



**INFORMATION AND COMMUNICATION TECHNOLOGY AND CULTURAL
IDENTITY PRESERVATION AMONG THE JAHUT COMMUNITY IN KUALA
KRAU, PAHANG, MALAYSIA**

By

CHOO YEONG KHONG

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of
Philosophy**

September 2023

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
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Chair : Professor Sarjit Singh a/l Darshan Singh, PhD
Faculty : Human Ecology

In this digital era, being a part of the digital society is inevitable, including among the indigenous people. Information and Communication Technology (ICT) has gradually evolved into a necessity for all members of society in this information era. The pervasiveness of ICT in almost every aspect of human life has significantly altered the way people communicate with one another. There have been an increasing number of studies in recent decades about indigenous people's adoption or non-adoption of ICT, but surprisingly only limited empirical studies addressing the role of ICT in preserving indigenous cultural identity, particularly in Malaysia. ICT is deemed a double-edged sword to the indigenous culture, as it has always been labelled as innovations which embedded with foreign values that eroded the local culture; on the other hand, it plays a significant role in enhancing the preservation of endangered indigenous culture. This is crucial to be explored as many indigenous communities in Malaysia are facing the threat of losing their cultural identity through various means such as being assimilated into mainstream society, can ICT be a beneficial instrument for cultural identity preservation to enhance the indigenous' cultural survival, or is it merely a rhetorical thought? A qualitative case study was employed to explore the ICT adoption and its influence on cultural identity preservation amongst the Jahut community in Kuala Krau, Pahang, Malaysia. Specifically, this study aimed to (i) to explore the current challenges faced by the Jahut community in cultural identity preservation, (ii) to describe the views of the Jahut community towards the compatibility of ICT adoption for cultural identity preservation, (iii) to examine the Jahut community's adoption of ICT for cultural identity preservation, and (iv) to examine the influences of ICT adoption on the Jahut community's cultural identity preservation. Eleven informants who participated in this study met the selection criteria and were recruited through purposive sampling technique. Data were collected through semi-structured interviews and non-participants observation. Thematic analysis is used to analyse the data of the study. Firstly, the findings of the study demonstrated that modernisation,

assimilation, leadership and community's attitudes are the main challenges for the cultural identity preservation among the Jahut community. Second, the findings showed that the Jahut community perceived that in-person cultural transmission cannot be displaced but viewed ICT as vital tools that could enhance their cultural identity preservation if being utilised effectively. Third, the findings revealed that despite expanding access to ICT and the growing use of them yet challenging to effectively use them for cultural identity preservation as there are some major factors hindering the adoption of ICT for cultural identity preservation among the Jahut community such as poverty, lack of ICT infrastructure, insufficient ICT skills and knowledge, and cultural taboos in the transmission of indigenous knowledge. Finally, the findings suggested that the influence of ICT adoption on cultural identity preservation including language revitalization, preservation of traditional knowledge and community building. This study is significant because it illuminates the social changes that have occurred among the indigenous communities, thereby contributing knowledge in the socio-cultural context to the field of community development, where the existing literature focuses primarily on economic development. The findings of the current study are in line with the Identity Process Theory, as the penetration of ICT in Jahut's everyday activities generates changes in Jahut long-practiced traditional lifestyle, they engage with ICT as coping methods in the face of societal change. The study also provides better understanding on the symbolic meaning of technology by exploring the ways in which ICT conveys a variety of meanings to the Jahut community in various settings of interaction. The community members who perceive ICT as a part of new culture that has been integrated with their tradition will adopt ICT as a mean for cultural identity preservation. In terms of practical implication, the findings of the study will be beneficial to policy makers, the community, researchers, and non-governmental organisation in their attempts to implement and manage ICT initiatives among the indigenous communities in Malaysia. It is hoped that this study will be valuable for assessing National Culture Policy, particularly those aimed at promoting ICT adoption and cultural preservation among citizens, without marginalising any ethnic groups and reducing the digital gap.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**TEKNOLOGI MAKLUMAT DAN KOMUNIKASI SERTA PEMELIHARAAN
IDENTITI BUDAYA DALAM KALANGAN KOMUNITI JAHUT DI KUALA
KRAU, PAHANG, MALAYSIA**

