Accessibility of Digital Financial Services in East Nusa Tenggara Province

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ABSTRAK

Tujuan dari penelitian ini adalah untuk mengeksplorasi dan menganalisis kesiapan aksesibilitas layanan keuangan digital setiap kabupaten di provinsi Nusa Tenggara Timur, Indonesia. Penelitian ini dilakukan dengan menggunakan metode analisis isi. Data yang digunakan merupakan data sekunder yang berasal dari berbagai sumber khususnya Bank Indonesia dan Otoritas Jasa Keuangan. Sampel penelitian adalah pemerintah kabupaten di Provinsi Nusa Tenggara Timur yang berjumlah delapan kabupaten. Analisis data juga dilakukan terhadap informasi penyedia jaringan komunikasi mengenai infrastruktur ketersediaan internet dan layanan telekomunikasi di setiap kabupaten untuk mendukung keberhasilan pelayanan publik berbasis digitalisasi. Hasilnya seluruh daerah mempunyai akses internet dan penyelenggara telekomunikasi yang baik dengan melakukan kerja sama dengan pemerintah dan penyelenggara jasa telekomunikasi sehingga sistem layanan keuangan digital dapat terlaksana dengan baik. Tentu selanjutnya diperlukan perpaduan pendekatan antara teknologi dan manusia untuk memperkuat mekanisme pemungkin dan evaluasi inklusi keuangan

ABSTRACT

The purpose of this study is to explore and analyze the accessibility readiness of digital financial services of each district in East Nusa Tenggara province, Indonesia. This research was conducted using the content analysis method. The data used is secondary data derived from various sources, especially Bank Indonesia and the Financial Services Authority. The research sample was district governments in East Nusa Tenggara province, totaling eight districts. Data analysis was also conducted on information from communication network providers regarding the infrastructure of internet availability and telecommunication services in each district to support the success of digitization-based public services. The result is that all regions have good internet access and telecommunication providers by cooperating with the government and telecommunication service providers so that the digital financial service system can be implemented properly. Of course, the next step requires a combination of technology and human approaches to strengthen the enabling mechanism and evaluation of financial inclusion.

INTRODUCTION

Digital financial services have become a phenomenon in the transformation of the financial world. The existence of affordable digital financial services has had a significant positive impact on increasing the economic growth of a country (Pazarbasioglu, C., et al 2020; Wang, T., & Ji, C., 2022; Zhang, J. dkk, 2022; and Khera, P.,dkk., 2021). In Indonesia, Bank Indonesia has innovated by offering Digital Financial Services (DFS), which used to be branchless banking, to increase the accessibility of financial services, especially for the unbanked and underbanked. Indeed, digital financial services will enable marginalized communities to obtain financial services safely, affordably, and without using traditional bank branches (Lee, S., & Lee, D., 2019; Prakasha, M., 2019; and Chamboko, 2022). Therefore, digital financial services must be carried out in all regions for access to financial services to be enjoyed by all levels of society (Agwu, E., 2020;

Ebong & George, 2021; Somasundari, D., & .S, M., 2021).

While digital financial services can provide convenience and efficiency, their implementation can depend on a number of factors involving technology, infrastructure, and the level of financial literacy in the community, as is the case in East Nusa Tenggara province. In East Nusa Tenggara Province, 55% of the approximately 5.3 million total population choose to save outside the bank, such as storing at home, breeding or buying jewelry (bali.bisnis.com, 2017). Then based on the results of the Survey on Financial Inclusion and Access (SOFIA) in 2017 in the province of East Nusa Tengara with 4,329 respondents, it was noted that only 30% of the adult population received remittances through banks and only 40% of the adult population sent remittances through banks.

Increased financial inclusion can have a positive impact on economic growth and the overall welfare of society. On the other hand, finding prospective locations that permit the implementation of digital financial services is essential (Arner, D., 2019; Kornivska, V.,2022; Mpofu & Mhlanga, 2022). Identifying the potential of this area will be a consideration for implementing digital financial services in priority areas in need so that its utilization can be appropriately on target and more optimal (Semenog, A., 2021; and Iheanachor & Umukoro, 2022). Therefore, the issue of accessibility readiness of digital financial services is not only the main focus of the financial sector, but also has direct implications for financial inclusion in society. This research will provide a holistic picture of the level of accessibility readiness of digital financial services in each district in East Nusa Tenggara Province, so that it can provide guidance for relevant parties in designing policies and strategies for developing more effective and inclusive digital financial services.

