been stated is to prevent conflict and protect the rights of marginalized groups (ethnic minorities) by showing the importance of protecting culture (UNESCO, 2017) because culture is the heart of the SDG, cultural diversity and social cohesion. Therefore, in this study the Vaie ethnic group should not be marginalized and their culture can be maintained for future generations through the use of ICT. So it is hoped that the research can be utilized and used for the benefit of the community, urban and rural communities and especially the state and the country. In fact, it is important to increase the number of related studies so that the survival of diverse cultures in Sarawak can be maintained.

Conclusion

This study was only carried out on the Vaie ethnic group in Bintulu, Sarawak. In fact, this study is also to summarize the relationship between the level of adoption of information and communication technology (ICT), the level of cultural preservation factors and the level of behavioral intention as well as describe the pattern of adoption of ICT in the context of Vaie ethnic cultural survival. In addition, this study also examines, gets to know and understands deeply about the adoption of ICT and how ICT can benefit the survival of Vaie ethnic culture in Sarawak. It is hoped that this study will have an impact on the body of knowledge based on empirical evidence and also benefit the community, ICT practitioners and policy makers.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Chong, S. (2020). ASAL-USUL DAN PERUBAHAN IDENTITI KAUM MELANAU DI SARAWAK: SUATU HIPOTESIS (The Homeland of Melanau in Sarawak and their Identity Shifting: A Hypothetical Review). *Asian Journal of Environment*, 4(1), 77–89.
- Choudhury, S., Parida, A., Pant, R. M., & Chatterjee, S. (2019). GIS augmented computational intelligence technique for rural cluster electrification through prioritized site selection of micro-hydro power generation system. *Renewable Energy*, 142, 487–496. <https://doi.org/10.1016/J.RENENE.2019.04.125>
- Clayre, F. C. S. (1973). A Preliminary Note On Focus and Emphasis in Melanau - A Language of Coastal Sarawak. In *Lingua* (Vol. 31). North-Holland Pubhshmg Coqlany.
- Cochran, W. G. (1963). *Sampling Technique*. (2nd ed.). John Wiley and Sons Inc. [https://www.scirp.org/\(S\(i43dyn45teexjx455qlt3d2q\)\)/reference/ReferencesPapers.aspx?ReferenceID=1837525](https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=1837525)
- Creswell, J. W., & Clark, V. L. (2007). *Designing and Conducts Mix Method Research*. Sage Publication.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.
- Dewan Bahasa dan Pustaka. (2014). *Daftar Kata Bahasa Vaie-Bahasa Melayu* (A. Asmiah, W. Mohd Riduwan, & A. Shantrol, Eds.). Dewan Bahasa dan Pustaka.
- Dijk, J. A. G. M. (2017). Digital Divide: Impact of Access. In *The International Encyclopedia of Media Effects* (pp. 1–11). Wiley. <https://doi.org/10.1002/9781118783764.wbieme0043>
- Gani, A., & Clemes, M. D. (2006). Information and communications technology: A non-income influence on economic well being. *International Journal of Social Economics*, 33(9), 649–663. <https://doi.org/10.1108/03068290610683431>
- Hasan, N., Bao, Y., & Miah, S. J. (2022). Exploring the impact of ICT usage among indigenous people and their quality of life: operationalizing Sen’s capability approach. *Information Technology for Development*, 28(2), 230–250. <https://doi.org/10.1080/02681102.2021.1951150>
- Hidayat, S., Ghani, B. A. A., Giridharan, B., Hassan, M. Z., & Franco, F. M. (2018). Using ethnotaxonomy to assess traditonal knowledge and language vitality: A case study with the vaie people of Sarawak, Malaysia. *Ethnobiology Letters*, 9(2), 33–47. <https://doi.org/10.14237/ebl.9.2.2018.740>
- Horn, C., & Rennie, E. (2018). Digital access, choice and agency in remote Sarawak. *Telematics and Informatics*, 35(7), 1935–1948. <https://doi.org/10.1016/j.tele.2018.06.006>
- Kenny, C. (2002). Information and Communication Technologies for Direct Poverty Alleviation: Costs and Benefits. In *Development Policy Review* (Vol. 20, Issue 2). Overseas Development Institute. <http://www.idrc.ca/acacia/index.html>
- King, V. T. (1994). What is Brunei society? Reflections on a conceptual and ethnographic issue. *South East Asia Research*, 2(2), 176–198.
- Kripanont, N. (2007). *Examining a Technology Acceptance Model of Internet Usage by Academics within Thai Business Schools*.
- MCMC. (1998). *Malaysian Communications And Multimedia Commission (MCMC)*. <https://www.mcmc.gov.my/ms/about-us/history>