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Dalam era digital ini, menjadi sebahagian daripada masyarakat digital adalah tidak dapat dielakkan termasuk dalam kalangan Orang Asli. Teknologi Maklumat dan Komunikasi (ICT) berkembang secara beransur-ansur dan telah menjadi satu keperluan untuk semua anggota masyarakat dalam era maklumat ini. Penerapan ICT dalam hampir setiap aspek kehidupan manusia telah mengubah cara orang berkomunikasi antara satu sama lain dengan ketara. Beberapa dekad kebelakangan ini, terdapat peningkatan kajian tentang penerimgunaan ICT atau tidak dalam kalangan Orang Asli, tetapi yang menghairankan adalah hanya terdapat kajian empirikal yang terhad sahaja membincangkan peranan ICT dalam memelihara identiti budaya Orang Asli, khususnya di Malaysia. ICT disifatkan sebagai pedang bermata dua kepada budaya Orang Asli kerana ia sentiasa dilabelkan sebagai inovasi yang terbenam dengan nilai-nilai asing yang menghakis budaya tempatan; sebaliknya, ia memainkan peranan penting dalam mempertingkatkan pemeliharaan budaya Orang Asli yang terancam. Perkara ini penting untuk diterokai memandangkan ramai komuniti Orang Asli di Malaysia sedang menghadapi ancaman kehilangan identiti budaya mereka melalui pelbagai cara seperti diasimilasikan ke dalam masyarakat arus perdana, bolehkah ICT menjadi instrumen yang berfaedah untuk pemeliharaan budaya untuk meningkatkan kelangsungan budaya orang asli, atau ia sekadar pemikiran retorik? Kajian kes kualitatif telah digunakan untuk meneroka penerimgunaan ICT dan pengaruhnya terhadap pemeliharaan identiti budaya dalam kalangan masyarakat Jahut di Kuala Krau, Pahang, Malaysia. Secara khusus, kajian ini bertujuan untuk (i) meneroka cabaran semasa yang dihadapi oleh masyarakat Jahut dalam pemeliharaan identiti budaya, (ii) untuk menghuraikan pandangan masyarakat Jahut terhadap keserasian penerimgunaan ICT untuk pemeliharaan identiti budaya, (iii) untuk mengkaji penerimgunaan ICT masyarakat Jahut untuk pemeliharaan identiti budaya, dan (iv) untuk mengkaji pengaruh penerimgunaan ICT terhadap pemeliharaan identiti budaya masyarakat Jahut. Sebelas informan yang menyertai kajian ini memenuhi kriteria

pemilihan dan dipilih melalui teknik persampelan bertujuan. Data dikumpul melalui temu bual berstruktur separa dan pemerhatian tidak turut serta. Analisis tematik digunakan untuk menganalisis data kajian. Dapatan kajian pertama menunjukkan bahawa pemodenan, asimilasi, kepimpinan dan sikap komuniti Jahut merupakan cabaran utama bagi pemeliharaan identiti budaya dalam kalangan komuniti Jahut. Dapatan kajian kedua menunjukkan bahawa komuniti Jahut menganggap bahawa transmisi budaya secara bersemuka tidak boleh dialihkan tetapi melihat ICT sebagai alat penting yang boleh meningkatkan pemeliharaan identiti budaya mereka jika digunakan dengan berkesan. Dapatan kajian ketiga mendedahkan bahawa walaupun akses kepada ICT dan penggunaannya yang semakin meningkat, namun masih agak mencabar untuk menggunakannya secara berkesan untuk pemeliharaan identiti budaya kerana terdapat beberapa faktor utama yang menghalang penerimgunaan ICT untuk pemeliharaan identiti budaya dalam kalangan masyarakat Jahut seperti kemiskinan, kekurangan infrastruktur ICT, kemahiran dan pengetahuan ICT yang tidak mencukupi, dan pantang larang budaya dalam penyampaian pengetahuan Orang Asli. Dapatan kajian keempat mencadangkan bahawa pengaruh penerimgunaan ICT terhadap pemeliharaan identiti budaya termasuk pemulihan bahasa, pemeliharaan pengetahuan tradisional dan pembinaan komuniti. Kajian ini penting kerana ia menyoroti perubahan sosial yang berlaku dalam kalangan etnik minoriti pribumi, seterusnya menyumbang pengetahuan dalam konteks sosiobudaya kepada bidang pembangunan komuniti, di mana kajian lepas yang sedia ada hanya tertumpu terutamanya pada pembangunan ekonomi. Dapatan kajian ini adalah selari dengan Teori Proses Identiti, kerana penembusan ICT dalam aktiviti seharian Jahut mewujudkan perubahan dalam gaya hidup tradisional Jahut yang telah lama diamalkan, mereka menggunakan ICT sebagai kaedah menghadapi perubahan masyarakat. Kajian ini juga memberikan pemahaman yang lebih baik tentang makna simbolik teknologi dengan meneroka cara ICT menyampaikan pelbagai makna kepada masyarakat Jahut dalam pelbagai interaksi. Ahli komuniti yang menganggap ICT sebagai sebahagian daripada budaya baru yang telah diterapkan dengan tradisi mereka akan menggunakan ICT sebagai medium untuk pemeliharaan identiti budaya. Dari segi implikasi praktikal, dapatan kajian dapat memberi manfaat kepada penggubal dasar, komuniti, penyelidik dan pertubuhan bukan kerajaan dalam usaha mereka untuk melaksanakan dan menguruskan inisiatif ICT dalam kalangan masyarakat Orang Asli di Malaysia. Kajian ini diharapkan berguna untuk menilai semula Dasar Kebudayaan Negara, terutama untuk menggalakkan penerimgunaan ICT dan pemeliharaan budaya dalam kalangan rakyat, tanpa meminggirkan mana-mana kumpulan etnik dan sekali gus merapatkan jurang digital.