Literature Review

Development of Digital Financial Services

In recent years, digital financial services have become the focus of attention in the global financial world. Digital financial services (DFS) is a new approach to financial inclusion that gives poor families access to affordable resources that make it easier for them to save, borrow, and invest (Perlman, L., 2018; Parvin, S., & Panakaje, N., 2022; and Khera, P., dkk, 2022). According to Perlman,. L (2018), DFS is a variety of products, applications, processes, and business models that have changed the traditional way of providing banking and financial services. The development of information technology, especially the internet and mobile devices, has facilitated the emergence of various innovations in the financial sector (Berger, E., & Nakata, C., 2013; Tan, J., dkk, 2019; Vidal, M., Vidal-García, J., & Bekiros, S., 2020; and Chatterjee, A., 2020). Financial service activities such as payments with financial systems carried out by Payment Service Providers in the form of issuing electronic money usually through cooperation with third parties, and using mobile or other digital-based technology facilities and devices for the digital economy and inclusive finance (Asif et al., 2023; Awinja & Fatoki, 2021; Chamboko, 2022).

DFS in Indonesia is an important aspect of the country's financial landscape. Increased access to finance through the implementation of DFS is expected to encourage the creation of new businesses, especially micro, small, and medium enterprises (MSMEs), thereby improving livelihoods and contributing to economic growth (Mehrotra, M., 2015; Darsono, D., & Darwanto, D., 2019; Uddin, M., dkk, 2022; and Rajamani, K.,dkk 2022). These services certainly offer a variety of convenience, comfort, and security, so it is not surprising that more people are choosing this method (Ebong & George, 2021; Mpofu & Mhlanga, 2022). Of course, digital financial services have mushroomed in

Indonesia and people have accepted them with open arms (Bapat, 2022; Stefanelli & Manta, 2022).

Readiness for Accessibility of Digital Financial Services at the Provincial Level

The readiness of digital financial services accessibility at the provincial level in Indonesia is a topic of interest, as the country's digital economy grows and DFS become increasingly available (Mehrotra, M., et al. 2015; Perlman, L., & Wechsler, M., 2019; Abdullah, Z., Saleh, S., & ., M., 2021; and Cheumar, M., & Yunita, P., 2022). According to Mehrotra, M., et al (2015), the conditions and impacts of DFS on the economy at the provincial level are as follows: (a). The current Digital Financial Services landscape, Indonesia's digital economy is expected to drive the development of DFS at an unprecedented rate, with the DFS market size projected to continue growing. (b). Economic Impact at National and Provincial Levels: DFS services can advance local economic growth by expanding the horizons and tools available to local entrepreneurs. (c). Lessons from Other Markets: Case studies from countries such as India, Brazil, and Kenya can provide insights into the critical success factors and challenges faced in implementing DFS at the provincial level. And (d). Support from the Private Sector and Government: Collaboration between the private sector, provincial governments, and the government is critical to the successful implementation of DFS at the provincial level.

Then the development of DFS for the government has begun to prepare digital public services, and several provinces have shown progress in digitizing public services. In addition to government, the development of DFS for people with disabilities in developed and developing countries is of course now very important (Santoso, B., 2023). Therefore, DFS accessibility readiness at the provincial level in Indonesia is a complex issue that requires the collaboration of various stakeholders, including the private sector, provincial governments, and the government. By learning from other countries and focusing on inclusiveness, Indonesia can work towards a more accessible and inclusive digital financial services landscape at the provincial level.

RESEARCH METHODS

The research method used is qualitative research methods with content analysis. Content analysis is a method for analyzing and rating the caliber of information or content produced or released (Goebel, 2019). This technique aims to identify the strengths and weaknesses of content and assist in determining strategies to improve the quality and effectiveness of that content (Devi et al., 2019). Content analysis aims to describe the content characteristics of a message. Content analysis also has several conditions, including that the available data primarily consists of documented materials (Al-Wattar et al., 2019). There is complementary information or a specific theoretical framework, and the researcher has the technical ability to process the data that has been collected (Diener & Špaček, 2021). There are several steps taken in this research, Specifically: developing research questions, carrying out literature reviews, choosing observation and analysis units, choosing samples and variables, developing classification and coding standards, gathering, organizing, and processing data, presenting and offering interpretation, as well as writing reports on research findings (Shi et al., 2020).

The data used to identify potential regions in the context of digital financial services implementation are generally secondary data from various sources, particularly the Financial Services Authority (OJK) and Bank Indonesia (BI), as evidenced by reports and statistics from the former, data from the Central Statistics Agency (BPS), and banking data. There are 8 districts in

East Nusa Tenggara province that were used as research sites. On-site observation and monitoring are also needed to strengthen the assessment of each measurement dimension.

