Article

Digital Divide: An Inquiry on the Native Communities of Sabah

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Abstract: ICT development has become the development pulse of the global nation. Malaysia, as a developing nation, has invested heavily in ICT development across the country to ensure no one is left behind. The policymakers have also claimed a positive result in closing the digital gap among their people. In this study, Van Dijk's theory of digital divide is explored on the four dimensions of digital divide (motivation, physical, skill, and usage) among the native people in Sabah. A focus group discussion (FGD) was conducted among 21 key informants from seven different ethnic groups to identify the issues of ICT development in their community. The findings showed that the existence of a digital gap between the rural and the urban area community caused the community to be saddled with the connection to telecommunication service, including landline and internet. Despite lacking, the native community were receptive and willing to adopt the ICT positively for their daily activities. While the theory of digital divide observes that the physical access divide is narrowing in most developed nations, this study shows that is not the case for developing countries, such as Malaysia. The inequality in digital access is prevalent among the natives in Sabah, which could result in the opportunity to participate in important democratic decision-making.

Keywords: digital divide; native groups of Sabah; motivation; physical divide; skill; usage

1. Introduction

The era of globalisation has further accelerated through the advancement of telecommunication and transportation technology. Globalisation began with the introduction of steam and waterpower during Industry 1.0. The rise of the internet in the 1970s then connected countries all over the world, making citizens' lives more seamless. As the world has become more connected through the internet, the digital divide has grown wider over time.

Despite the internet's rapid growth over the last five years, the International Telecommunication Union (ITU) in 2020 [1] reported that half of the world's population, 3.7 billion people, still do not have access to it. In terms of the technological gap, global citizens have been largely divided between developed and developing countries.

Theoretically, this study adopted Van Dijk's theory of resources and appropriation to explore the digital divide issues among the native groups in Sabah. There are four core arguments for the theory that were highlighted by Van Dijk. Firstly, this theory encapsulates inequalities in an individual's position and background, resulting in inequalities in resources. Secondly, inequalities in resource distribution result in inequalities in digital technology access. Thirdly, the inequality of digital technologies depends on the characteristics of the technologies. Fourthly, all of this leads to access disparities and, ultimately, disparities in individual participation in society [2]. Finally, disparities in participation amplify categorical inequalities in an individual's and resources' distribution.

This theory was widely used in digital divide research and established the fact that the physical divide is closing in most developed countries. While this phenomenon is

relevant in developed countries, it is not relevant in developing countries, such as Malaysia. Based on the theory [2], physical access in developing countries is still unresolved and expanding. When the concept of the digital divide was first introduced, the majority of research focused on physical access. Researchers have requested that the study be expanded to look at different perspectives of social, psychological, and cultural backgrounds.

With reference to the gaps mentioned, this study explores the digital divide issues that happen among the native groups of Sabah despite the government claiming to have increased internet penetration. In this study, four dimensions of Van Dijk's theory of successive access to ICT will be investigated: motivational access, physical access, skill and usage access. As technology advances, focusing solely on physical access is too superficial to reflect on the digital divide, which has exacerbated into a deeper level of inequality in skills and usage [3]. This qualitative exploration can delve deeper into the issue of digital divides and understand motivational access in the local and cultural context of Sabah's native groups.

Malaysia, like any other developed and developing country, has also manoeuvred itself to be competitive on the global stage in pursuing Industry 4.0. This can be spelled out through various government initiatives and funding allocations in developing the digital community. In each Malaysian plan, the ICT development programmes were significantly highlighted. The 2021 budget has also allocated RM9.4 billion to develop the national digital strategy across industry sectors and people [4]. The Malaysian Communications and Multimedia Commission (MCMC) has also established the PRIHATIN network programme, which cost 1.5 billion MYR to benefit 8 million people in the B40 group. The MCMC is also allocating 7.4 billion MYR for 2021 and 2022 to expand broadband services in rural areas [5].

In Sabah, the state government has unveiled a new Sabah ICT Blueprint, with the goal of fully digitising the state by 2025. It was also reported that the former Deputy Prime Minister had made a massive 21 billion MYR allocation for the National Fiberisation and Connectivity Plan (2019–2023) [6]. These clearly demonstrated that both the state and federal governments are serious about bridging the digital divide in Sabah, despite statistics indicating that 91.7 percent of the household population has Internet access [7].

This research is critical in order to explore the issues of digital divide and ICT adoption of the native people in Sabah. Despite being the second largest state and having the second highest population in Malaysia, Sabah is classified as one of the poorest states in Malaysia [8]. According to reports, approximately 1.6 million people live in Sabah's rural areas, with 5.3 percent classified as "poor," the highest in Malaysia's rural areas.

The indigenous groups in Malaysia, also known as the Orang Asli, have frequently been perceived by the government as being anti-development due to their differing values and perspectives on development [9]. In Sabah, the federal government appears to be using the development chip as a bargaining and negotiating chip in order to gain political support from the grassroots [10].

During the mid-1990s, the convergence of the communications and multimedia industries grew exponentially, necessitating the establishment of new media policies and regulations. This resulted in the establishment of the Malaysian Communications and Multimedia Commission, which acts as a regulatory body to establish a competitive, efficient, and increasingly self-regulating communications and multimedia industry, generating growth to meet Malaysia's economic and social needs. To date, MCMC has established 364 Community Wi-Fi hotspots and 111 Internet Centers in Sabah (MyComms Website). However, how effective is Sabah's implementation of ICT development? Are the native peoples of Sabah accepting the government's ICT development programs? Is the digital divide still present, despite numerous implementations? What are the native people of Sabah's motivations for adopting ICT?

2. Digital Divide

The Fourth Industrial Revolution (or Industry 4.0) is a new globalisation trend that has been widely publicised by various stakeholders, government agencies, conferences, and even social media. Industry 4.0 will have a massive impact on the human ecosystem, particularly on our daily lives, including communication, job employment, education, and the economic sector [11]. The global impact of the industrial revolution resulted in a widening chasm [3]. The digital divide is no longer about who has or does not have access; it extends beyond physical access.

The digital divide was coined in the 1990s after it was discovered that there were differences between people who had and did not have access to ICT. This concept, known as "the digital divide," became a mainstream concept following the 1995 report, "Falling Through the Net," which discussed unequal access to emerging ICTs within and between countries [12]. Initially, the term "digital divide" referred to disparities in computer access. The focus then shifts to gaps in Internet access as the Internet precedes and emerges as an important tool for human civilization. The emergence of the digital divide reflects the relationship between social inequality. Discrimination in access to ICTs is linked to individuals and their characteristics, which is also referred to as methodological individualism [13]. The researcher is looking at the individual as well as the native groups in Sabah in this study.

