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Digital banking policy implementation from the perspective of the banking industry: Case study in Bali province

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Abstract: The rapid development of information technology has resulted in digitization, including in the banking services sector. Bali is one of the provinces with the best implementation of digitalization in Indonesia. As a mainstay tourism area, in terms of ICT development, financial literacy, and inclusion, Bali is better than other regions. Based on this background, this study aims to examine and analyze: the development of digital banking policies, the structure of Indonesian banking, the evolution of digital banking, and the implementation of banking digital transformation in Bali.

This research uses a qualitative approach through Focus Group Discussion (FGD) and in-depth interviews involving stakeholders, namely regulators, operators, associations, academics, and customers. The analysis technique used is NVivo by coding, producing nodes as a set of references on topics or sub-topics.

The results of this study are: (i) regulations regarding digital banking originate from laws, government regulations, or presidential regulations; (ii) The banking structure in Indonesia refers to Law No. 10 of 1998 concerning Amendments to Law No. 7 of 1992 concerning Banking; (iii) The digital evolution of banking started from Bank 1.0 to the current Bank 5.0; and (iv) Digital banking transformation brings benefits but still faces obstacles and issues. So, there is a need for integrated regulations and policies between BI, Government, and OJK regarding more solid digital transactions.

The above results produce a novelty of the "Digital Banking Service Public Policy Ecosystem Model in Indonesia" which illustrates that the implementation of digital banking service public policy in Indonesia needs to be developed through cooperation between regulators, namely the Ministry of Information and Communication, Bank Indonesia, and the Financial Services Authority, to produce integrated regulations, supported by strengthening people, business processes, and IT Governance that can guide banks to deliver digital banking service delivery services that are reliable, safe, supported by a complete variety of features, and responsive, so as to increase effectiveness and efficiency in banking services for the public.

Keywords: public policy, digital banking.

Introduction

The global crisis due to the pandemic that attacked the world economy forced all sectors to readjust, including banking (Nicoletti, 2021). The facts show that, except for Financial Technology (fintech), banking institutions have been slow to evolve (Nicoletti, 2021). This implies that banking tends to be left behind technologically. On the other hand, consumer behavior requires banks to continue to innovate and create products and services that prioritize the needs of their customers (consumer-centric) in the digital era, so digital banking is a very potential business opportunity (Utama, 2021), especially when compared to fintech. Therefore, banks need to transform into Digital Banks. The digital banking model is superior to the traditional model because it emphasizes processes that are more efficient in service or costs. This will make it easier for customers to carry out various types of banking transactions. Makmun & Ningsih (2021) state that the reasons customers use Digital Banking services are the flexibility of use, costs, and security. This is coupled with the pandemic conditions, which have forced the banking industry to accelerate banking digital transformation.

In 2020, there was an increase in digital banking transactions in Funds Transfer activities by 76.71%, which increased in 2021 to 132.91%. Mobile Banking in 2020 increased by 35.42% and in 2021 by 62.07%. Internet Banking in 2020 experienced a decrease of 4.96% and increased in 2021 by 42.17%. Meanwhile, for Phone Banking in 2020, it has increased by 107.43% which decreased in 2021 to 82.85% considering that customers have started leaving these services in line with the growing development of the Mobile Banking and Internet Banking applications which are considered to make transactions easier to do. Responding to the opportunities that exist, regulators (Bank Indonesia and OJK) also support the acceleration of banking digital transformation. Bank Indonesia's membership in the Task Force for the Acceleration and Expansion of Regional Digitalization (Satgas P2DD) in all regions, as per Presidential Decree No. 3 of 2021, is a form of contribution. The Financial Services Authority (OJK) plays a role in national digital transformation by encouraging the financial services sector to carry out digital transformation in banking. Some of the policies that support digital banking acceleration are the 2021-2025 Indonesian Financial Services Sector Master Plan (MPSJKI) and the 2020-2025 Indonesian Banking Development Roadmap (RP2I).

In the use of digital banking, the results of the 2021 Indonesia Digital Literacy Index survey by the Ministry of Communication and Information show that the 2021 Indonesia Digital Literacy Index is at a "moderate" level with a score of 3.49. The Digital Literacy Index for Central Indonesia has the highest score compared to the West and East regions, which is 3.57 or above the national digital literacy index. One of the regions in Central Indonesia with a fairly high level of digital banking utilization is the Province of Bali. The results of the national financial literacy and inclusion survey in 2019 showed that the level of financial literacy and inclusion in the Province of Bali was recorded at 38.06% and 92.91%, respectively. The two survey results show that the prospects for the development of digital banking in the Province of Bali are quite promising.