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LIST OF ABBREVIATIONS

EPF	Employees Provident Fund
GFIPIS	Global Forum of Indigenous Peoples and the Information Society
GIS	Geographic information System
ICT	Information and communication Technology
ICT4D	Information and Communication Technology for Development
JHEOA	Jabatan Hal Ehwal Orang Asli (Department of Orang Asli Affairs)
JAKOA	Jabatan Kemajuan Orang Asli (Department of Orang Asli Development)
KeTTHA	Kementerian Tenaga, Teknologi Hijau dan Air (Ministry of Energy, Green Technology and Water)
MOSTI	Ministry of Science, Technology and Innovation
MSC	Multimedia Super Corridor
SDGs	Sustainable Development Goals
UNESCO	United Nations Organization for Education, Science and Culture

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

There are approximately 350 million indigenous people living in over 70 nations across six continents, making up about 5% of the global population and speaking over 5000 languages and cultures (UNESCO, 2015). Indigenous communities have a long and complex history of cultural identity preservation, which is deeply intertwined with their histories, traditions, and ways of life (Ford et al., 2020). Cultural identity encompasses a wide range of elements, including language, traditions, spirituality, gender, and knowledge systems, and plays a vital role in the social, economic, and political wellbeing of indigenous communities (Chiriboga, 2006; Fiedeldey-Van Dijk, 2019; Hall, 1990). In this digital era, being a part of the digital society is inevitable, including among the indigenous people. Information and Communication Technology (ICT) is deemed to be a necessity in human daily lives in this information era (Menon & Fink, 2019). The pervasiveness of ICT in almost every aspect of human life has significantly altered the way people communicate with one another (Aclar, 2011; Roztocki et al., 2019).

The dynamic nature of ICT has a tremendous impact on society, spawning a slew of inventions that promote greater development and social transformation (Baek & Lee, 2021; Hassan, 2008). Malaysia's government acknowledges the importance of ICT growth and has committed to encouraging wider adoption of ICT among citizens in both urban and rural areas (Kamarudin et al., 2019). Nonetheless, it has been observed that most of the Orang Asli communities who mainly populated in rural and suburban areas are digitally underprivileged as compared to other mainstream societies (Bala & Tan, 2021; Hashim et al, 2012). Hitherto various policies and programmes have been implemented to bridge the digital divide exist between different ethnic groups, as well as between rural and urban areas.

One of the recent national ICT development plans is the implementation of an RM21.6-billion National Fiberisation and Connectivity Plan (2019-2023) that aims to provide equal access to the Internet for both the urban and rural population in the effort to minimise the digital divide (Malaysia Administrative Modernisation and Management Planning Unit, 2019). The government believed that the NFCP can benefits those who may otherwise not have the opportunity to participate in the digital economy, such as farmers, fishermen and the Orang Asli communities (Ministry of Communications and Multimedia Malaysia, 2019). The Twelfth Malaysia Plan (2021-2025) also shows the government's determination to improve the accessibility to digital devices among the students and disadvantaged groups, as part of its efforts to bridge the digital divide. The implementation of the *Pelan Jalanan Digital Negara* (JENDELA) will enhance

digital connectivity and achieve full 4G coverage in populated areas, as well as enable 100% households' subscription to the internet (Economic Planning Unit Malaysia, 2021).

Despite the existence of a digital divide, Orang Asli communities are increasingly becoming aware of and engaged in various modern technologies (Gill et al., 2018). The widespread use of ICT in today's multiracial and multicultural society facilitates interconnectedness and intercultural adaptation (Sawyer et al., 2012). The advent of the digital era has brought with it new challenges to the preservation of indigenous cultural identity, as the rapid pace of technological change has had a profound impact on the ways in which cultural knowledge and practices are transmitted and maintained (Burri, 2010). This has sparked numerous debates about how ICT can be a double-edged sword in terms of cultural preservation. Embong (2011) suggested that ICT can help to promote globalisation's homogenising trends while also preserving and strengthening local identities.

The digital world, which is enriched with text, images, audio, and video files, is seen to complement indigenous people's strengths in art, music, and oral knowledge transmission (Dyson & Underwood, 2006). There have been an increasing number of studies in recent decades about indigenous people's adoption or non-adoption of ICT (Du, 2017). Some scholars have expressed concern that ICT, which is imbued with alien values, is gradually eroding local cultural values, whereas others believe that ICT has enormous potential for enriching local cultural values through positive foreign influences (Ekeanyanwu, 2010). Therefore, while bridging the digital divide, the Orang Asli's adoption of ICT and its influence on their cultural identity preservation requires more serious attention.

1.2 Sustainable Development Goals and Indigenous People

The Sustainable Development Goals (SDGs), established by the United Nations in 2015, consist of 17 global objectives aimed at addressing diverse social, economic, and environmental challenges (Halkos & Gkampoura, 2021). An essential principle of the SDGs is the commitment to inclusivity and equality, emphasising the importance of leaving no one behind in the pursuit of sustainable development (Dugarova & Gulasan, 2017). The goal of reducing inequalities seeks to address disparities within and among countries. Given the historical and ongoing marginalisation faced by many indigenous peoples, addressing these inequalities is vital for achieving sustainable development that benefits everyone (Ford et al., 2020).

