




The Influence of Digital Banking and the Digital Divide on Societal Inequalities

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Abstract. Digital banking emerged as a result of a connected society, which allows humans and machines, or anything, to communicate with each other. Due to its ability to break down barriers to banking services that rely on branch offices, digital banking services have become very important during the COVID-19 epidemic, so that access to banking financial services can be accelerated in all remote locations. In addition, because digital banking is based on the same platform, digital banking provides the same level of equality and quality of banking services in urban and rural areas. However, digital banking's reliance on internet services has created new difficulties, and inconsistent internet coverage has resulted in new technical problems. The main research question in this study is whether digital banking has become evenly distributed across regions. The aim of this research is to describe the various gaps that arise due to digital banking in communities that do not have internet access. The data analysis technique used is descriptive qualitative, with observation and documentation data collection methods. Areas that do not have internet access will not be able to use digital banking services, resulting in increased economic costs because people in these areas are forced to incur additional costs. Additionally, there is a knowledge gap in digital banking technology, which can lead to cybercrime in the banking industry. Therefore, the government's role is very important in encouraging the development of easily accessible and quality internet services.

Keywords: Digital Banking, Societal Inequalities, Descriptive Qualitative

1 Introduction

The industrial revolution 4.0 produced extensive connectivity. It presented a connected society [17]. The development of computing technology and the internet has changed the way people perform their banking activities. The latest digital banking services provide convenience and comfort in response to the needs of their customers. This condition has forced conventional banks to transform their business processes into digital

banking [6]. The digital banking transformation led to the growth of the financial sector, thus payment patterns and methods becoming more varied and available even in remote areas of the country [1]. Banking transactions have developed into transactions with no bank branch offices presence are needed, where the customers can carry out the process independently. In the past, banking services were associated with the presence of service offices for network expansion, today digital banking has introduced a branchless concept. Customers are able to transact everywhere without having the need to physically present at a branch office [12]. It is unsurprisingly anticipated that in the last five years, the Financial Services Authority (OJK) recorded around 3000 banking service offices discontinuation, equivalent to 10% of banking service points, and this number continues to show a significant increase from time to time.

The development of the digital economy is one of the main strategies for Indonesia's economic transformation and is aimed at accelerating economic recovery after the Covid-19 pandemic [7]. The development of the digital economy is also driven by a shift in people's behaviour who tend to use digital platforms in various sectors.

The positive trend in the development of the digital economy is also in line with investment developments. The results of a study by [4] show that the investment value in Indonesia's digital economy during Q1-2021 was 4.7 billion USD and has exceeded the highest value over the last four years. This achievement has made Indonesia the most popular investment destination in Southeast Asia, surpassing Singapore.

Apart from investment, Indonesia also has various potentials that can strengthen opportunities to accelerate the development of the digital economy. In 2021, the value of e-commerce transactions in Indonesia has reached IDR 401.25 trillion, with a transaction volume of 1.73 billion.

Fig.1. is the national digital economy framework sourced from the Coordinating Ministry for the Indonesian Economy. The national digital economy framework has a primary digital economy vision that encourages inclusivity and sustainable economic growth. The figure shows that there are 4 pillars of the national digital economy, namely digital talent, digital research & innovation in business/industry, digital and physical infrastructure, and supporting policies, regulations & standards. There are 3 cross-strategies accelerating business & industry digitization, creating diverse but equal opportunities for digital development and connectivity, and encouraging cross-sector and cross-government coordinators.

Indonesia's digital economy has great potential for development. The We Are Social report shows that 77% of Indonesia's population are active internet users or reaching 212.9 million people in January 2023. In 2022, Google Temasek and Bain & Co. reported the contribution of the Indonesian e-commerce sector to USD 59 billion or the equivalent of 76% of the value of Indonesia's digital economy. It is even projected to reach USD 130 billion in 2025.

The flexibility of digital banking services is illustrated in which the transaction process is carried out independently, without any dependence on bank employees and or bank operating hours [2]. Customers can make their own transactions at the place and time at their own convenience; this freedom is a differentiator for digital banking compared to conventional banking services [19].