The term digital divide has been defined by the Organization for Economic Cooperation and Development [14] as the "gap between individuals, households, businesses, and geographic areas at different socio-economic levels with regard both to their opportunities to access ICTs and to their use of the Internet for a wide variety of activities. The challenges of digital divide is still found to be prevalent between developed and developing countries [15], urban and rural populations [16,17], young and educated people versus older and less educated people [18], and men and women [19,20].

From the late 1990s to the early 2000s, the digital divide research only focused on physical access to ICTs (the ability to purchase a computer or Internet subscription) and highlighted the inequalities of physical access to ICTs by exploring demographic differences in digital use. Age, income, education, gender, and geographic location are among the demographic differences investigated [21].

The term "digital divide" is commonly used to refer to disparities in access to ICT that contribute to material inequalities, social and educational inequality between individuals or countries [22]. Due to a lack of IT context, a lack of ICT accession and ownership, a lack of time and expertise in the use of ICT, a lack of innovation requirements, a lack of critical thinking, and a lack of English language skills, there are usually dichotomies between genders, geographical areas, and socioeconomic classes [23,24]. According to a previous study [25], there are seven types of digital divide determinants, which are sociodemographic, economic, social, cultural, personal, material, and motivational. This study will focus on the four dimensions of the digital divide, as defined by Van Dijk's theory [2]: motivational access, physical access, skill and usage access. The majority of research on the digital divide has been quantitative, with a lack of qualitative reasoning from the sociological perspective in understanding motivational access in local communities and cultural groups [22].

Apparently, the notion of who has access to internet access and the use of computers has distinctively drawn a gap between those who do not have access. The first-level digital divide is the name given to this type of digital divide. Apparently, the issues of have and have nots have transformed and diversified, focusing on quality of access [26] and the material conditions of access [27], which emphasised the type of devices, quality of the technological infrastructure, and the connectivity stability over time [28].

Following that, there should be a distinction made between an Internet access divide and a skills divide, with the latter indicating differences between groups of people in terms of skills required to effectively use the Internet [29]. The availability of broadband Internet access and digital devices has called into question the relevance of an Internet-based digital divide. This has resulted in the discourse of the digital divide shifting to digital skills,

making up the second-level of the digital divide [29], which is also relevant to the usage gap as proposed by Van Dijk [2]. A study had further proposed for the needs of technical competence in order to operate the hardware and software of digital tools, such as typing, using a mouse, giving input to the computer as well as information literacy [30]. Cognitive abilities and specific digital literacy are required to operate the ICT and content exploitation. As a result, mastery of ICTs and digitised information necessitates digital skills classified into four categories [31]: operational, formal, informational, and strategic.

A study conducted highlighted performance related to information and communication technologies as the third level of the digital divide [32]. Several studies [2,33,34] have emphasized the need to address the issue of digital divide by addressing not only the problems of digital access, use, and competence, but also the consequences of ICT use. As a result, the debate over the digital divide has shifted, and recent research studies have called into question the benefits of using ICTs, particularly the Internet [35].

The work on the digital divide has posited a variety of theories in examining the dimensions, aspects, and levels of the digital divide, such as the Adoption Diffusion Theory (ADT) and the Unified Theory of Acceptance and Use of Technology (UTAUT). The ADT theory focuses on the process of adopting an innovation for use and diffusing its use within a population of potential users over time [36]. The limitation of this theory was that it did not account for the behavioural and social forces influencing an individual's adoption decision, as well as the larger societal, cultural, and economic environment [37]. UTAUT is a well-formulated theory derived from eight well-accepted ICT theories of technology acceptance and use. This theory may be best suited for survey-based digital divide research, but it does not include ICT access as a dependent variable, making it unsuitable for access-focused digital divide research [37].

In the van Dijk Theory, it has taken into account multiple and complex pathways that encompass inequalities leading ultimately to digital inequalities. This theory consists of a feedback loop, that emphasises the socio-economic-political inequalities that lead to the digital divide inequalities and unequal societal impacts. In addition to Van Dijk's theory that focuses on motivations behind ICT access and use, as well as the types of resources and skills required to bridge the digital divide, a study [21] proposed to reveal the underlying systemic and structural challenges that often relate to one's social position for this study. Due to the complexity of the theory, this theory is more applicable to case studies. As the technological advances, the study of three levels of digital divide requires mixing methods which not only quantitative but also interviews, focus groups or ethnography that enable better understanding of the continuities between online and offline inequalities [16].

This theory was used in this study to explore the underlying digital divide issues in the Sabah community, the majority of whom still live in poverty in the rural area [8]. According to a report by e-Conomy SEA in 2020 [38], 80% of users saw technology as an important tool and necessity in their daily lives, especially during the COVID-19 pandemic. Nonetheless, approximately 35% of Malaysia's rural population does not have consistent access to the internet, either in terms of good internet coverage or affordability to access the internet [39].

According to the Malaysian government, indigenous groups in Malaysia perceived development differently, posing challenges to their social well-being [40]. Does this also apply to Sabah's indigenous groups? When it comes to political agenda, the Sabah people have always been a bargaining chip for the federal government. Does this contribute to digital development, and how does it motivate Sabah's indigenous groups to adopt ICT? In order for technological diffusion to occur, motivation is the primary concern in determining whether or not technology acceptance occurs. According to Van Dijk, the digital divide includes both "have-nots" and "want-nots." Mental and psychological conditions are frequently discussed in the context of motivation to use technology. In many countries, technophobia and anxiety remain significant barriers to digital access [2].

Motivation to adopt ICT is dependent on physical access to technological tools such as a smartphone, computer, software, and Internet. According to the Millennium Develop-

ment Goals [41], the physical access divide between developing and developed countries is widening. Having physical access to technological tools can help to motivate people to use ICT.

The intertwining of social and digital inequalities are closely related and need to be analysed in relation to social, cultural, economic, political and personal context in which it is generated [42].

According to Van Dijk's theory [2], motivational access was primarily due to both social or cultural aspects as well as a mental or psychological nature. This is supported by Bourdieu's capital theory [43], which states that people's behavior and actions are influenced by the social space in which they live. Bourdieu [44] proposed three fundamental types of capital. To begin, economic capital refers to monetary resources and property titles that are directly convertible to money. Second, cultural capital manifests itself in three forms: (i) internalised cognitive competencies, knowledge, and "long-lasting dispositions of the mind and body", (ii) cultural goods to which one has access, and (iii) a specific type of objectification linked to socially validated credentials and qualifications. Third, social capital, which refers to people's actual and potential network of social relationships, can mobilise economic and cultural capital to expand their options for action. It is therefore critical to consider an individual's social and cultural capitals when determining one's status and position, as well as the economic perspective.