RESULTS AND DISCUSSIONS

Implementation of Electronification of Regional Government Transactions Supports Improvement of Regional Government Financial Management

The first step involved conducting a content analysis of a press release issued by the Coordinating Ministry for Economic Affairs of the Republic of Indonesia, bearing the number HM.4.6/451/SET.M.EKON.3/12/2021, which stated that the policy of restricting community activities and mobility amid conditions The digital economy has been able to proliferate and become a new force due to the persistently increasing public demand for goods, services, and public services (Mpofu & Mhlanga, 2022).

Indonesia's digital economy rose 11% (yoy) to reach USD 44 billion in 2020, making it the country with the most significant growth in Southeast Asia. This number may rise further due to the population and advancements in technology usage and national communication infrastructure. Regarding digital consumers, there were 212.3 million internet users in Indonesia, with a 76.8% penetration rate and 345.3 million mobile connections (125.6% of the total population). President Joko Widodo has instructed the Central and Regional Governments to develop an Electronic-Based Government System in Government Governance to deliver exceptional public services, as stated in Presidential Regulation 95 of 2018. The Acceleration and Expansion of Regional Digitalization is hoped to help accelerate SPBE's successes (Iheanachor & Umukoro, 2022).

The Acceleration and Expansion of Regional Digitalization aims to implement digital transformation through the Electronification of Regional Government Transactions on regional income and expenditure transactions to enable an Electronic-Based Government System (Rana et al., 2020). Additionally, implementing several changes to the financial administration of the Regional Government enhances governance and public services (Agur et al., 2020). It is accomplished by creating policies or rules, setting up organizations, enhancing infrastructure, enhancing implementation, and fortifying data and information.

Determination of Eight Selected Districts

The process of determining eight selected regions/regions is carried out through the following stages: Calculate and rank 21 districts/cities according to the dimensions of penetration, use, and availability of services using available formulas (Awinja & Fatoki, 2021). After obtaining the value and ranking of the region according to the dimensions used, the value data is transformed into a scale of values 0-100 using the following formula:

$$\text{Score Value} = \frac{\text{Kab./City Score - Minimum Value}}{\text{Maximum Value - Minimum Value}} \times 100$$

Next, the value is multiplied by the weight of each dimension/indicator. There are three main dimensions, and 13 indicators are used to determine eight potential districts/cities for digital financial services implementation (Stefanelli & Manta, 2022). The weight value of each

dimension and assessment indicators to produce eight priority districts/cities can be presented in the following Table:

Table 1.
Dimensional Weights and Assessment Indicators for 8 Selected Districts

No.	Dimensions/Weights	Indicators/Weights
1.	Penetration Dimension (25%)	- Bank (50%) - Telco (40%) - Electricity (10%)
2.	Usage Dimensions (25%)	- Credit (50%) - Savings (50%)
3.	Service Availability Dimension (50%)	- Branch Offices/Adult Residents (12.5%) - Branch Office/Area (12.5%) - ATM/Adult Resident (12.5%) - ATM/Area (12.5%) - BPR/Adult Population (12.5%) - BPR/Area (12.5%) - Cooperatives/Adult Residents (12.5%) - Cooperatives/Area (12.5%)

Source by author 2022

Following the abovementioned stages, a ranking was made to select eight potential districts/cities to implement Digital financial services (Bapat, 2022). The rating results are presented in Annex 1a. Based on the ranking results presented in Annex 1a, eight selected districts/cities were obtained, and the final scores were as follows:

1. South Central Timor District (12.07)

2. North Central Timor District (23.01)

3. East Manggarai District (3.61)

4. Nagekeo District (8.50)

5. West Manggarai District (13,13)

6. Central Sumba District (6.58)

7. Southwest Sumba District (16.61)

8. Sabu Raijua District (8.95).

Findings of Digital Financial Services in Each District

North Central Timor Regency

Telecommunication services used in this district are Telkomsel (As and Simpati), with relatively good signal quality. It is distinct from the signal quality required for digital financial services, which must require an Enhanced Data Rates GSM Evolution (EDGE) signal, Third Generation, Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA), and 4G. because the responders only utilize their phones and SMS accounts on the Telekomsel network. Currently, very few transactions are made via mobile phones. Because only some parts of the regency have the same signal quality to conduct digital financial service transactions, the survey results indicate that the provision of telecoms service quality has been classified as reasonably excellent (Stefanelli & Manta, 2022). The frequency of mobile phone transactions is over two times a month, so this condition is one of the factors that makes it possible to expand financial services using non-cash instruments (Iheanachor & Umukoro, 2022; Mpofu & Mhlanga, 2022).