Despite constituting around 6% of the global population, indigenous peoples officially or traditionally oversee at least 25% of the Earth's land surface (Garnett et al., 2018). Therefore, securing land rights for indigenous communities is crucial for their sustainable livelihoods, contributing to environmental

conservation and poverty eradication. This can be achieved by promoting inclusive and equitable quality education. Eduardo and Gabriel (2021) propose that recognising and respecting indigenous languages and traditional education systems contribute to cultural diversity preservation, ensuring that education is culturally relevant and inclusive.

Indigenous peoples often maintain intricate relationships with their environment, shaped by centuries of harmonious coexistence with nature (Estrada et al., 2022). Their cultures, languages, and traditional practices are deeply intertwined with the ecosystems they inhabit (Jerez, 2021). Recognising and respecting the cultural rights of indigenous peoples is crucial for the global success of conservation and sustainable development initiatives related to the SDGs (Kennedy et al., 2023). Indigenous communities possess valuable traditional knowledge about sustainable resource management, biodiversity conservation, and climate adaptation (Dawson et al., 2021). Incorporating this knowledge into sustainable development strategies can enhance the effectiveness of initiatives addressing hunger, malnutrition, and poverty (Imoro et al., 2021).

As indigenous peoples are often on the frontline of climate change impacts, integrating their knowledge and practices is essential for sustainable land use, natural resource management, and resilience-building in the face of climate-related challenges (Ford et al., 2020; Garai et al., 2022). These perspectives encompass various life aspects, including spiritual, physical, social, and environmental dimensions (Odulaja & Halseth, 2018). Indigenous healing practices, rooted in traditional knowledge of medicinal plants and holistic health approaches, can complement conventional healthcare systems, contributing to improved community well-being (Marques et al., 2021).

In essence, recognising and respecting the cultural rights of indigenous peoples is not only a matter of justice but also a strategic imperative for achieving the Sustainable Development Goals. Their unique perspectives and traditional practices offer valuable insights that can enrich and fortify global efforts towards a more sustainable and inclusive future.

1.3 Orang Asli Communities in Malaysia

In general, ethnic minorities refers to ethnic groups which have smaller population compared to other ethnic populations. However, Simpson and Yinger (1985) indicated that the term minority is more an analytical category and refers to social stratification and inequality rather than group size. When an ethnic group was positioned with unequal treatment or being discriminated without being able to counteract it becomes a minority (Natalija, 2003). Feagin (1984) identifies the following characteristics of a minority group: 1) distinguishing physical and/or cultural characteristics that are disapproved by the majority; 2) being subjected to prejudice and subjugation; 3) having a strong sense of group identity and bearing shared responsibilities; 4) having widely accepted norms

regarding membership and exclusion; and 5) having a strong preference for marrying within the group.

The Orang Asli communities are the ethnic minorities in Malaysia. They are known as the “original people” or the indigenous people in Peninsular Malaysia (Gomes, 2004). The Orang Asli community account only about 206,777 or 0.5% of the total population of Malaysia. According to Act 134 under Article 3(1), the Orang Asli are defined as:

- (a) any person whose male parent is or was a member of an aboriginal ethnic group, who speaks an aboriginal language and habitually follows an aboriginal way of life and aboriginal customs and beliefs, and includes a descendant through males of such persons; (b) any person of any race adopted when an infant by aborigines who has been brought up as an aborigine, habitually speaks an aboriginal language, habitually follows an aboriginal way of life and aboriginal customs and beliefs and is a member of an aboriginal community; or (c) the child of any union between an aboriginal female and a male of another race, provided that the child habitually speaks an aboriginal language, habitually follows an aboriginal way of life and aboriginal customs and beliefs and remains a member of an aboriginal community (Act 134, Aboriginal Peoples Act 1954, p. 6).

Table 1.1: The Orang Asli Population according to Sub-ethnic, Malaysia

Senoi	Proto-Malay	Negrito
Semai (60,438)	Jakun (39,562)	Jahai (2,893)
Temiar (36,759)	Temuan (33,087)	Bateq (1,847)
Jahut (6,383)	Semelai (7,430)	Mendriq (486)
Semoq Beri (5,858)	Orang Kuala (4,818)	Lanoh (397)
Mah Meri (3,939)	Orang Seletar (1,782)	Kensiu (276)
Che Wong (533)	Kanaq (105)	Kintak (184)

[Source: JAKOA (2020)]

There are 18 distinct sub-ethnic groups within the Orang Asli population. During the British colonial era, they were divided into three groups on a national scale to aid the administration (Edo, 2006). The Orang Asli communities are classified into the Senoi, Proto-Malay, and Negrito categories, respectively, based on the languages and cultural practises they share (refer Table 1.1). There are 6 ethnic groups in the Senoi group, namely Che Wong, Mah Meri, Jahut, Semoq Beri, Semai and Temiar, while the Proto-Malay group consist of Temuan, Semelai, Jakun, Kanaq, Kuala, and Seletar. Meanwhile, the Negrito group consists of Jahai, Bateq, Mendriq, Lanoh, Kensiu and Kintak.

According to Table 1.2, Senoi group is the largest Orang Asli category in Malaysia with 113,910 population, or 55.09% of the total Orang Asli population, followed by the Proto-Malay and Negrito group. There are eleven states in Peninsular Malaysia but only nine of them are mainly resided by the Orang Asli

communities, excluding Perlis and Penang. The Pahang state has the highest Orang Asli population followed by Perak state while Kedah has the lowest population of Orang Asli (JAKOA, 2020).