People must have built up capital(s) in their offline lives in order to effectively use and adopt ICT. By having specific skills and knowledge, precise motivation, specific family background, occupational background, and social statues, people can influence not only the first level of the digital divide, which is access, but also the Internet experience (second level of the divide), as well as their ability to apply the experience gained in their daily lives (third level of digital divide). If one has sustainable economic capital to begin with, users can leverage that capital to convert digital experiences into social resources that can improve their socioeconomic status [42].

Despite the fact that the physical access to the digital divide is narrowing, it has raised concerns about a second level of digital divide, which is skill and usage. It is important to note that having physical and material access does not always imply that you will use it. Van Dijk emphasized the importance of research focusing on a 'deepening divide' from physical access to skills and usage because unequal skills and usage are deeply entrenched in existing social inequalities and will deepen these inequalities again. The concept of digital skills can be refined into six distinct types and several types of measurement, ranging from large-scale surveys to performance tests of Internet tasks in a media laboratory [45]. There are six types of skills: operational, formal, information, communication, content creation, and strategic.

Since the First Industrial Revolution was first introduced to humanity between 1760 and 1820, it has also transformed itself [46]. Humanity went through a period of transition from hand production to the use of steam and waterpower. It was then expanded into the Second Industrial Revolution, also known as the era of technological advancement between 1871 and 1914. This was the time when humanity discovered electricity, which resulted in the modern production line. The Second Industrial Revolution, the rise of the digital era in the late twentieth century, followed the emergence of Industry 2.0. This represented a greater advance in digital developments prior to the introduction of Industry 4.0 [47].

As the world evolves at a rapid pace with technological advancement in this first decade of the twenty-first century, there is little debate about the digital divide in most Western countries. This is due to the appearance of narrowing divisions in physical access to the internet. This fact, however, does not apply to other developing countries, such as Malaysia. Digital access has become a privilege for countries that can afford to invest in advanced ICT acquisition [48]. Developing countries that have struggled to meet the demands for necessary ICT infrastructure and services will be left behind. In such cases, the new globalisation phenomenon adds a new dimension to existing inequalities and disparities in digital access.

The digital divide has been a topic of discussion all over the world. Previous studies [48] show that low-income levels in countries have a direct influence on ICT penetration and access. This is due to the relatively high cost of acquiring and providing ICT goods and services in comparison to other wealthier countries. As a result, it will eventually lead to a digital divide within the country and around the world.

2.1. Digital Divide in the Global Context

Individual positions and backgrounds cause inequalities in digital access, which leads to resource inequalities [2]. The focus of the digital divide is not solely on the haves and have-nots. With the proliferation of technological advancements, the digital divide in internet access has widened even further [27]. According to a survey of the Dutch population, the first level of digital divide, which combines physical access with material access, is still a problem in one of the world's richest and most technologically advanced countries [27].

In California, where a telephone survey was conducted to capture internet use for health information, the findings indicated that both racial/ethnic minority status and people with low socioeconomic status have difficulty using the internet, contributing to the digital divide and making it difficult to provide technology training for the targeted population [49]. Similar findings from a study of white, black, and Hispanic elderly people show that older racial and ethnic minorities are less likely to use certain technologies to manage their health [50].

Cross-country studies in developing countries have revealed that technology adoption is slower than in developed countries [51]. Recent research on the struggle for digital inclusion in India has revealed that the rapid spread of ICT has created a new form of marginalisation among poor rural households [52].

A study on the factors influencing cloud computing diffusion, adoption, and usage at universities in Sub-Saharan Africa (SSA) found that socioeconomic background was the most influential factor in technology adoption [53].

2.2. Digital Divide in Malaysia

Malaysia is a developing country that has adopted a parliamentary democracy system in order to achieve goals of integration among the country's diverse ethnic groups. In Peninsular Malaysia, the Malays, Chinese, Indians, Orang Asli (the indigenous communities), Sikhs, Siamese, and other ethnic groups make up the nation, while the Iban, Bidayuh, Kadazan, Dusun, Sama-Bajau, and other Bumiputera tribal communities live in small numbers in Sarawak and Sabah [54].

According to the Malaysia Statistics Department's [55] census, the total population of Sabah is 3.9 million people. Sabah residents accounted for 1,781,112 of the state's total population. Sabah is a multiethnic society with 39 indigenous ethnic groups known as Anak Negeri (natives). KadazanDusun, Bajau, Murut, Rungus, Kedayan, Lundayeh, Melayu Brunei, Suluk, and other indigenous communities were among them.

Malaysia, as a developing country, is not immune to the issue of digital divide. Malaysia was ranked 63rd out of 176 countries in the 2017 ICT Development Index, a slight drop from 62nd in 2016. Malaysia, on the other hand, came in ninth place out of 34 Asian and Pacific countries. Malaysia's index echelon clearly demonstrates that the government has been promoting and engaging in the development of ICT infrastructure and access in the country. According to the ITU, mobile penetration in Malaysia exceeded 100% in 2015, with 98% of households owning a mobile phone. This demonstrates that various communication infrastructures have proliferated widely in Malaysia. According to the Department of Statistics Malaysia (DOSM) [7], the percentage of Malaysian households with internet access increased to 91.7 percent in 2020 from 90.1 percent in 2019. However, it is not stated in the report on the location of the study, which means that the readings cannot be used as an indicator for the state of Sabah. It is necessary to emphasise that one

of the key issues is the capacity and availability of facilities and infrastructure that can be used by the people, particularly those in rural areas.

According to MCMC [56], urban internet users outnumber rural internet users by approximately three to one, indicating that infra- and infostructures, as well as access and individual capacity, are more limited in many rural Malaysian locations. Despite Malaysia's positive scorecard of 91.7% [7] of the household population having access to the internet, the issue of digital divide persists, particularly between urban and rural geographical areas.

According to a study [57], internet applications, particularly broadband devices, are far scarcer in rural areas than in urban areas. Similar to research [58] on the digital divide and poverty eradication in the rural region of Northern Peninsular Malaysia, there are disparities in digital infrastructure that have resulted in territorial inequalities (urban-rural) digital divide in the areas of Sungai Petani and Tanjung Dawai in Kedah. Furthermore, the government's top-down strategy in creating Pusat Internet Desa (PID) and 1 Malaysia Internet Centre (PI1M), which seeks to promote the community's digital literacy, has not been widely utilised by the community. Some communities are unaware of the services or find it difficult to obtain them [58].

Another factor that contributes to the process of digital culture implementation in Malaysia is demographic factors. It was discovered that the elderly in Malaysia, aged 60 and up, were not receiving adequate assistance to learn about digital technology [59]. As a result, they lack the necessary skills to operate technology correctly and effectively.