BRI is a bank implementing digital financial services in the TTU Regency. Based on information from the Banking, among the challenges in deploying digital financial services is the increased public and corporate awareness of non-cash transactions, telecommunication signal interference, and frequent electrical power outages (Agur et al., 2020; Ebong & George, 2021). Currently, the banks' efforts are in the form of BAZAR activities that implement electronic money payment mechanisms (Mpofu & Mhlanga, 2022). It is done as a form of education to the public to introduce transactions using non-cash services. This activity is planned to be held regularly, but support from various parties is needed to succeed (Putri & Saputra, 2022). When viewed from its location, the sub-district that has the most potential for the development of non-cash financial services is Kefamenanu City District and surrounding locations because of the concentrated population, the large number of shops and clone kiosks that have the potential to become digital financial services agents, and accompanied by better support in terms of infrastructure (Saputra et al., 2022).

South Central Timor Regency

Telecommunication services used in this district are Telekomsel providers (As and Simpati) with good signal quality; because respondents use the Telekomsel network for telephone and SMS purposes, therefore, all that is required for digital financial services is a General Packet Radio Service (GPRS) signal (not signal quality), which is different from the requirements for Enhanced Data Rates GSM Evolution (EDGE) signal, Third Generation Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA), and 4G. The use of mobile phones for transactions is still relatively low. The frequency of mobile phone transactions is more than two times a month, so this condition is one factor that makes it possible to expand financial services using non-cash instruments (Hasan et al., 2022; Rana et al., 2020).

BRI is a bank implementing digital financial services in the TTS Regency. Based on information from the Banking, some obstacles faced in implementing digital financial services are telecommunication signal interference and electrical power disturbances that are often out (Pazarbasioglu et al., 2020). The community, particularly in Panite, South Amanuban District, responded well to introducing digital financial services in this district (Liu et al., 2021). People in this area already know about the benefits of digital financial services, so many requests have come in for adding new agents. When viewed from its location, the districts with the most potential for developing non-cash financial services are the SoE City District, South Amanuban

District, and East Amanuban District (Sara et al., 2023). These three sub-districts are potential locations for developing Digital financial services because telecommunication services, electricity supply, infrastructure, and adequate economic conditions are available (Attor et al., 2022).

Sabu Raijua Regency

Telecommunication services used in this regency are using Telkomsel providers (As, Simpati, and Halo) with good signal quality because respondents use the Telekomsel network for telephone and SMS purposes, in contrast to digital banking services, which require a signal quality for Enhanced Data Rates, GSM Evolution (EDGE), Third Generation Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA), and 4G, this requires a General Packet Radio Service (GPRS) signal. The use of mobile phones for transactions (24%) is still relatively low.

Judging from the provision of telecommunication service quality in the category of reasonably good, because not all areas of this regency have a signal quality that can serve digital financial transactions, this situation is an obstacle to expanding the number of agents of digital financial service business actors (Nuwagaba & Brighton, 2014). The frequency of mobile phone transactions is above three times a month. Thus, according to Shen et al. (2023), this circumstance is one of the variables that can lead to an increase in the number of digital financial service agents. BRI is the only banking institution implementing digital financial services (Saputra et al., 2023). in Sabu Raijua Regency. Viewed from the sociological aspect, the people of Sabu Raijua Regency are always open to knowing and accepting innovations, where the existence of digital financial services agents gets a good response from the community (Howell & Sadowski, 2018). However, some people still need to be more confident about the existence of digital financial services agents because they need to learn the functions and benefits provided. Thus, socialization by banks is still essential (Qiang, 2010). When viewed from its location, the districts with the most potential for developing non-cash financial services are the West Sabu District, East Sabu District, and Nobohodo-Hawu Mehara District. These three sub-districts are potential locations for developing Digital financial services (Cordova & Stanley, 2021).

Central Sumba Regency

Telkomsel's telecommunication services used in this regency are using Telkomsel providers (Simpati and As) with good signal quality because respondents use the Telekomsel network for telephone and SMS purposes, in contrast to the signal quality required for digital financial services, which must require Enhanced Data Rates GSM Evolution (EDGE) signal, Third Generation Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA), and 4G, this one requires a General Packet Radio Service (GPRS) signal. The percentage of people who use their phones for transactions (8%) still needs to be higher.

Based on banking information, BRI is a banking institution with digital financial services in Central Sumba Regency, with two agents in Kitukuta District and Mamboro District. These two sub-districts are potential locations due to the availability of communications services for the growth of digital financial services, electricity supply, and infrastructure, as well as being the center of community economic activity (Attor et al., 2022). There are two obstacles to increasing the number of digital financial services agents in Central Sumba Regency: external and internal barriers (Shen et al., 2023). External barriers are the low quality of power supply services and the low knowledge capacity of customers about digital financial services agents. BRI's internal obstacles are limited human resources and still need satellite facilities (Jayawarsa et al., 2021).