Table 1.2: The Orang Asli Population according to Sub-ethnic and States, Malaysia

States	Senoi	Proto-Malay	Negrito	Total
Johor	46	15,562	0	15,608
Kedah	29	10	271	310
Kelantan	14,774	47	1,825	16,646
Melaka	19	1,728	0	1,747
Negeri Sembilan	91	11,925	1	12,017
Pahang	35,654	41,644	1,127	78,425
Perak	57,120	627	2,818	60,565
Selangor	5,297	15,156	3	20,456
Terengganu	880	85	38	1,003
Total	113,910	86,784	6,083	206,777
Percentage	55.09%	41.97%	2.94%	100%

[Source: JAKOA (2020)]

Each group is residing in various woodlands, hills, rural areas, and sites near the shore or estuary of a stream. The Negrito group live in the area surrounding the Titiwangsa Range (the chain of mountains that forms the backbone of the Peninsular Malaysia), which is mostly centered on the northern side of the Peninsular Malaysia, whereas the Senoi people concentrated in the interior of the states of Pahang, Perak, and Kelantan (refer Figure 1.1). The Proto-Malay people originally inhabited coastal, estuarine and valley regions, now they have their own village area.



Figure 1.1: Map of the Orang Asli Tribe Settlements in Peninsular Malaysia
[Adapted from Dentan, Endicott, Gomes and Hooker (1997)]

There were two main categories based on language distinctions. Each group has its own distinct language; the first speaks an Aslian tongue, while the second speaks an Aboriginal Malay language. In addition, many members of the Orang Asli community have mastered Malay language, the country's national language. The Orang Asli communities historically practise a form of animism in which they attribute spiritual agency to inanimate objects. In the modern era, however, many of them have converted to monotheistic faiths like Islam and Christianity.

1.4 Statement of the Problem

The impact of advancements in ICT on society is significant and unprecedented, and it differs among individuals, income and age groups, rural and urban settings, economic sectors, and regions (Lee et al., 2018; Maiti & Awasthi, 2020). While ICT holds significant potential to enhance the well-being of communities, there are limited studies of community development centred around ICT and marginalised groups, such as the indigenous communities (Lupien, 2020; Ortiz et al., 2019; Rony et al., 2022). The successful integration of ICT for development hinges on crucial factors such as forming collaborative partnerships, implementing social network strategies, and fostering the creation of social capital at the local level (Harris, 2001; Marshall & Taylor, 2005). ICT is widely seen as a crucial tool for tackling several challenges faced in rural areas, such as limited access to information, poor communication channels, and a sense of emotional detachment (Ye et al., 2021). Over the recent decades, a significant number of rural residents, particularly in developing nations, have resided in traditional, comparatively secluded, and less developed communities (Tim et al., 2018). ICTs are widely regarded as a valuable and promising instrument for facilitating connectivity among rural communities and empowering individuals residing in these areas to enhance their economic prospects, achieve equitable distribution of resources, and enhance their overall social welfare (Schuetz & Venkatesh, 2020). However, limited studies exist on the adoption of technology and the accessibility of technology among indigenous communities (Rony et al., 2022). The Geneva Declaration of the Global Forum of Indigenous Peoples and the Information Society (GFIPIS) stated that:

Information and Communication Technology (ICT) should be used to support and encourage cultural diversity and to preserve and promote the language, distinct identities and traditional knowledge of Indigenous peoples, nations and tribes in a manner which they determine best advances these goals. The evolution of the information and communication societies must be founded on the respect and promotion of the rights of Indigenous peoples, nations and tribes and our distinctive and diverse cultures, as outlined in international conventions. We have fundamental and collective rights to protect, preserve and strengthen our own languages, cultures and identities (GFIPIS, 2003, p. 2).

The noble objective of advancing indigenous rights prompts a reflection on the extent to which the respective authorities have earnestly addressed this crucial

goal. The reality is that the disadvantages and marginalisation of indigenous people are extensively documented (Singleton, 2013). In fact, indigenous peoples throughout the world have often seen their languages and cultures disregarded or suppressed (De Varennes & Kuzborska, 2016). According to Figueroa (2011), the erosion of language poses a significant danger to the sustainability of indigenous culture, paving the way for a distinct and unequivocal shift toward cultural assimilation. The influence of colonisation and efforts to assimilate indigenous communities into mainstream society had far-reaching effects on various facets of indigenous life (Hibbard, 2022; Jan & Lomeli, 2022). This encompassed health, traditional roles, culture, socio-economic conditions and access to services. As a result, contemporary indigenous communities often face disparities in health, the erosion of cultural traditions and practices, and disruptions to the family structure (MacDonald & Steenbeek, 2015). Furthermore, the authenticity of the indigenous cultural identity is at risk of being eroded and forgotten due to globalisation and commercialisation, which have diluted the original cultural expressions. The inability of indigenous communities to take action against commercial performances that may not accurately delineate their original culture and values further exacerbates this issue (Azmi et al., 2015; Graber et al., 2012).