ICT factors in which new terms, such as computers, mobile broadband, or internet interfaces, are introduced to the rural community as "new language" and "new culture" that require effort and time to understand and master [60]. The impact of COVID-19, which has accelerated technology adoption, has made it even more difficult for the older generation to fully utilise technology due to their limited skills and access to digital technology [61].

A study on the gender digital divide among Malaysian secondary school students discovered a gender divide in all dimensions except information navigation skills [62]. There was significant evidence that females in rural areas were at a disadvantage when compared to gender inequalities among urban students.

Sabah, one of the poorest states in Malaysia [8], has approximately 1.6 million people living in the rural areas of Sabah, with 5.3 percent classified as "poor," the highest in Malaysia's rural areas. This is clearly supported by a study [48] that identified that low-income levels in the countries will have an impact on ICT penetration and access.

Following the COVID-19 pandemic, the most recent local and international news headlines report on a Sabahan, Veveonah Mosibin, who lives in a rural village and had to go the extra mile by camping on top of a tree in order to sit for her online university exams [63]. This has highlighted the fact that there is a digital divide between rural and urban areas.

Since the majority of the poor in Sabah live in rural areas, there are challenges in terms of digital connectivity, as this community is falling behind due to a lack of infrastructure and access to services [64].

According to the literature, the digital divide in Malaysia still exists, varying in terms of sociodemographics between rural and urban areas, gender, motivation, physical, skills, and usage. Through a qualitative approach, this study will add to the literature on the digital divide in Malaysia, focusing on native groups in Sabah.

3. Methods

A qualitative approach was used in this study. A Focus Group Discussion (FGD) was used to gain a thorough understanding of the digital divide issues among Sabah's indigenous communities. The focus group method was frequently used to collect data from a purposefully selected group of people rather than a statistically representative sample of a larger population [65]. Three focus group discussions (FGDs) were held to better understand the perspectives of local community members on digital divide issues. This

FGD can reveal unspoken but shared ideas about social phenomena in a group setting, and it encourages active discussion among participants [66].

The FGD included key informants from seven ethnic native groups: Rungus, Kedayan, Melayu Brunei, Bajau, Murut, Suluk, and Lundayeh. They were interviewed in small groups of youths, women, and the elderly. The key informants were chosen based on their representations as community decision-makers. A moderator guided the group of informants by introducing topics for discussion and assisted the group in participating in a lively and natural discussion among themselves.

The women's group had seven informants, the youth group had ten, and the elderly group had four. The female group of informants ranged in age from 20 to 55 years old. The youth groups ranged in age from 20 to 30 years old. In this study, youths were defined as individuals between the ages of 15 and 30 based on Malaysia's youth policy. Meanwhile, the elderly individuals involved were over the age of 50. Each of the FGDs lasted between 90 and 120 min. The FGD details are reflected in Table 1.

Table 1. FGD Details.

FGD	Informant	Ethnicity	Age	Religion	Education Qualification
Women	A	Rungus	22	Christian	Bachelor's degree
	B	Bajau	27	Islam	Master's degree
	C	Brunei	53	Islam	Bachelor's degree
	D	Murut	27	Christian	Master's degree
	E	Rungus	45	Christian	Secondary School
	F	Lundayeh	29	Chistian	Diploma
	G	Rungus	51	Christian	Secondary School
Youth	A	Kedayan	38	Islam	Master's degree
	B	Suluk	34	Islam	Master's degree
	C	Murut	22	Christian	Bachelor's degree
	D	Brunei	20	Islam	Diploma
	E	Rungus	33	Christian	Secondary School
	F	Rungus	24	Christian	Bachelor's degree
	G	Murut	29	Christian	Master's degree
	H	Suluk	25	Islam	Master's degree
	I	Lundayeh	27	Christian	Secondary School
	J	Bajau	20	Islam	Secondary School
Elderly	A	Brunei	52	Islam	Bachelor's degree
	B	Murut	51	Christian	Secondary School
	C	Rungus	50	Christian	Bachelor's degree
	D	Bajau	50	Islam	Bachelor's degree

Purposive sampling was used to recruit the informants, who were recruited through the researchers' local networks and contacts. Three group meetings were held as the data saturation pattern became clear. The informants' names are kept as pseudonymous to protect the respondent's privacy. As a guide for each FGD session, an interview guide with a list of open-ended questions was prepared. The questions were designed to elicit the informants' ICT experience and accessibility.

The researchers created the focus group discussion guidelines, which include questions about engagement and exploration. The engagement questions were designed to establish

rapport and make the informants feel at ease in the discussion. Questions include their understanding of ICT, their first experience with ICT, and their experience with ICT.

The exploration questions were framed in accordance with Van Djik's four dimensions of digital divide theory, which are motivational access, physical access, skills, and usage access. The following are the exploration questions:

(1)　What is your issue with using ICT?
(2)　What ICT resources are available in your area?
(3)　How has the ICT facility aided you?
(4)　In which area of ICT do you excel?
(5)　What is your goal in using ICT?
(6)　Who influenced or encouraged you to use ICT?

Throughout the FGD, the researcher took notes on themes, hunches, and interpretations while listening to the informants' input. The entire interview data was transcribed following the FGD. This transcription process is critical for facilitating further analysis and creating a permanent written record of the group discussion that can be shared with other parties who are interested. The transcription was then coded manually in Microsoft Word, and the data was classified by applying tags to sections of it. Manual analysis was used rather than assisted technological software because during the interview process, the informants' dynamic interaction, including their body language and emotions, was captured to aid in the analysis process later [67].

The procedure was split into two stages. The researcher first went through the transcripts and identified quotes that were relevant to the determinants of the digital divide. The colour codes were used to examine emerging themes from the entire set of interviews based on the initial reading. The second stage involved transferring the colour codes marked on the quotes to a table category of motivational access, physical access, skills, and usage access.

4. Results

Based on the qualitative data analysis, the four factors of digital divides were reflected by the informants. There were: physical access, motivational access, skills, and usage.

(i)　Physical access

When motivation for access is extremely high among Sabah's indigenous groups, incompetent physical access follows. Computers, laptops, internet availability, internet access, access location, and access quality are all included. According to the results of the focus group discussion (FGD), some of the informants claimed that the internet is not available in their village. Some of the villages that have internet but are unable to access it properly.

"Kalau area pekan rasanya ok, kalau di pedalaman, internet memang tidak dapat. Macam kampung penampang, kampung lompati . . . sana memang ada sekolah Cuma sekolah rendah, tapi kalau line telefon, kalau guna telefon canggih, memang tiada line. Macam family saya, guna telefon lama2 tu." (Rungus youth informant, female, 24 years old)

Translation:

"If it's a town area, I feel it's OK, if in the interior, then of course we can't get it. Like Kampung Penampang, Kampung Lompati . . . There are schools, only primary schools, but as for telephone lines, if you use the latest phones, there is definitely no line. As for my family, we use the old phones."