Southwest Sumba Regency

Telecommunication services in Southwest Sumba Regency are dominated by Telkomsel (Simpati and As) with good signal quality. Respondents use the Telekomsel network for telephone and SMS, requiring a General Packet Radio Service (GPRS) signal. The use of mobile phones for transactions is still relatively low. Judging from the provision of Telkomsel telecommunication service quality in the excellent category, because some points in this region do not yet have Increased Data Speeds, There is a barrier to the growth of the number of agents of digital financial service businesses because not all areas of this district have signal quality that can support digital financial transactions, including GSM Evolution (EDGE), Third Generation Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA), and 4G.

BRI is the only banking institution implementing digital financial services in Southwest Sumba Regency. Obstacles from the banking side to increasing the number of digital financial services agents in South West Sumba Regency are external and internal obstacles. External obstacles are the uneven quality of telecommunication services, the electricity supply that has yet to reach various regions, and the low capacity of customer knowledge about digital financial services agents (Alves et al., 2021). Internal banking obstacles are limited human resources and the need for satellite facilities. The potential for implementing digital financial services services in the future is Kodi Balagar and Kodi Bangedo Districts (Saputra et al., 2021). The current condition is that digital financial services agents in the Kodi sub-district have the achievement of becoming agents with transaction values entering into the 20 most significant transactions in the Bali and Nusa Tenggara regions with a value above one billion rupiah in June 2015.

West Manggarai Regency

Telkomsel's telecommunication services used in West Manggarai Regency are Simpati and Kartu As, with good signal quality; because respondents use the Telekomsel network for telephone and SMS purposes, it is enough to need a General Packet Radio Service (GPRS) signal different from the signal quality for digital financial service purposes, which must require an Enhanced Data Rates GSM Evolution (EDGE) signal, Third Generation, Technology / W-CDMA 3G, High-Speed Downlink Packet Access (HSDPA) and 4G, this is one of the inhibiting factors to increase or expand the number of digital financial service agents because not all areas of this district have the same signal quality. The use of mobile phones for transactions still needs to be higher. Respondents using mobile phones to transact are still relatively low (12%), with transactions above thrice a month.

BRI is the only banking institution implementing digital financial services in West Manggarai Regency. Obstacles from the banking side to increasing the number of digital financial services agents in West Manggarai Regency are external barriers and internal obstacles (Iheanachor & Umukoro, 2022). External obstacles are the quality of telecommunication services, electricity supply that has yet to reach various regions, and the low capacity of customer knowledge about digital financial services agents. Internal banking obstacles are limited human resources and the need for satellite facilities (Pazarbasioglu et al., 2020).

East Manggarai Regency

Judging from the provision of Telekomsel's telecommunication service quality in the category of reasonably good, because not all areas of this regency have a signal quality that can serve digital financial transactions, this situation is an obstacle to the expansion of the number of agents of digital financial service business actors. The frequency of transactions using mobile phones is above three times a month (83%), so this condition is one of the factors that is possible to

increase the number of digital financial service agents and facilitated by the availability of good infrastructure (roads and public transportation) to carry out economic activities. Banks that already have digital financial services agents in East Manggarai Regency are BRI. The challenge in developing digital financial services in this region is the need for more public understanding regarding non-cash services and telecommunication signal interference (Bapat, 2022; Ebong & George, 2021; Mpofu & Mhlanga, 2022).

The potential locations for digital financial services expansion are Waelengga-Kota Komba District, Lengkong Elar-Elar District, Golo Mongko-Rana Mese District, Java Fort-Lamba Leda District, and Wukir-South Elar District, the selection of potential locations for the development of digital financial services agents is due to the availability of telecommunication services, electricity supply, infrastructure (roads and transportation), community economic activities, and the distance of residents' residences to the center of government, markets, banking, and non-banking institutions (Agur et al., 2020).

Nagekeo County

Judging from the provision of Telkomsel's telecommunication service quality in the excellent category, because not all areas of this regency have signal quality that can serve digital financial transactions, this situation is an obstacle to expanding the number of digital financial service business agents. The frequency of transactions using mobile phones above three times a month is 83%, so this condition is one of the factors that is very likely to expand the number of digital financial service agents (Hasan et al., 2022; Stefanelli & Manta, 2022).