In the context of preserving cultural identity, ICT have been viewed as a double-edged sword in terms of cultural identity preservation. Mustafa (2006) noted that our world is currently experiencing an identity crisis since we are living in an era of globalisation, and the process of constructing an identity has grown increasingly complex as a result of the rapid advancements of ICT. These concerns stemmed from the notion that ICT might be ingrained with the values of the society that generated them (Dyson, 2004). Resta (2011) raised the issue that technologies may have unforeseen consequences to the indigenous communities because ICT may be utilised as a mean to intensify and accelerate the dominance of Western-based modes of thought, culture and learning strategies which have resulted in massive and continuous exposure of the indigenous community to non-indigenous cultural values and information, with few opportunities for reinforcement of their own cultural heritage and language. Therefore, the adoption of new technologies may inadvertently subject local indigenous cultural identity to the influence of unsuitable alien values, resembling a modern form of cultural imperialism (Resta, 2011). The positive influence of adopting ICT on the preservation of cultural identity among indigenous communities is now subject to speculation.

Even if critics held the diffusion of ICT, previous studies stated that numerous indigenous communities have increasingly adopted and expressed eagerness to incorporate digital technologies (Li & Brar, 2022). Lieberman (2003) argued that although ICT causes inevitable clashes with local traditions, however, it can be used to preserve, promote, and strengthen the indigenous culture. This is supported by Michael and Dunn (2006) who indicated that the potential uses of ICT in key areas is fundamental to the continuing presence of the culture. Similarly, Wamalwa and Oluoch (2013) highlighted the significant role of ICT in preservation of endangered languages. Despite there is a growing body of research investigating online communities, there remains a scarcity of studies

that specifically focus on the implications of ICT on ethnic minorities' cultural identity (Anarbaeva, 2016; Chen et al., 2023; Ortiz, 2023).

Numerous ethnic minorities in Malaysia are facing the threat of losing their cultural identity through various means of assimilation into the mainstream society (Gill et al., 2015; Ismail et al., 2015; Lasimbang, 2004; Lee, 2011; Madlan et al., 2014; Masron et al., 2013). Specifically, the Orang Asli communities, as one of these ethnic minorities, confront the looming threat of cultural identity erosion through the process of assimilation (Aiken & Leigh, 2011; Dentan et al., 1997; Gomes, 2004; Nicholas, 2000). The indigenous communities' languages are in peril of extinction due to migration, attitudinal, educational, social, and economic factors (Ali, 2010). Benjamin (2012) indicated that some Aslian languages are in imminent danger of extinction, while the survival of others is unforeseen, although they may seem to be currently viable. Many significant challenges confronted by Orang Asli communities have consistently been disregarded for political and cultural reasons (Hashim et al., 2012). The political, social, and cultural rights of these minorities continue to receive limited attention (Pietsch & Clark, 2014).

Most of the literature on rural development predominantly centres around ethnolinguistic communities that are relatively uniform, residing in peri-urban and middle-rural regions (Van Gevelt, 2017). Many indigenous communities who often situated in remote areas, stand out as some of the most marginalised groups in the developing world, have been suffering disadvantages in several domains such as erosion of land rights, language and other cultural aspects (Ashraf et al., 2015). Similarly, the Orang Asli communities in Malaysia, predominantly residing in remote areas, leading to a significant digital divide among them (Gill et al., 2009). Addressing this digital divide is crucial before effectively utilising ICT to preserve the cultural identity of these indigenous communities. Despite this urgency, there is a noticeable lack of studies focusing on ICT adoption for cultural identity preservation among ethnic minority groups in Malaysia (Gill et al., 2016; Khong, 2015).

In addition, there is a notable lack of both theoretical and empirical research addressing the connection between indigenous communities and rural development (Van Gevelt, 2017). The conceptual frameworks commonly employed in ICT literature often emphasize the adoption and diffusion of technologies rather than exploring how the adoption of ICT influences the livelihoods of the users (Ashraf et al., 2015). Research gaps persist, underscoring the necessity for more targeted, culturally specific, and community-centred investigations in the field of community development. As posited by Sen (2000), the individuals directly engaged in the matter should be afforded the chance to partake in the decision-making process, rather than leaving the choices in the hands of local elites, whether political or religious, or cultural experts, be they domestic or foreign. According to Palvia et al. (2018), the influence of ICT on socio-economic development has not been thoroughly examined when considering the views of the ultimate stakeholders, namely, the

end users or consumers of the technology. A more focused approach, particularly concerning the viewpoints of the indigenous communities towards ICT adoption for the preservation of cultural identity, is imperative. Addressing these gaps in research would contribute to a more profound and nuanced comprehension of the underlying dynamics, enabling more effective support for indigenous communities in preserving their cultural identity in the digital era.