From this verbatim, the villagers are motivated to adopt and use the smartphones. However, because they have limited physical access to the internet to support their use, their motivation to use the smartphone suffers. Villagers' motivation could not be supported by the availability of physical access to digital technology.

"Kalau di kampung saya, line telefon pun susah. Macam masuk ke dalam gua. Kalau di kampung saya, langsung tiada, kalau di Pekan Kanibongan, baru ada. Tapi itu jarak

jauh lah. Kebanyakan anak-anak di sana, tidak pandai menggunakan ICT sebab line telefon pun tiada . Banyak kali sudah kami minta dari kerajaan untuk buat satu Menara line telefon di sana, tapi tiada. Dari tahun 2000+ kami minta-minta, tapi masih tiada." (Rungus, female, 51 years old).

Translation:

"In my village, it is also difficult to get a landline. As if living in a cave. In my vilage, nothing is there, only in the Kanibongan town. But that is a very far distance. Most of the children are not good at using ICT because telephone lines are not available. We have requested many times from the government to provide one telephone line tower over there, but nothing has happened. Since the year of 2000 we have been asking, but still nothing has happened."

Both of the Rungus informants, who live in different areas, claimed that they do not have access to the internet in their villages. At the same time, landline service is unavailable. In the village, owning a smartphone is both ineffective and impractical. As a result, family members prefer to use feature phones (also known as "non-smartphones"). It is a basic need for the villagers to have proper access to telecommunication services, so they pleaded with the government to provide it, but their request appears to have fallen on deaf ears.

Another verbatim recording from the Murut informant claimed to have internet access, similar to the wireless village set up by the MCMC. When it comes to bad weather, however, the community frequently experiences outages not only on the internet, but also on fixed line communications.

"Di bahagian sepulut, kampung Lontong dekat dengan sekolah. Kampung tanpa wayar ada satu. Kalau ada hujan kuat, tidak bagus sudah, dan satu dua bulan baru dia ok. Dia ok dalam dua tiga minggu tu ok, lepas tu tidak ok, tiga empat bulan." (Murut informant, female, 27 years old)

Translation:

"Over at Sepulut, Kampung Lontong, near the school, there is a Wireless Village. When there is heavy rain, it doesn't work, and only after one or two months, it's OK. It's OK for about two or three weeks, after that it's not OK, then for about 3 or 4 months, it's not OK."

Another Rungus informant in Kudat claimed that lightning struck the village's telecommunications tower. A report was created, but it was left unattended.

"Kalau kampung saya di Kudat, sampai sekarang Menara sudah ada, internet ada sudah, di klinik ada satu, tapikan satu kali kena kilat rosak. Di kawasan tadika pun ada satu, tapi sudah rosak sudah. Sudah report, tapi tiada orang baiki." (Rungus, female, 45 years old)

Translation:

"My village in Kudat, a tower is already available, internet connection is also available, one is available in the clinic, but the lightning strikes once it was damaged. The kindergarten also has one but is already spoiled. Already reported, but no one repair."

On the other hand, it was true that having access to internet facilities that created a digital divide between two distinct communities, in this case the Rungus and the Melayu Brunei. Some of the Melayu Brunei live near the town area; they have adequate internet access and do not stray from digital development.

"Tapi bagi masyarakat brunei, memang mengikut arus pemodenan inilah. Sebab kebanyakan masyarakat brunei berada tidak jauh dari bandar, di sekolah pun ada kursus-kursus. Di kampung, orang-orang tua pun mengikut kursus-kursus internet, fb dia pun ajar, walaupun dia orang tua. Jadi masyarakat brunei ni tidak ketinggalan la." (Melayu Brunei informant, female, 53 years old)

Translation:

"But for the Brunei community, definitely following the flow of modernisation. Because most of the Brunei community are staying not far from the town, the school also has courses. In the village, the elderly also follows internet courses, fb also been taught, even though they are elderly. So for the Brunei community doesn't left behind."

(ii)   Motivational access

Following that, one of the informants stated that his community is willing to walk a short distance to a location where a signal line is available. This is because telecommunication towers are only available in certain areas. The informant also stated that not everyone, particularly school students, can afford a smartphone and a computer. The government allocated a computer to the community, but it was only used in the clinic. Those who require it and are willing to walk to the clinic will be able to use it. Due to the community's remote location, transportation is required to get to town. As there are still a significant number of people living in the interior, their socioeconomic status is low, and they cannot afford to own a car, relying instead on a motorcycle to travel to town, let alone own a smartphone or other technological gadgets.

"Kalau contoh, tidak semua tempat yang line tu kuat . . . tempat saya tiada kampung tanpa wayar, Cuma ada pencawang digi . . . bila ada benda tu, orang mahu guna line, dia akan pergi beberapa km, tempat yang boleh dapat line tu . . . jalan kaki boleh, maksudnya benda tu penting. Tapi bergantung kpd apa tujuan dia mahu gunakan. Kalau dulu, kwsn saya sudah aktif menggunakan internet, itu saja kemampuan, semasa Tg 4/5, Cuma dapat beli telefon yg murah. Masa Tg.6, ada disediakan komputer untuk masy. Diletakkan di klinik, siapa rajin jalan kaki, dapatlah . . . macam saya tu Tg.6, mahu pergi pekan pun, kereta bukan selalu ada, ada pun naik motor. Itu satu keperluan. Sekarang sudah ada internet, line pun sudah ada, ada orang guna kemudahan tu untuk tujuan tidak baik."
(Murut informant, male, 29 years old)

Translation:

"As an example, not all places have strong lines... My place does not have a wireless village, only a digi tower.... When something exists, people want to use the line, one is willing to go a few km away, to a place where there is a line... can walk, means the thing is important. But it depends on one's purpose of using it. If last time, my area was already active using the internet, that's the only affordability, when in Form 4/5, only can buy cheap phones. In Form 6, there are computers provided. Place in the clinic, whoever is hardworking to walk, get it... like me during Form 6, if I want to go to the town, a car is not always available, I also have to ride a motor. That is a necessity. Now already have internet, line also provided, there are people who use it for bad purpose."

The community is willing to walk a long distance just to get internet access, indicating that the internet has become a necessity for Sabah's indigenous people. They are motivated to use the internet for a variety of purposes.

According to the verbatim, the authorities provided physical access to the village without proper monitoring or regular maintenance scheduling. Despite the fact that reports had been created, the relevant authorities were slow to respond and were not taken seriously. When motivation precedes the availability of digital access, technology functionality may not be able to keep up, paralyzing ICT diffusion in the community.