In terms of service coverage, digital banking can also reach every corner of the country, as long as there is an availability of an adequate internet network, the financial transactions through digital banking can be proceeded [5]. This situation occurs inversely at conventional banks in which the services depend on the presence of branch offices and the customers must come to the banks to transact. Thus, in another word, it can be assumed that digital banking services come to the public to transact.

The digital banking approach also ensures that everyone who uses the platform receives the same level of service. The service idea is based on a system standard that is not dependent on human subjects; as a result, bank customers are not treated differently. This condition enacts the idea of justice in community services, reducing discrimination and ensuring adequate service levels due to low human resource quality.

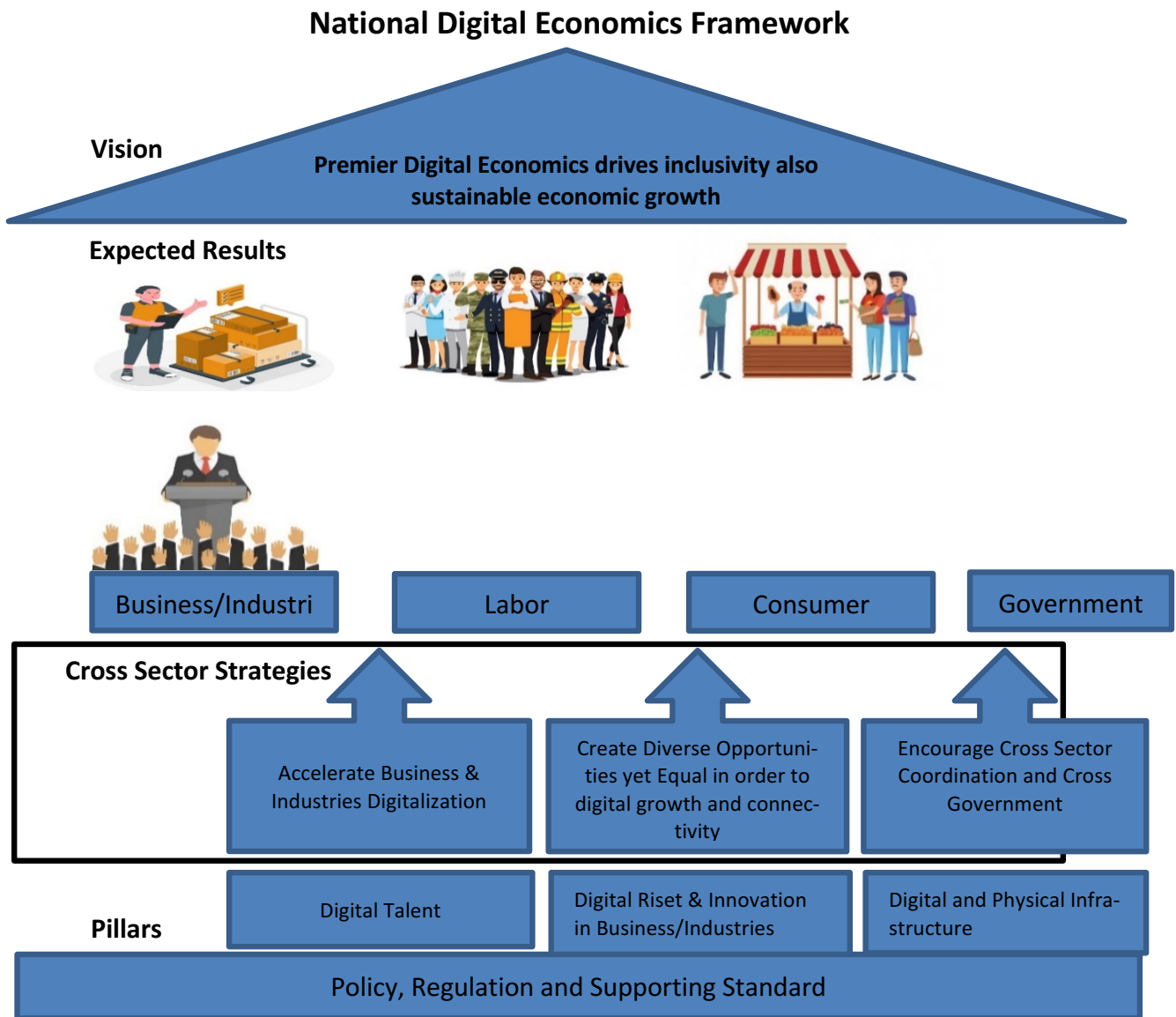


Fig.1. National Digital Economic Framework (Coordinating Ministry for Economic Affairs of the Republic of Indonesia, 2023)