The potential for digital financial services development in Nagekeo Regency, seen from the condition of the community, is very promising. Considering that the average Nagekeo community has profitable agricultural and plantation products, but the community is still very consumptive, almost all people have access to mobile phone use; the Telkomsel network is available in both Halo, Simpati, and AS each part of the Nagekeo area. It is undeniable that there are also some villages that the Telkomsel network has not served; people do not yet understand Digital financial services and the use of mobile phones is only for communication; they have not been optimally utilized for transaction purposes; and most potential sub-districts for digital financial services implementation are all sub-districts except Aesesa sub-district which is located in Mbay City (Liu et al., 2021; Mpofu & Mhlanga, 2022; Pazarbasioglu et al., 2020). These sub-districts are far from the reach of banking services but are sub-districts and villages with considerable economic potential (Awinja & Fatoki, 2021; Stefanelli & Manta, 2022).

The obstacles faced by Bank BRI Mbay Sub-Branch Office in implementing digital financial services are the limited number of BRI employees who can provide socialization to people who are located far apart from their Districts and Villages, lack of public and business understanding about non-cash transactions or digital financial services; the presence of Telkomsel signal interference; and the presence of electrical power interruptions that often go out more than five times a month (Agur et al., 2020; Liu et al., 2021; Mpofu & Mhlanga, 2022).

DISCUSSION

In the context of regional government, in order to accelerate the digitalization of regional government transactions and support regional financial accountability, five efforts are needed, namely i) Strengthening regulations at the center and regions to encourage accelerated electronification of regional government transactions (Awinja & Fatoki, 2021). It is targeted that regional governments in the digital category in the Regional Government Transaction Electronification Index will reach 65%, (ii) Accelerate the electronification of regional

government transactions and create a broader digital ecosystem through the provision of ICT infrastructure to support ideal and widespread digital services to reduce gaps between regions (Stefanelli & Manta, 2022), iii) Integrate systems information on regional financial management nationally (Agur et al., 2020). The Ministry of Finance and the Ministry of Home Affairs must immediately realize the Standard Account Chart (BAS) for Regional Government Transactions and ensure that the BAS supports national fiscal consolidation and synergy, iv) Increase the synergy of the Government, Bank Indonesia and the Financial Services Authority to strengthen the ecosystem that encourages the improvement of bank digital services as RKUD banks (Pazarbasioglu et al., 2020), v) Develop policy framework for implementing Tax electronification related to motorized vehicles nationally, at the same time the Regional Government is also expanding cooperation with marketplaces regarding regional tax and levy transactions (Liu et al., 2021).

The goal of the Electronification of Regional Government Transactions initiative is to enhance the efficiency, transparency, and accountability of regional government financial management, which in turn should lead to a rise in regional original income (Asif et al., 2023; Awinja & Fatoki, 2021). Presidential Decree Number 3 of 2021 concerning the Task Force for the Acceleration and Expansion of Regional Digitalization was issued by President Joko Widodo as part of the government's attempt to leverage the trends and potential of the digital economy to support the growth of the national and regional economies. There were 115 regional governments (21%) in the digital category, 270 regional governments (50%) in the advanced category, 151 regional governments (28%) in the developing category, and six regional governments (1%), according to the results of the Regional Government Transaction Electronification Index assessment conducted in July 2021, including some regional governments in East Nusa Tenggara Province. It means that the district government in East Nusa Tenggara has developed Digital financial services massively and committedly and in synergy with the central government and telecommunications network providers (Bapat, 2022; Ebong & George, 2021; Stefanelli & Manta, 2022). This synergy is a reference for other districts still needing help developing Digital financial services in the regions. The districts in East Nusa Tenggara achieved this achievement with their commitment to digitizing public services (Iheanachor & Umukoro, 2022; Mpofu & Mhlanga, 2022; Rana et al., 2020).

However, apart from being used in public services by local governments, Digital financial services are intended as convenience services for the community in all matters, for example, in fulfilling health service needs, independent financial transactions, purchasing household necessities, and other needs (Agur et al., 2020; Asif et al., 2023; Mpofu & Mhlanga, 2022). People in the regions feel all the convenience in transactions with Digital financial services. In this era of digitalization, digital services like this must continue to be developed, and internet services continue to be improved so that all people in remote areas experience developments in the telecommunications industry like this (Liu et al., 2021; Pazarbasioglu et al., 2020). As a result of lifestyles that have changed towards ease of service, all government components and other parties are obliged to continue to develop improvements in telecommunications services so that they are affordable throughout Indonesia (Bapat, 2022; Ebong & George, 2021).