Acquainting the native community in Sabah, particularly those living in rural areas, with new technologies, such as the internet, can be overwhelming because they are considered novice users. One of the Murut informants claimed that when the internet was first introduced in the village, the young people experienced cultural shock. When a new culture was introduced to the village, this caused anxiety among the young people.

"Jadi di situ baru ada line, ada kejutan budaya juga. Kalau orang tua tak apa, mereka tak ikut sangat, kalau orang muda tu macam ada kejutan budaya." (Murut informant, female, 27 years old)

Translation:

"When there is a new line, there will be a culture shock too. It doesn't matter for the elderly as they do not follow through, but for the young people, it's like a culture shock."

Another Bajau informant stated that she was astounded to learn that certain segments of the community are still very conservative and do not use ICT.

"Saya tanya kanak-kanak bajau laut di sana, saya mengajar di sana kan, jadi saya tanya di rumah ada tv kah, dia orang kata tiada. Saya tanya kenapa tiada tv, mama cakap kalau ada tv, nanti kami ikut-ikut budaya orang luar. Saya pun terkejut juga dalam masyarakat ada lagi yang mengamalkan cara tradisional tidak menggunakan ict sebenarnya." (Bajau informant, female, 27 years old)

Translation:

"I asked the Bajau Laut children, I am teaching in the village, so I ask if their house has TV, they say no. I ask why don't have TV, mother say if have TV, later we will follow the culture of outsiders. I was shocked to find out that there are still community who practice traditional way and do not use ICT."

According to the verbatim, while other communities are accepting and adapting to new technology, there are still some members of the community who are ethnocentric and believe that their own culture is the correct way to live. They are afraid of external influences that could convert their community to their way of life.

(iii) Skill

Based on the verbatim, it is possible to conclude that the Sabah native community faces digital inequalities in terms of motivation and physical access. With the moderately fair penetration of ICT in Sabah, there is also a widening gap in skills and usage.

The digital skills of different groups of informants differ. When compared to the elderly, young people are more adept at using digital tools. Nonetheless, the elderly are eager to learn digital skills in order to use ICT.

"Di kampung, orang-orang tua pun mengikut kursus-kursus internet, fb dia pun ajar, walaupun dia orang tua. Jadi masyarakat brunei ni tidak ketinggalan la." (Melayu Brunei informant, female, 53 years old)

Translation:

"In the village, the elderly also follows internet courses, fb also been taught, even though they are elderly. So for the Brunei community doesn't left behind."

While some elderly people in the interior villages resist using new technology, there are also some elderly people who are eager to adopt and learn about it.

When it comes to learning digital skills in order to adopt ICT, the young people in the village are more proactive than the elderly.

"Di kampung kami baru satu pencawang, kami terpaksa keluar dari kampung . . . kerajaan ada buat program macam di UMS . . . kalau kami tunggu di kampung macam kami akan buta internet . . . di pedalaman semua PC pun agak jauh . . . sewa kereta pun mahal . . . jalan tiada . . . kalau ada kursus kami akan berebut dan pergi . . . " (Bajau informant, male, 28 years old)

Translation:

"In my village only has one tower, we have to go out from our village... the government conduct program like in UMS... if we keep waiting in the village, we

will become internet illiterate.... in the rural area all the PCs are far away... rent a car is expensive... no road... if we get courses we will compete among ourselves and go..."

The community also realised that they lacked ICT knowledge and skills. As a result, they competed for and seized any opportunity to attend government-provided training.

Furthermore, there was feedback from elderly informants who received one Malaysia netbook from the government but were not given any training on how to use the device. In the end, many people sold their laptops to make money because they didn't know how to use them.

"Hari itu kerajaan ada bagi computer 1 Malaysia . . . setiap kampung-kampung itu dapat . . . tetapi di dalam pembahagian computer yang dapat tu orang tua . . . kenapa bagi pada orang tua kenapa bukan bagi orang muda . . . kalau bagi saja begitu, ada yang simpan ada yang jual balik kerana tidak faham kan . . . itu sangat mengecewakan . . . tiada tindakan susulan . . . hantarlah tenaga pengajar . . . bagi latihan . . . " (Murut elderly informat, male, 58 years old)

Translation:

"That day, the government provided us with 1 Malaysia computers . . . each village gets them . . . . but in terms of allocation, those who get it are the elderly ones . . . why is it that it is given to older people and not given to younger ones ...If it is given just like that, there are those who keep them, there some who sell them off as they don't understand about it ...this is very disappointing . . . there is no follow-up action . . . please send teaching personnel ...to give training..."

Some elderly people are considered technophobic towards new technology. When they get a new gadget, they want the government to give it to the younger generation. When the gadget was granted, no subsequent training was provided. The elderly are left alone and awestruck by their computers. Rather than leaving the computer idle, they sold it in order to receive money to use for other purposes.

When it comes to digital skills, age makes a significant difference in performance. When compared to the elderly, younger people perform better in terms of digital skills [22]. Among the elderly group, some were proactive in picking up digital skills, while some of them chose to refuse the tools given to them.

(iv)   Usage

The ability to access digital information is important not only for daily activities, but also for educational purposes. The younger generation of the native community needs access to apply for local universities through the online admission by the Malaysian Ministry of Higher Education.

"Bangsa melayu sudah banyak di universiti, tapi rungus hanya ada dua atau tiga saja, sebab di kampung saya, dia orang tidak dapat apply upu, apa lagi spi 8, sebab tiada kemudahan-kemudahan disediakan. Jadi sini ada jurang di antara masyarakat ini dan masyarakat itu." (Rungus, female, 22 years old)

Translation:

"There are already many Malays in the university, but only two or three Rungus entered the university, because they couldn't apply for upu in my village, what more spi8, due to no facilities provided. Therefore, there is a gap between this community and that community."

In general, the native community has a very positive attitude towards ICT. In fact, it has become ingrained in their daily lives. Communication, job opportunities, reading news, learning technology skills courses, internet banking, and cultural transmission have all been made more convenient by ICT.

"Kalau bagi saya, penggunaan handphone android masih baru, untuk komunikasi, cari peluang kerja. Membaca berita juga." (Rungus informant, female, 45 years old)

Translation:

"If for me, android handphones are still new, for communication, looking for job opportunities. Reading news too."

"Kalau macam saya . . . kalau ada telefon tiada internet macam kereta rosak . . . kalau tiada intenet macam mati sudah . . . macam putus hubungan dengan dunia . . . ICT ni keperluan . . . lebih kepada tugas . . . ada function, kami ambil gambar, mengedar maklumat dengan cepat . . . hantar pakai handphone . . . " (Melayu Brunei informant, male, 52 years old)

Translation:

"If like me... if no handphone no internet is like a car breakdown... if no internet can be dead.... like lost connection with the world... ICT is a necessity... more towards tasks.... have function, we take pictures, fast distribution of information... send using handphone..."