It is recognized that the phenomenon of banking conditions is that they are starting to close banking office services in areas that are not yet connected to the internet or continuing to expand network expansion in remote areas. This creates a large gap, where some community groups are unable to carry out banking transactions, or are forced to mobilize or travel to locations that have an internet network to be able to enjoy digital banking services. This phenomenon shows that inequality is not only seen from the problem of differences in household income, but also other factors including equal access to transaction media [3]. When banks decide to carry out digital business transformation, these underprivileged communities will be neglected if adequate anticipatory steps are not taken. There are still 26.3% of Indonesian people who have not been served when digital banking has been fully implemented [10]. However, there will be groups of people who do not have equal access to banking services. Based on the phenomena described above, researchers are interested in dealing with digital banking on societal disparities.

2 Methodology

This research employed a qualitative approach with descriptive-quantitative data analysis techniques. The data collection method utilized was documentation, involving information extracted from published reports. The focus of the study was Indonesia, with data incorporating digital banking data and the count of BTS towers.

The quantitative descriptive research method was applied to objectively illustrate a situation using numerical data, encompassing data collection, interpretation, and presentation of results. Descriptive quantitative research aimed to depict, explain, or summarize various conditions, situations, phenomena, or research variables based on existing events that could be captured through photography, interviews, observations, and documentary materials. The research targeted micro, small, and medium enterprises in West Sulawesi Province as the sampled population. In 2020, the Department of Trade, Industry, Cooperatives, and Small and Micro Businesses reported 22,886 business entities distributed across six districts.

The sample size for each district was proportionally determined using the Slovin Formula. From the pool of 22,886 business entities, a sample of 395 individuals was selected to respond to a questionnaire. The data collection period spanned two months.

3 Discussion

3.1 Inadequate Internet Service

One of the vital tools to digital banking services is an adequate internet network, the absence of internet or poor network quality in certain areas will cause isolation from digital banking service to those areas. This isolation will simultaneously limit the financial access of people residing in that area.

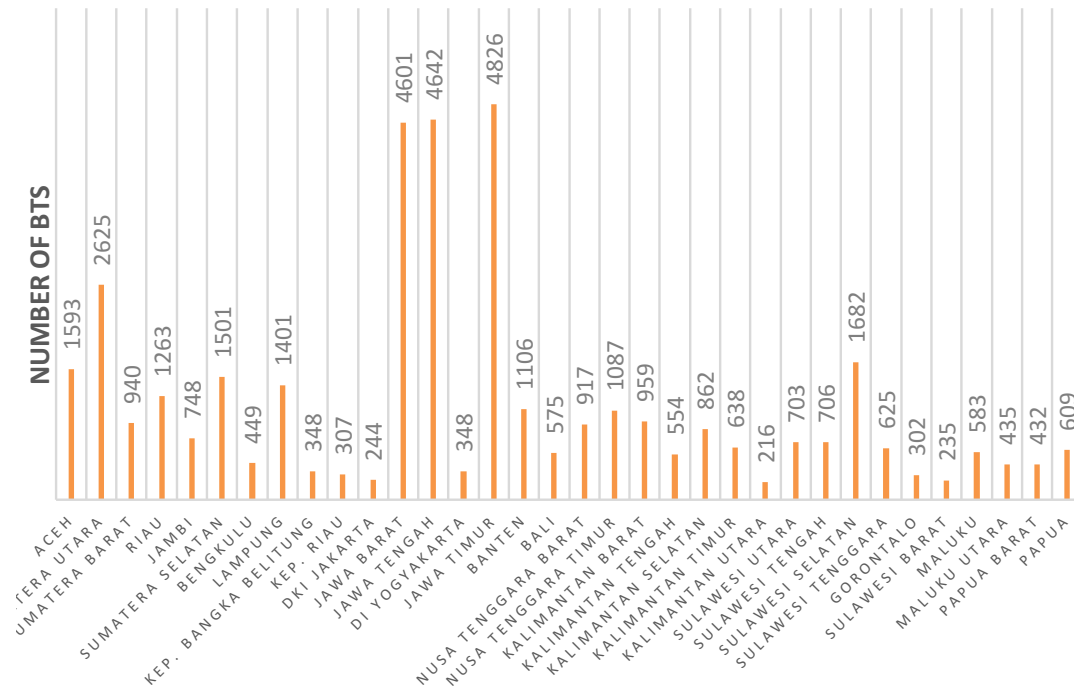


Fig.2. BTS Tower Based on Province in Indonesia, 2021 (BPS – Statistic Indonesia 2019-2021)