In terms of ICT development, Bali can be said to be better than other regions. Entering the pandemic period in 2020, IP - ICT Bali increased the most. Bali's IP-TIK was ranked 3rd and increased by 0.34 points compared to 2019. Therefore, it can be said that Bali Province's readiness to enter the digitalization era and its ability to adopt ICT during a pandemic is relatively better than most regions in Indonesia. The implementation of digital banking in the Province of Bali is evidenced by the award for "The Best IT Leadership (Local Banking Industries) 2022" by PT Bank Pembangunan Daerah Bali in the 2022 Digitech Award organized by the Digital Transformation & Innovation Institute. In addition to these achievements, BPD Bali was also named "Best BPD in Supporting P2DD Policy" in the 2022 TP2DD Championship. Another achievement was the award for "Top Digital Corporate Brand Award 2022" by BPD Bali.

As for the Rural Banks (BPR) sector, from 1 to 3 February 2023 a "Digitalization Awareness for BPR Leaders" Workshop was held in Bali which invited all BPR/S directors in the Bali region. This activity was attended by 133 BPRs in Bali. Most participants saw the importance of digitizing certain processes and investing in digital infrastructure. Most of the participants also stated that they knew that customers needed digitization in digital products/services in banking. Digitization is carried out in terms of loans and funding. Apart from that, there were also a number of obstacles faced by BPRs in Bali, including those related to capital regulations, limited understanding of OJK regulations, lack of socialization regarding digitization at BPRs, requests that have not been answered by OJK, audit requirements, or QRIS that have not been followed up. In addition, there are also internal obstacles faced by BPRs in terms of: the availability of human resources who master and understand digital technology, large costs and investments, risks that need to be mitigated, incomplete management, level of the soundness of the bank, completeness of management, core banking unsupported systems, unsupported infrastructure, and slow responses from partners who are invited to collaborate. Thus, it was revealed that apart from having high strength and potential for implementing digital banking in Bali, there are also obstacles faced by several entities from the existing banking ecosystem, related to the implementation of digital banking regulations.

Based on this background, this research aims to examine the implementation of Digital Banking Policy from the Perspective of the Banking Industry through case studies in the Province of Bali both from a regulatory perspective and from the market (banking business actors). This research was conducted in Bali because Bali is one of the provinces with the best implementation of digitalization in Indonesia. In terms of ICT development as well as financial literacy and inclusion, Bali is also better than other regions. Especially as a mainstay tourism area that requires easy transactions for various interested parties, both tourists, accommodation service providers, MSMEs, merchants, and society in general.

Literature Review

Public policy plays an important role in the constitutional sphere where the government plays an active role in it, especially in the economic aspect, one of which is through government spending (Gruber, 2017). According to Dunn (2011), public policy is an applied social science discipline that uses various methods to research and argue, to produce and transform information that is appropriate to policies so that these policies can be used in political settings to address policy issues. In addition, there is another definition of public policy, which relates to policies and other regulatory aspects in achieving social welfare (Clemons & McBeth, 2011).

Public policies related to the implementation of e-banking by banks in Indonesia are regulated by laws and regulations spread across the Financial Services Authority (OJK), Bank Indonesia (BI), and the Ministry of Communication and Informatics (Kominfo) through Financial Services Authority Regulation (POJK) No.12 /POJK.03/2018 concerning Implementation of Digital Banking Services by Commercial Banks. As one of the efforts to increase bank capabilities, more optimal use of information technology developments is a prerequisite in supporting bank service innovation. To realize the alignment of business strategies so that they are more targeted, banks need to provide easy access to information technology-based banking services without place and time restrictions to encourage better customer financial management.