Changes in lifestyle patterns in society, especially in information technology and mobile devices (Iheanachor & Umukoro, 2022; Rana et al., 2020). Causing various sectors of activity, business, and services to become more practical and more accessible. One is in the financial sector, by carrying out non-cash transactions (Agur et al., 2020). "Digital finance" refers to how new technologies affect the financial services sector. It comprises a range of goods, programs, procedures, and business plans that have revolutionized conventional financial and banking services (Liu et al., 2021; Pazarbasioglu et al., 2020). Although there has always been technical

innovation in finance, investment in new technologies has expanded significantly recently, and innovation is happening exponentially (Mpofu & Mhlanga, 2022). We now use mobile devices to communicate with our bank. A few years ago, several new technologies were unavailable to us. Today, we use them to make investments, move money, and make payments. New services and business models by established financial institutions and new market entrants have been made possible by artificial intelligence, social networks, machine learning, mobile applications, distributed ledger technology, cloud computing, and big data analytics (Ebong & George, 2021; Hasan et al., 2022; Stefanelli & Manta, 2022).

One of the indications in the infrastructure dimension that needs to be considered to identify a location with a high potential for adopting digital financial services is the availability of agents for these services (Agur et al., 2020). Digital financial services agents can be shops, kiosks, mini markets, and other economic institutions in the area (Liu et al., 2021; Stefanelli & Manta, 2022). The following is presented the optimal number of agents that should be available in the area in the following Table.

Table 2.
Optimal Number of Agents in 8 Districts Digital Financial Services Implementation Potential

No.	Regency	Adults (JPD)	Unbanked Adult (0.647 x JPD)	Target Customer Percentage (0.2 x Mml.Unbank Adult)	Optimal Number of Agents (Jlm. Target Customer Percentage/300)	Ranking/Ranking
1	South Central Timor	203.391,00	131.593,98	26.318,80	88	1
2	Southwest Sumba	120.666,00	78.070,90	15.614,18	52	2
3	East Manggarai	113.106,00	73.179,58	14.635,92	49	3
4	North Central Timor	107.971,00	69.857,24	13.971,45	47	4
5	West Manggarai	97.679,00	63.198,31	12.639,66	42	5
6	Nagekeo	63.598,00	41.147,91	8.229,58	27	6
7	Sabu Raijua	30.351,00	19.637,10	3.927,42	13	7
8	Central Sumba	28.068,00	18.160,00	3.632,00	12	8

Source: Processed Secondary Data 2022

Data in Table 2. The above shows variations in the number of potential digital financial services agents in each district according to the adult population. The 3 (three) regions with the highest number of digital financial services agents each are (1) South Central Timor Regency (88 units), (2) South West Sumba Regency (52 units), and (3) East Manggarai Regency (47 units), while the district with the lowest potential digital financial services is Central Sumba (12 units). The availability of other economic institutions in the regions is essential as a potential container/agent of Digital financial services (DFS) (Iheanachor & Umukoro, 2022).

A large number of potential telecommunications providers in a region is one of the critical indicators in the infrastructure dimension that determines a potential area for implementing Digital financial services. The following providers currently operating in the survey area are presented in the following Table.

Table 3.
Number of Telecommunication Providers in the 2022 Survey Area

No	Regency	Number of Providers	Scores/Scores	Ranking/ Rank	Information
8	Central Sumba	1	100	1	Telkomsel
3	East Manggarai	1	100	2	Telkomsel
4	North Central Timor	1	100	3	Telkomsel
1	South Central Timor	1	100	4	Telkomsel
7	Sabu Raijua	1	100	5	Telkomsel
2	Southwest Sumba	1	100	6	Telkomsel
5	West Manggarai	1	100	7	Telkomsel
6	Nagekeo	1	100	8	Telkomsel

Source; Processed Secondary Data 2022

The data in the Table above shows that the eight districts surveyed each have one provider, namely Telkomsel, with signal quality ranked 1st in Central Sumba, 2nd in East Manggarai, and 3rd in North Central Timor. Based on the ranking results, three districts were selected as potential areas for the implementation of Digital financial services in East Nusa Tenggara Province, namely;

1.   South Central Timor Regency in Timor territory with an average score of 92.26.

2.   Southwest Sumba Regency in the Sumba region with an average score of 81.49

3.   East Manggarai Regency in Flores region with an average score of 78.49

The determination of South Central Timor Regency as ranked 1 out of 3 selected districts is supported by a survey on signal quality and road infrastructure, which placed the region in third place with an average score of 88.90. Furthermore, based on the optimal number of agents, this region ranks 1st with 88. Likewise, Southwest Sumba Regency, with 52 agents, ranks second. East Manggarai Regency, in terms of the optimal number of agents, ranks 3rd with 49 agents, and the quality of electricity supply availability ranks second.