From the picture above, it can be observed that the highest number of BTS towers is in the provinces of West Java, Central Java, and East Java. This is attributed to the fact that these three regions boast the largest population in Indonesia. Meanwhile, West Sulawesi and North Kalimantan have the fewest BTS towers. The presence of a BTS tower in an area ensures a reliable internet network, which is crucial in supporting the community's digital banking access needs. The internet offers various benefits, serving as a means of connectivity and communication, providing access to information, knowledge, and education, assisting with addresses and mapping, facilitating business operations, and offering entertainment. According to the Encyclopedia Britannica, the internet is a vast network connecting computers worldwide. Its use has significantly simplified many aspects of human life, particularly in the realm of communication. With the internet, communication is possible without the constraints of space and time, influencing people's ways of thinking, conducting business, and seeking entertainment.

Internet Banking enhances customer convenience by enabling online banking transactions, covering both financial and non-financial activities, excluding cash deposits or withdrawals. Digital banking has the potential to enhance public access to banking services and increase banking efficiency, thereby promoting greater economic activity [15].

Digital banking services heavily depend on the availability of internet services, requiring not only accessible internet networks but also sufficient service quality to ensure stable data access. In regions where internet services are unavailable, the exclusion from digital banking services becomes inevitable.

For communities facing such isolation, one option is to relocate to areas with reliable internet networks. However, this option doesn't eliminate the possibility that individuals may need to climb hills or even trees to access adequate internet service. Requiring people to change locations, often over long distances, constitutes a form of discrimination. While some individuals can comfortably enjoy digital banking services from the convenience of their homes, markets, or even while lying in bed, there are unfortunate groups of people who face additional efforts and costs to attain the same level of access.

3.2 Additional fees for telephone charges and internet credit.

To access digital banking, individuals not only require internet services but also need mobile phones with specific specifications. Moreover, it is essential to purchase internet packages. However, this poses a challenge for low-income groups. While conventional banks can still be accessed directly without the need for a mobile phone during operational hours, digital banks offer a higher level of personalization to each individual, constituting their unique value proposition. On the contrary, digital banking systems typically link customers' accounts to their phone numbers, making sharing mobile phones an impractical solution. Personal phone numbers and additional internet credit serve as crucial tools for engaging with digital banking services.