In the context of this study, the Jahut community, one of the sub-ethnic groups of Orang Asli communities in Peninsular Malaysia, has embraced modernity and are exposed to the outside world in recent decades (Teoh, 1986). The Jahut community learn to speak other languages so they would not deviate from the current globalisation trend (Adam et al., 2018). Although the Jahut children have grown up with the knowledge of their traditions, but these traditions are fast disappearing and are now threatened by the encroachment of modernity (Teoh, 1986). This is in line with a study by Ghani et al. (2020), who found that the Jahut tribe's culture, customs, and distinct taboos are fading as a result of modernisation and globalisation. Adam et al. (2018) argued that the extensive exposure of the Jahut community to mass media has accelerated the process of assimilation into dominant Malay language and culture which faded the practice of Jahut language and culture that may cause the extinction of Jahut cultural identity. The Jahut language is now a severely endangered language (UNESCO, 2007). However, the extent to which this issue has been addressed by respective authorities remains uncertain. Previous studies concerning the Jahut community have mainly focuses on myth (Diffloth, 1976; Holaday, 2003; Teoh, 1986), wood carving (Couillard, 1980), art and culture (Werner, 1975), language (Yusop & Adam, 2018), remoteness on culture and socio-economic (Ghani et al., 2020). Yet, there is a noticeable dearth of studies addressing the influence of ICT on the preservation of cultural identity within the Jahut community.

Apparently, the cultural implications of ICT as well as the cultural roles of ICT are not well recognised, especially among marginalised ethno-cultures and indigenous peoples (Dolezal, 2013). Despite critics on negative impacts of ICT on indigenous culture, yet many scholarly arguments indicated that ICT could enhance cultural preservation among the indigenous communities (Castleton, 2018; Chai-Arayalert et al., 2021; Harris & Harris, 2011; Kimutai et al., 2014; Lieberman, 2003; Michael & Dunn, 2006; Ngcobo & Obono, 2013; Oppenneer, 2011). While this divergence among scholars persists, this study is essential as it aims to provide empirical evidence to explore ICT adoption and its influence on cultural identity preservation amongst Jahut community. This study is guided by four research questions:

1.5 Research Questions

1. What are the current challenges faced by the Jahut community in cultural identity preservation?

2. What are the Jahut community's views towards the compatibility of ICT adoption for cultural identity preservation?
3. How is the Jahut community's adoption of ICT for cultural identity preservation?
4. What are the influences of ICT adoption on the Jahut community's cultural identity preservation?

1.6 Research Objectives

General Objectives

The general objective of this study aims to holistically examine the influences of ICT adoption on the cultural identity preservation, with a focus on understanding the current identity challenges, community views and ICT adoption among the Jahut community.

Specific Objectives

1. To explore the current challenges faced by the Jahut community in cultural identity preservation.
2. To describe the views of the Jahut community towards the compatibility of ICT adoption for cultural identity preservation.
3. To examine the Jahut community's adoption of ICT for cultural identity preservation.
4. To examine the influences of ICT adoption on the Jahut community's cultural identity preservation.

1.7 Significance of the Study

ICT has emerged as one of the most influential forces shaping modern society. In fact, unlike developing countries, where adoption of ICT is still relatively low, many developed countries have recognised the relevance and values of embracing such technologies and are using it efficiently for developmental purposes. At present, the scope of ICT adoption in Malaysia focuses on the indigenous people are still under-researched. Therefore, this research is particularly important in providing a better understanding to help policy makers and practitioners in supporting an inclusive ICT development in Malaysia. The findings from this research will be beneficial not only to individual but to the indigenous communities as a whole. In other words, the present research will contribute significantly to the individual level, community level and the national level.

Adoption of ICT facilitates the execution of tasks with greater efficiency and effectiveness. If the individual employed the findings of this study by designing efficient ways to maximise ICT utilisation, it is believed that they would adopt ICT

more frequently in their daily lives. Adopting ICT is obviously advantageous in terms of saving time and money, as it enables the adopter to access information and knowledge on a global scale for free, allowing them to increase their knowledge and work more efficiently, effectively, and productively in order to enhance their quality of life.

Technologies will facilitate changes in the learning process and daily lives. In spite of the fact that ICT is associated with a variety of negative effects, it is obvious that ICT may enhance the quality of life by increasing productivity. While ICT have been criticised as a factor in the erosion of ethnic cultures in the globalisation era, they can have positive effects on cultural identity preservation if used appropriately, providing them with better educational opportunities and more avenues for publicising and preserving their traditions. To better preserve their culture and introduce it to other communities, for example, the Internet can be used to host well-designed multimedia or webpages. As a result of the proliferation of social networking sites, members of formerly isolated communities are now better able to connect with one another and find the resources they need to tackle the challenges they face on a daily basis. The findings of this study can serve as a source of encouragement and guidance for indigenous communities as they seek to find the best ways to use ICT into their efforts to maintain a cultural identity in the globalised modern world.

As stated previously, it is of national significance to optimise the adoption of ICT to promote national development in order to realise Vision 2020, Shared Prosperity Vision 2030, and National Transformation 2050. Almost every Malaysia National Plans in the past decades, government has placed much emphasis to motivate ICT adoption among the citizens to facilitate Malaysia's participation in the emerging networked global environment (Awang, 2004). It is vital for all citizens to utilise ICT in order to meet the challenges posed by globalisation. The findings of this study will provide crucial information for elucidating the factors that motivate and inhibit ICT adoption among indigenous populations. In addition, policymakers, the community, researchers, and non-governmental organisations will find the research findings useful in their efforts to develop and manage ICT programmes among Malaysia's indigenous communities. Consequently, it is anticipated that this research will be valuable for assessing National Policies, particularly the policies to promote ICT adoption in preserving cultural identity among citizens, without marginalizing any ethnic groups and minimizing the digital gap.