- Morni, M. H., Yuszaidy, M., & Yusoff, M. (2022). <https://seyboldreport.net/> THE DEATH RITUAL AND CUSTOMS OF THE MELANAU COMMUNITY IN SARAWAK (Vol. 17). <https://seyboldreport.net/>
- Morris, H. S. (1967). *Report on Melanau Sago Production Community in Sarawak*. Pejabat Perdana Menteri. (2019). *Wawasan Kemakmuran Bersama 2030*. <https://www.pmo.gov.my/ms/2019/10/wawasan-kemakmuran-bersama-2030-2/>
- Sabitha Marican. (2005). *Penyelidikan Sains Sosial: Pendekatan Pragmatik*. Prentice Hall Pearson Malaysia.
- Sein, M. K., Thapa, D., Hatakka, M., & Sæbø, Ø. (2019). A holistic perspective on the theoretical foundations for ICT4D research. *Information Technology for Development*, 25(1), 7–25. <https://doi.org/10.1080/02681102.2018.1503589>
- Shahrimin, M. I., & Butterworth, D. M. (2002). Young children's collaborative interactions in a multimedia computer environment. *The Internet and Higher Education*, 203–215.
- Shambare, R. (2014). The Adoption of WhatsApp: Breaking the Vicious Cycle of Technological Poverty in South Africa. In *Journal of Economics and Behavioral Studies* (Vol. 6, Issue 7). Straits Times. (2021). *Digital economy is the way forward*. <https://www.nst.com.my/news/nation/2021/12/755120/digital-economy-way-forward>
- UNESCO. (2017). *Culture: at the heart of SDGs*. <https://en.unesco.org/courier/april-june-2017/culture-heart-sdgs>
- Utusan Borneo Online. (2017). *Revolusi Industri 4.0 membina Sarawak baharu*. <https://www.utusanborneo.com.my/2017/12/22/revolusi-industri-40-membina-sarawak-baharu>
- Venkatesh, V., Smith, R. H., Morris, M. G., Davis, G. B., Davis, F. D., & Walton, S. M. (2003). *Quarterly USER ACCEPTANCE OF INFORMATION TECHNOLOGY: TOWARD A UNIFIED VIEW1*.
- Vygotsky, L. S., & Cole, M. (1978). Mind in Society: Development of Higher Psychological Processes. In *Harvard University Press*.
- Wan Jaafar, W. M. (2021). Integrasi Kaum melalui Jaringan Komuniti Atas Talian: Harapan atau Retorik? In A. Mohd Khir & N. Ahmad (Eds.), *Isu Pembangunan Merentasi Komuniti* (pp. 146–165). Universiti Putra Malaysia.
- Yunis, M., Tarhini, A., & Kassar, A. (2018). The role of ICT and innovation in enhancing organizational performance: The catalysing effect of corporate entrepreneurship. *Journal of Business Research*, 88, 344–356. <https://doi.org/10.1016/J.JBUSRES.2017.12.030>
- Ziemba, E. (2016). Factors Affecting the Adoption and Usage of ICTs within Polish Households. In *Interdisciplinary Journal of Information, Knowledge, and Management* (Vol. 11). <http://www.informingscience.org/Publications/3507>