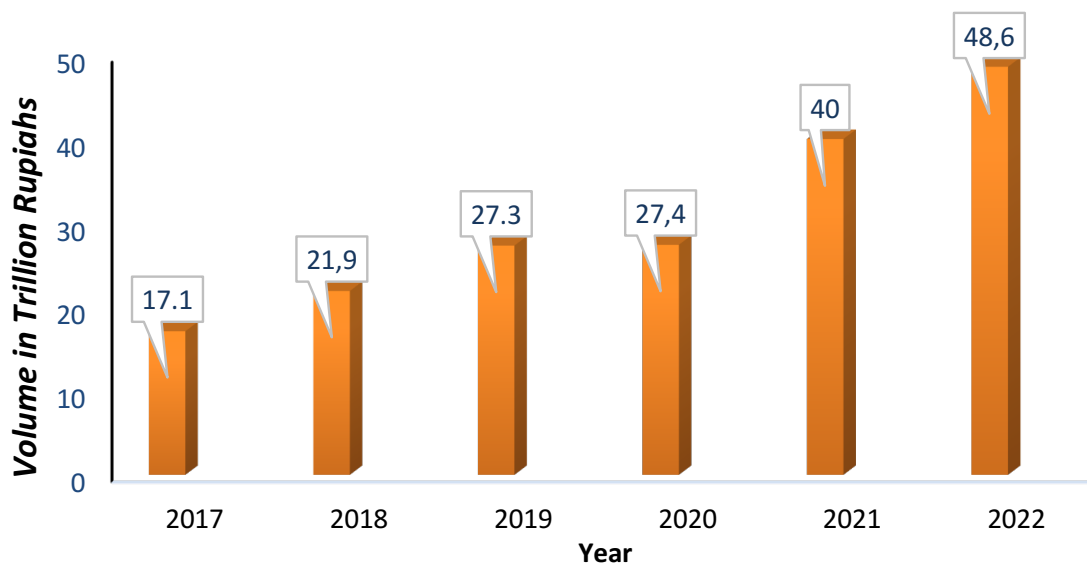


Fig.3. Transaction Volume of digital Banking in Indonesia (2017 – 2022) (Central Bank of Indonesia, 2023)

From the picture above, it can be observed that the value of digital transactions in Indonesia has steadily increased year by year, with a significant spike in 2022 to IDR 48.6 trillion from IDR 40 trillion in 2021. This indicates a growing interest among the Indonesian people in transitioning to digital banking. Naturally, this surge will lead to

an increase in public spending on telecommunications. Expenditures on purchasing mobile credit, data packages, or even the need for better gadgets have risen.

According to a 2023 survey by the Association of Indonesian Internet Service Providers (APPJI), internet expenses for Indonesians mostly range from IDR 50,001 to IDR 100,000 per month, constituting 42.95% of the total respondents. In this context, it is evident that the discrimination resulting from digital banking services stems from the unequal reach and quality of internet services across the country [16]. In addition to the internet network, customers of digital banking are required to possess a mobile phone or another device for accessing services. Consequently, customers need to spend more to purchase credit for internet network access, especially in areas lacking free Wi-Fi services. Essentially, bank accounts are uniquely tied to each person, requiring customers to have their own mobile phones with data credit to access digital banking. The mandate for a dedicated cell phone per bank account and associated phone credit introduces another layer of discrimination. Previously, with conventional banks, individuals only needed to visit a bank office or an ATM machine. However, the shift to digitalized banking services now encourages people to incur additional expenditures. The inability to meet these additional costs demonstrates that digital banking is inaccessible to everyone, creating an unfortunate chain of circumstances for those unable to access it due to a lack of internet services.

3.3 Digital Banking has lower cost

Digital banking, rooted in technology, minimizes the operational expenses for banks, offering them the opportunity to reduce costs by eliminating unnecessary branch offices. This includes expenses related to employee salaries, building rentals, and other overheads associated with the existence and maintenance of physical branches. The cost-effectiveness of digital banking results in lower operational costs, fostering a reduced cost of funds. This has the potential to lead to cost disparities, specifically a variance in credit interest expenses between digital branches and traditional branches in the future, where digital branches are likely to impose lower fees.

The disparity in service models between digital and traditional services, which involve physical branch offices, can create inequality. For example, the operational costs of digital banking are more economical than those of conventional banking, leading to variations in the fundamental price of bank funding, commonly known as the cost of funds. When banks implement policies with unequal cost of funds, it results in differences in pricing or interest rates. Regions with digital banking services may experience lower credit interest rates and higher deposit rates compared to areas served by traditional banking [13].