One of the informants used the internet to look up information, improve their knowledge, and even connect with the government, check fines, and perform online banking.

"Biasanya untuk perhubungan saja . . . ada juga guna untuk mencari maklumat . . . lebih senang . . . sebab di hujung jari klik saja untuk maklumat, untuk tujuan pengetahuan, program program tertentu . . . urusan dengan kerajaan, check saman, check bank . . . sangat bagus . . . " (Rungus informant, male, 49 years old)

Translation:

"Normally for communication only . . . will also use it to look up information . . . easier . . . because it is on your fingertip to get the information, for knowledge purpose, on certain programs . . . government matters, check fines, check banks . . . very very good."

The elderly performs moderately in operational and formal skills in terms of digital skills and usage. They understand how to use the tools and how to perform basic browsing and navigation. In terms of content-related skills, the elderly concentrated primarily on communication and personal goals, such as online banking, news reading, and message sending.

According to the findings of this study, the native community uses social media platforms to promote their ethnic and cultural festivals by uploading videos of their celebrations. This is especially noticeable among young people.

"Contohnya perayaan magahau rungus diadakan, jadi untuk memudahkan cara, kita just upload bila pesta tu diadakan, apa pertandingan dipertandingkan . . . setiap zon ada pesta ini, jadi dengan ICT ini, dia senang diviralkan, whatsapp ke telegram ke, jadi kita tahu informasi di situ. Tapi datang tu tidak berapa, sebab tidak secara lisan kan bercakap . . . " (Rungus informant, female, 22 years old)

Translation:

"For instance, the Rungus Mahagau festival is held, so to make it easier, we just upload when this festival is held, what competitions are held . . . every zone has this festival, so with ICT, it's easy to viral, either with Whatsapp or Telegram, so we know the information is there. But those who actually attend are not that many, because they're not informed orally ..."

The following FGD data supports the native community's use of ICT in promoting, learning, sharing, and preserving their culture.

According to the FGD data, one of the Rungus informants stated that social media that promotes features of their ethnic community teaches and promotes the native language among the younger generation, as well as encourages participation of the elderly groups.

"Ada satu page momogun rungus komuniti, mereka tanya istilah haiwan dalam tu dalam bahasa rungus tu apa . . . contoh . . . sebab sana generasi muda dengan generasi yang tua bolehlah berkomunikasi melalui komen-komen di situ. Jadi yang muda dapat menimba ilmu dari situ." (Rungus informant, female, 22 years old)

Translation:

"There's a Momogun Rungus community page, they ask for names of animals in Rungus language . . . for example . . . because here the young and older generation can communicate by means of comments there. So the younger ones can obtain knowledge from there."

Nonetheless, when it comes to important occasions, certain groups within the community, particularly the elderly, continue to hand out wedding invitations from house to house. They believe that by doing so, they are upholding the community's value system, and that inviting guests to celebrate a joyous occasion with the family is more appropriate and expresses sincerity.

"Kalau komuniti bajau kan, kad jemputan masih ada untuk tiga pupu atau empat pupu. Kalau dalam keluarga sendiri, kad jemputan tidak dipakai. Ibu bapa sendiri yang akan pergi setiap rumah bagitau. Kalau diberitahu melalui whatsapp ke, dia orang tidak akan datang, dianggap tu satu penghinaan." (Bajau informant, female, 27 years old).

Translation:

"If it's the Bajau community, invitation cards are still there for third or fourth cousins. If within your own family, invitation cards are not used. The parents themselves would go to each house and inform. If informed through Whatsapp for example, they will not attend, it's considered a humiliation."

According to the informants' verbatims, their operational and formal skills are moderately good. They can use technological tools and look up information on the internet without much assistance. When compared to the elderly, younger people outperform them in all six types of digital skills. Young people contribute to the internet by promoting and sharing information about their cultures. It is a set of strategic skills used to achieve personal and community objectives in cultural transmission.

5. Discussion

According to the findings of the focus group, the digital divide among Sabah's native groups is discussed in four dimensions: motivation, physicality, skill, and usage.

5.1. Physical Access

According to our findings, a lack of dependable and high-quality internet access remains a major determinant of internet use in this region.

Inequalities in digital access are caused by an individual's position and background, which result in resource inequalities [2]. Sabah, one of the poorest states in Malaysia [8], has approximately 1.6 million people living in the rural areas of Sabah, with 5.3 percent classified as "poor," the highest in Malaysia's rural areas.

From this study, it can be seen that the differential in physical access is closely related to individuals and their demographics. Personal categorical inequalities when discussing the digital divide comprise age, gender, race, education, and ethnicity [2]. The difference in socio-economic status will often lead to a difference in educational attainment. Growing gaps in access happened among people with low or high education and majority ethnicities as compared to minority ethnicities [2].

In the context of multi-ethnic federations, such as Malaysia, where the majority of the ethnics are the Malays, who consider themselves as the indigenous people of the country, posed anxiety among the ethnic minorities in Sabah [68]. Despite being one of the richest countries with resources in petroleum revenue, the Sabahans still experience backwardness, which includes a lack of internet access and an inability to access technological tools [68].

The verbatim revealed that the vast majority of informants were eager to use ICT. They expressed a desire to use technological tools, such as cell phones and the internet. They are also encouraged to use it in their daily activities, such as communication, official work matters, information searching, and so on.

Having said that, one of the Rungus informants stated that the lack of facilities in the village caused the younger generations to be left behind in their pursuit of higher education (UPU). The issue of the digital divide has exacerbated the socioeconomic divide between those who have and do not have internet access. Furthermore, as shown in the verbatim, a physical divide exists between the two ethnic groups. In comparison to the Rungus, the Melayu Brunei, who stay near to the town, have proper internet access and have received training opportunities to upskill in digital knowledge. This could be due to the colonial government's psychosocial deprivation and devaluation, which has caused them to lag behind in terms of development [69].

The physical divide does not only refer to community access. Regular maintenance and repair of faulty or damaged digital facilities are also necessary to ensure that all facilities operate as efficiently and safely as possible for better ICT adoption. The community's report on the faulty digital facilities should be properly addressed by the appropriate authorities. Digital facilities should also be placed closer to the community for easier access. Having to walk a distance and travel to town to get internet access indicates that ICT is indeed important and highly desired by Sabahan natives.