CONCLUSIONS

Based on content analysis carried out on government regulations, data from Bank Indonesia, and the Financial Services Authority, this research empirically finds that Digital financial services are essential for all components of society and government. In the regional government, through a press release, the Ministry of Economy accommodates Digital financial services in the East Nusa Tenggara region, which must continue to be developed for regional financial accountability and transparency, increasing regional original income and facilitating public services. In general society and economic development, Digital financial services are helpful regarding financial transactions, health services, household needs, and other previously difficult-to-reach services. These results critique existing financial services in several areas in East Nusa Tenggara so that they can be upgraded to digital services. Another contribution is to convey a message to the Central Government to complete the installation of a digital service network in the form of the Internet throughout the East Nusa Tenggara region in order to achieve the state's goals in terms of social justice for the Indonesian people, as well as improving the economy in the East Nusa Tenggara region.

The determination of the eight selected districts is based on three main dimensions, namely the penetration dimension, the usage dimension, and the service availability dimension. Based on these three dimensions, three districts on Flores Island have the most potential for digital

financial services implementation: two districts on Timor Island, two districts on Sumba Island, and one district between the districts of Lembata, Alor, Rote Ndao, and Sabu Raijua. Of the eight districts, three with the most potential for digital financial services implementation were selected. The calculation results can be summed up as follows.

Based on the dimension of bank penetration (savings account), eight districts have the potential for digital financial services implementation, namely: East Manggarai, Nagekeo, and West Mangggarai Districts on Flores Island; Regency of Southwest Sumba and Central Sumba on Sumba Island; South Central Timor Regency and TTU on Timor Island; and Rote Ndao representing Sabu Raijua, Lembata, Alor and Rote Ndao. Based on the dimension of telecommunication penetration (mobile phone owners), it shows that two districts on Timor Island that have the potential to become digital financial services implementation areas are Kupang City and Belu Regency. For the Flores region, three districts have the potential to be districts for the implementation of digital financial services, namely the Manggarai, Ende, and Ngada regencies. For Sumba Island, two districts have the potential to be districts for implementing digital financial services, namely East Sumba and West Sumba. At the same time, one of the districts of Lembata, Alor, Rote, and Sabu that have the potential to be a district for implementing digital financial services is Lembata Regency.

There are eight districts selected based on the dimension of use (nominal credit), namely: Central Sumba and East Sumba Districts on Sumba Island; East Manggarai, West Manggarai, and Nagekeo on Flores Island; Central Sumba and East Sumba on Sumba Island; TTS and Kupang Regency on Timor Island and Kabuaten Sabu Raijua represent Alor, Lembata, and Rote. Based on the dimension of use (nominal savings), eight districts have the potential to become digital financial services application districts; namely, for Timor Island, there are two districts, TTS and TTU; for Sumba Island, there are two districts that have the opportunity, namely Central Sumba and East Sumba; For Flores Island, there are three districts, namely East Manggarai, Nagekeo, and West Manggarai. Meanwhile, the other four districts with the opportunity are Sabu Raijua Regency. Two districts in Timor Island were selected based on the dimension of Branch Office service availability compared to the Number of Adult Population (KC/1000), namely South Central Timor Regency and North Central Timor Regency. For Sumba Island, two districts have the opportunity, namely SBD Regency and East Sumba. For Flores Island, three districts have the opportunity: East Manggarai, West Manggarai, and Manggarai. The other four districts that are likely are Rote Ndao County.

Two districts on Timor Island were selected based on the dimension of Branch Office service availability compared to the area (KC / 1000km2), namely South Central Timor Regency and North Central Timor Regency. For Sumba Island, the likely districts are Central Sumba Regency and SBD. For Flores Island, the three likely districts are West Manggarai, East Manggarai, and Nagekeo. The other four districts that have the opportunity are Alor Regency. Two districts on Timor Island can be selected based on the dimension of ATM service availability compared to the adult population (ATM/1000), namely South Central Timor Regency and Belu Regency. Flores Island has three possible districts: East Manggarai, Nagekeo, and West Manggarai. Two districts have the opportunity on Sumba Island, namely Central Sumba Regency and SBD. The other four districts that are likely are Rote Ndao County.

Based on economic growth criteria, three districts have the opportunity to implement digital financial services, namely Central Sumba, East Manggarai, and Sabu Raijua. Based on the potential of digital financial services agents, three districts have the potential to implement digital financial services, namely South Central Timor Regency, Southwest Sumba Regency, and East Manggarai Regency. Based on Telkomsel's signal quality, three districts have the

opportunity to implement digital financial services, namely Central Sumba, East Manggarai, and North Central Timor. Three potential districts for digital financial services implementation are based on public access to banking institutions and ATMs: (1) East Manggrai, Southwest Sumba Regency, and West Manggarai Regency.

Further for future research that evolves with changing functional, technological, and human perspectives on inclusive growth in general and financial inclusion in particular. We therefore suggest a blend of technological and human approaches to strengthen the enabling mechanisms and evaluation of financial inclusion.

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