1.8 Theoretical Perspectives

It is important to discuss the theories or models that will help to better understand the adoption of ICT and its influence on the Jahut's cultural identity in this research. The researcher discusses one of the theories which is relevant to this study, namely the Identity Process Theory. The rationale of choosing the Identity Process Theory as one of the theoretical perspectives because the researcher considered it is a dynamic and integrative theory that conceptualizes social

change as fundamental to individual experience. The integration of digital technologies in for the indigenous people's daily lives is seen as a significant social change (Elliott, 2020). Jaspal and Breakwell (2014) describe the structure of one's identity and explains how individuals cope with identity threats, or changes, arising from their social environment.

The idea that an individual's personal or social identity might be challenged by a thought, action, or experience is what Breakwell (1983) refers to as an identity threat. Identity threat, or social change, is thus conceptualized in Identity Process Theory as an essential component of human life. Jaspal and Breakwell (2014) suggested that when there is a threat, the individual engages in specific coping strategies and will seek to remove or modify the threat to identity, restoring a sense of balance in the identity principles. This definition is more all-encompassing than the others because it takes into consideration both personal and social identities. The theory makes predictions based on reactions to social change and its effect on an individual's shifting identity. As the penetration of ICT in Orang Asli's everyday activities generates changes in their long-practiced traditional lifestyle, this theory is relevant and important to better understanding the Orang Asli's reaction and how they engage with ICT as coping methods in the face of societal change.

Apart from Identity Process Theory, the researcher adopts the perspectives of symbolic interactionism. It focuses on how individuals come to comprehend their environment. An essential tenet of symbolic interactionism, as outlined by Mead's (1934) foundational work, is that individuals interpret social events rather than merely respond to them. In symbolic interactionism, the significance of symbol and action is emphasised. A symbol with a learnt and represented meaning in the circumstance is interpreted as the stimulus, and action relates to doing and reacting (Aakhus et al., 2014). In the context of this study, a good illustration of this is the potential impact of culturally specific meanings connected to ICT (symbols) on how members of the Jahut community perceives and uses ICT for cultural identity preservation (action).

1.9 Definition of Concepts

After understanding the existing concepts from the past studies, several concepts relevant to this study need to be defined from the researcher's own interpretation. These concepts are Information and Communication Technology (ICT), adoption and cultural identity.

Information and Communication Technology (ICT): UNESCO (2007) which indicated that "ICT as forms of technology that are used to transmit, process, store, create, display, share or exchange information by electronic means. This broad definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, and computer and network hardware and software, as well as the equipment and

services associated with these technologies, such as videoconferencing, e-mail and blogs". Operationally, ICT in this study referred to radio, television, computer, laptop, tablet, mobile phone and Internet.

Adoption: Adoption refers to the choice to acquire and use an invention or innovation (Hall, 2002). ICT adoption can be defined as "the choice an individual makes to accept or reject a particular innovation and the extent to which that innovation is integrated into the appropriate context." (Corrales & Westhoff, 2006). ICT adoption in this study referred to the ownership and use of ICT among the Jahut community of Pahang.

Cultural Identity: Cultural identity comprises values, beliefs, behavior, languages and material culture (King, 2016). In this study, the influence on cultural identity referred to positive or negative consequences of ICT adoption on cultural identity of the Jahut community through their adoption of ICT.

1.10 Organisation of the Thesis

This thesis is divided and organised into six chapters: (1) Introduction, (2) Literature review, (3) Background of the Jahut Community, (4) Methodology, (5) Research Findings and Discussions and (6) Summary and Conclusion. The first chapter provided a brief introduction of the study and the research problems to be discussed in the study. It also clarifies research questions/objectives and some related terminologies used as a guide throughout the study. The second further explored and reviewed the existing literature related to the adoption of ICT and its influences on cultural identity of the Jahut community. The interdisciplinary concepts are discussed to obtain a better understanding of the influence of ICT adoption on indigenous cultural identity throughout the study. Chapter 3 provides an overview of the background of the Jahut community. Meanwhile, Chapter 4 describes the overview of the methodology and research design to be utilised in conducting this research. It discusses the research approach, methods, data collection techniques, study location, population and sample, sampling technique, the research instrument development and data analysis. Chapter 5 presents and discusses in detail the research findings obtained from the empirical study. Chapter 6 provides an overall summary of the study which included research implications and suggested some recommendations for future studies.

1.11 Summary

The first chapter covers an introduction to the research and has presented the research questions that will be answered during the research. It has highlighted the objectives of the study which aims to address the issue encountered. During the background research, it was discovered that there is a pressing requirement for further investigation into the influence of ICT adoption on cultural identity

preservation within the Jahut community. The study's importance and relevance to the parties involved in Malaysia were emphasised, and its structure was briefly described, including the contents of each chapter. It is expected that the research findings will aid in enhancing the Jahut community's adoption of ICT for cultural identity preservation.



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