5.2. Motivational Access

On the contrary, due to cultural possessions, the digital divide in motivational access remains entrenched in some native groups. According to Van Dijk's theory [2], motivational access is primarily due to both social or cultural aspects as well as mental or psychological nature. This is supported by Bourdieu's [43] capital theory, which states that people's behaviour and actions are influenced by the social space in which they live. It is critical to consider an individual's social and cultural capital when determining one's status and position, as well as their economic perspective. When technology was first introduced in their village, one of the native groups, the Murut, experienced a cultural shock. Furthermore, some members of the Bajau community were hesitant to embrace technology because they feared trespassing and influencing cultural change. Though ethnic identity can be fluid, it is also subject to rejection of an individual nature among some members of the community [70]. The Bajau-Laut community's cosmological system is very complex because the value of traditional life is centred on the spirit of embo-dilaut (sea spirit) and advice from ancestors, some of whom embraced Islam [71,72]. Hence, the case of Bajau could be a barrier to social change related to ethnic identity, and it is caused by isolated communities, traditional attitudes, and customs barriers.

5.3. Access to Skill

Our findings suggest that there is a digital gap among different age groups of people, particularly between the youth and the elderly.

Despite the fact that technology has been around for several decades, the elderly have had difficulty familiarising and adopting digital tools and services. Fear and anxiety about using digital technology and services, a negative attitude, a sense of being too old to use technology, a lack of knowledge, and digital terminology illiteracy are all factors that contribute to their lack of digital involvement [73]. This is consistent with our interview, in which the elderly lacked knowledge and skills in using the digital tool. They only used technology to communicate with family members and did not use internet services [74]. As novice users, they are digital immigrants in the virtual world of technology, and some of them are technophobic [75] because they are not adept at managing new technological tools, such as hardware and software. This explains why the elderly in Sabah refuse to use technology when it is provided to them and instead, they sell it to make money to cover their daily living expenses. An individual's social and cultural capital play an important

role in motivating them to adopt technology [43]. The elderly's lack of knowledge and skills in operating technology, as well as their socioeconomic status, influence not only the first level of the digital divide, but also their internet experience and ability to apply it in their daily lives [42].

5.4. Usage

Age has been found to be highly correlated with an individual's attitude toward proficiency with, and use of digital technology [76–78]. To use the internet, you must first learn how to use it. As a result, it has been discovered that an individual's ability to use the internet decreases with age [79]. Due to their exposure to digital technology, younger people feel more at ease using it, resulting in a greater frequency and diversity of usage [76,80,81].

The use gap between different age groups is also prevalent among the natives of Sabah. The younger generations are very well informed and adopt ICT in their daily activities compared to the elderly group.

From the findings, it was found that the younger generations of the native community are more skilled in using the internet. Internet usage offers users a variety of benefits and resources for attaining job opportunities and education, rather than mere consumption or entertainment [82]. This could be due to the fact that the younger generations have early exposure to digital technology, which leads them to capital-enhancing activities, including exploring career opportunities and getting financial and health services.

Similarly, with the skill usage among the elderly group, they use technology for basic communication. Technology is something new and the elderly people, who are very late adopters, find it difficult to use technology beyond communication in their daily life. Other studies in developing countries showed that physical and mental limitations were the main barriers related to technology. As elderly people age, they tend to face isolation and could possibly use technology to improve their social engagement with their circles [83].

6. Conclusions

The findings of the focus group revealed that the first level of digital divide, physical access, is very prevalent among the native community in Sabah, who primarily live in rural areas. Malaysia, a developing country that claimed to have achieved positive results in internet penetration, faced inequalities in technology access based on various demographic factors, such as age, socioeconomic status, education, and ethnicity. The first level of the digital divide has accelerated the second and third levels of the divide, which are skill and usage. Obtaining physical access makes no sense when people are not able to use the technology. Therefore, skills and competencies are also needed for access.

Based on Van Dijk's four successive dimensions of digital technology appropriation, this study found that the digital divide remains prevalent in developing countries, with physical access remaining precarious in Malaysia, particularly among native groups in Sabah. According to Van Dijk's theory, motivational access is the first successive access, followed by physical access, skill, and usage. However, the data showed that native groups in Sabah are motivated to use technology, but they are limited by physical access, which may demotivate them to do so. As a result, the researchers believe that for developing countries, such as Malaysia, addressing physical access should take precedence over motivational access in bridging the digital divide among the native community.

This study supports the theory's central claim that disparities in access are related to individuals and their demographics [3]. In this case, the native groups of Sabah were granted the status of Bumiputera under Federal Constitution Article 161A, and thus should be entitled to the same privileges as other Malays Bumiputeras [84]. However, due to categorical inequalities by the dominant Bumiputeras, native groups in Sabah have been denied access to digital technologies, which further hampered their participation in society [3].

Overall, Sabah's native communities want to use ICT in their daily lives, but the state's digital divide remains appalling. The findings revealed that there is still a disparity in

physical access, which could demotivate the community from adopting ICT. Despite the difficulty in accessing the internet, the community is motivated to use ICT in their daily activities, and it has become a necessity in their lives. The increasing trend of smartphone use was more prevalent among young people than among the elderly. However, if training is provided, the elderly seems eager to learn ICT skills. This study also found a significant difference in digital skills and usage.

The Malaysian government should take a top-down approach to addressing physical access inequalities by providing technological tools and skill support. Sabah's indigenous groups should not be a factor contributing to digital inequalities; rather, they should be granted equal rights and equity in digital access.

With the rapid advancement of ICT, especially with the penetration of 5G technology, physical access, infrastructure, and digital literacy must be provided. A strong check and balance mechanism should be put in place by the government to ensure equality in accessibility to ICT, specifically for those who are poor, undereducated, and the minority population. The government can collaborate with schools by providing provisions for home computers to reduce the effect of socioeconomic inequality among the youth. With the improved access and increased use of ICTs and the internet, grassroot development and participation in the country's development can be facilitated, while decreasing marginalisation in remote Sabah.

Proper training and education can help mitigate digital inequalities [22]. Promoting digital education in schools can help to reduce digital inequalities [85]. Rural communities, particularly the elderly, typically lack digital skills. Implementing effective digital literacy training programmes can boost rural communities' digital engagement. Senior citizens can benefit from digital literacy programmes, which will help them overcome their fear of technology and help them develop the skills and abilities to use digital technologies [86–88]. Apart from that, empowerment [89], genuine participation [90–92] of the rural communities are important to ensure sustainable development. A list of codes and concluding themes in the qualitative analysis is shown in Appendix A Table A1.

Appendix A

Table A1. List of Codes and Concluding Themes in the Qualitative Analysis.

Codes	Themes
• ICT is a necessity • Culture shock • Refuse to adopt ICT • Community influence	Motivational access
• Poor ICT accessibility in the interior • Far from the facilities • No access to internet • Seasonal interruption to internet • No proper maintenance	Physical access
• Eagerness in learning digital tools/skills • ICT knowledge/skill • Training • Technophobic	Skill
• Education • Communication • Job opportunities • Reading • Learning new skills • Internet banking • Cultural transmission • Basic browsing	Usage access

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