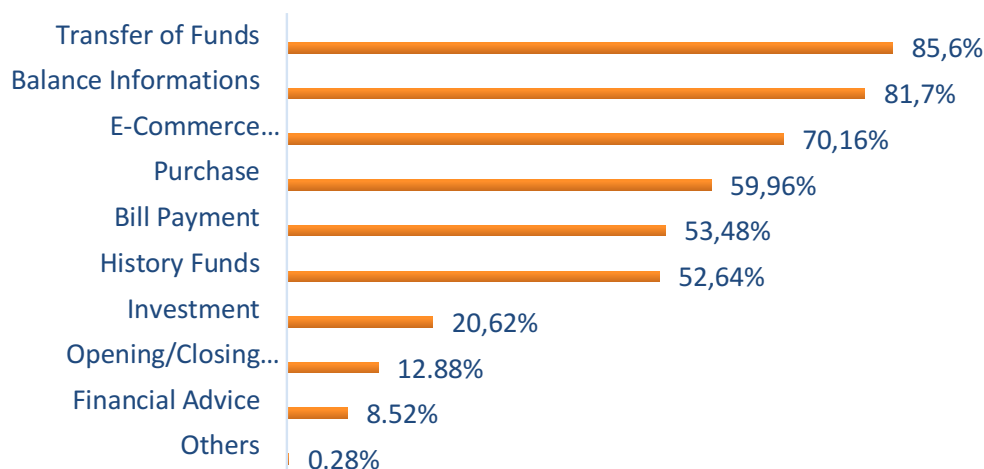


Fig.4. Feature Digital Banking services most uses (Central Bank of Indonesia, 2023)

From the picture above, it is evident that almost all banking services have transitioned to digital banking. The most frequently utilized banking services include fund transfers, followed by balance inquiries and e-commerce transactions. Previously, individuals had to visit an ATM or a bank branch office to check their balances. With digital banking, it saves public costs, particularly in terms of transportation.

Some individuals still prefer traditional banking methods, continuing to visit branch offices, which results in disparities in service costs. One of the factors determining bank fees is the operational expenses of branch offices, including labor costs, a component that doesn't exist in the digital banking environment. Consequently, digital banks incur lower expenditures, leading to reduced interest rates and loan costs. Depositors or individuals keeping their money in the bank benefit from these lower operating costs as banks offer higher deposit interest and service fees.

Fundamentally, the amount of loan interest influences business competitiveness, constituting an expenditure component calculated as the cost or price of an item or service. Different prices for the same goods and services will undoubtedly impact the competitiveness and growth of a business.

3.4 Troubleshooting

Technically, expanding the internet network is feasible through the construction of BTS (Base Transceiver Stations). The presence of BTS will extend the coverage of the internet network. However, permanently building BTS can impose a burden on local government budgets. One alternative solution is to encourage private sector engagement as a partner or investor in BTS construction.

As investors, the private sector naturally considers profitability as a key factor in this cooperation model. The income of the BTS owner is derived from renting the BTS to network and telecommunication providers, while the providers generate income from the use or consumption of data, commonly known as telephone and internet credit [11].

The government has the authority to intervene with a subsidy approach by ensuring that the income reaches a certain threshold. The government subsidy equals the gap between the public's credit purchases and the minimum income of the investors. It is anticipated that the presence of BTS will enhance people's living standards, automatically increase network traffic, and encourage greater consumption of credits and internet data packages, enabling the withdrawal of subsidies.

A similar model can be observed when local governments initiate a flight route. In the early stages, local governments provide subsidies to airlines to open flight routes to their areas. Eventually, when flights become affordable for the public, subsidies are suspended to align with market mechanisms.

This collaboration approach has also been initiated by telecommunications cellular operators to reach the outermost areas of Indonesia. It is essential to recognize that providing an internet network benefits not only digital banking, ensuring unlimited financial access for the underprivileged community and enabling them to keep pace with other communities in this fast-paced era, but also provides widespread access to education and entertainment. The availability of the internet opens up opportunities to promote the use of digital banking and raises awareness about schemes for the misuse of digital banking. Local governments can also encourage the establishment of digital business groups, including finding business partners who can be buyers of locally produced commodities.

The initiative of local governments to open telecommunication networks will pave the way for the development of remote communities. The subsidy model serves as an alternative effort amid the government's limited budget. In addition to expanding financial access, it opens the door to education, sources of information, and entertainment for the wider community.

To alleviate the absence of mobile phone devices and data packages, banks can provide this subsidy model, collaborating with cellular providers and local governments to develop specific subsidy models. Eventually, as people achieve a certain level of welfare, they can acquire these devices on a self-managed basis.

Finally, when an adequate internet network is available and supported by telephone equipment and access to the internet, the gap between digital and conventional banking services will naturally be resolved.

4 Conclusions

The introduction of digital banking has the potential to worsen social inequality. Insufficient internet connectivity, elevated prices for acquiring smartphones, and fees for telephone credit, along with varying service rates imposed by banks to provide exclusivity to specific groups, contribute to unequal access to public services. The subsidy model for BTS construction aims to bring internet access to remote areas, and other

subsidy programs can be implemented to facilitate the acquisition of smartphones and internet credit.

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