The OJK is here to support innovation in the banking industry by issuing related regulations. OJK Regulation (POJK) No.12/03/2018/2018 concerning the Implementation of Digital Services by Commercial Banks aims to encourage bank operational efficiency using information technology, improve the quality of services that are faster, easier, and according to customer needs and support the use of technology information responsibly. The main differences in the existing business models in the banking system are evident in the philosophy, place, platforms, processes, to partnerships. The philosophy that exists in traditional banks only focuses on providing services, while digital banks and Banks 5.0 prioritize service speed. From the aspect of protection, conventional banks are limited to physical protection, while digital and 5.0 banks focus on digital protection, namely pins, passwords, and cyber security. The other components also have significant differences between the three, especially in processes, where Bank 5.0 has flexibility, while the others are still limited to bureaucratic processes. Furthermore, Nicoletti (2021) points out several aspects that must be considered related to the banking business model 5.0 based on the Canvas Business Model (CBM).

The results of empirical studies regarding the involvement of stakeholders (Zhou, 2011; Berman, 2012; Astri., 2015; Jaubert et al., 2014; Kane et al., 2015; and Osmunsesnd et al., 2018) reveal that internal perceptions of the organization (culture) and external perceptions (consumers) determine the success of implementing banking digital transformation. Shaikh et al. (2017) suggest the need for proactive and well-planned financial sector reforms in developing countries as a strong impetus for financial sector growth (with an emphasis on digital banking culture and financial inclusion) and overall economic growth. The role of supervisory and regulatory authorities is becoming more important than ever in preventing and mitigating financial crises.

Based on the literature review, it was revealed that the banking ecosystem includes various stakeholders, such as regulators, associations, operators (banks), as well as academics. All of these stakeholders are users of banking services, so they are interrelated with one another, and digital transformation in the banking ecosystem will affect the stakeholders in it. The urgency of implementing banking digital transformation needs special attention. The results of a study conducted by Elsaid (2021) identified the big picture of financial digitization, in this case making comparisons between Financial Technology (Fintech) and banking. The study uses a qualitative approach, namely Systematic Literature Review (SLR) using the Scopus index database, SSRN, and Google Scholar. The conclusion from the results of the analysis carried out is that the collected studies indicate that fintech will take part of the market share from banks, but will not replace banks. In addition, banks are required to accelerate the adoption of advanced innovation and technology to compete with fintech companies. It is also proposed that strategic partnerships and cooperation can occur between banks and fintech companies.

Many studies regarding banking digitization have been developed by linking it to several aspects. For example, Larsson & Vittaoja (2017) identify related to creating customer loyalty in digital banking. The study uses a qualitative approach, namely Interpretative Phenomenological Analysis (IPA). The results of this study imply that bank managers must have the awareness to be able to develop appropriate strategies more effectively in dealing with bank customers. Accenture (2015) stated the same thing regarding digital banking regarding changes in expectations for users of financial services, especially banking, where current (modern) bank customers want flexibility in conducting business activities and also want to have a relationship (consultation) with managers. bank or similar. Jaubert et al. (2014) and Schuchmann & Seufert (2015) state that, one of the keys to the successful implementation of banking digital transformation is through an inclusive digital culture plus banking which must develop its culture to support organizational learning where the workforce is developed and involved in the process of change in a sustainable manner. As for consumer experience, banking digitization is expected to improve the consumer experience in conducting financial transactions. A study conducted by Klaus & Nguyen (2013) concluded that digital transformation creates multi-channel interactions for customers so that it has an impact on enhancing consumer experience in conducting financial transactions/other banking activities. The study conducted by Sahu et al. (2018) concluded that business models, consumer collaboration, customer service, to HR capacity are critical factors for the successful implementation of banking digitization.

Based on a search of the previous research results, it was revealed that no previous research has examined public policy variables related to digital banking in a qualitative study, by assessing the perspectives of four stakeholders in the banking ecosystem, namely regulators, operators, associations, and academics. This research fills the research gap, by conducting qualitative research on stakeholders in the banking ecosystem in the Province of Bali.

Research Method

This research uses the qualitative method. Bandur (2019) states that qualitative research design contains 3 main elements that are usually carried out, namely: (i). Exploration of individual experiences to develop new theories; (ii). Exploration of community culture; and (iii). Individual story exploration to tell someone. This research uses a qualitative approach and uses coding techniques with data collection techniques through Focus Group Discussion (FGD) involving stakeholders in accordance with the formulation of the problem that is built according to the characteristics of the first qualitative research.

The unit of analysis defines what will be studied and focuses on what will be studied. So the unit of analysis in this study is the banking industry (commercial banks and BPRs) in the Province of Bali, with the target population being leaders of the financial services authority (OJK), heads of companies of Commercial Banks and BPRs in the Province of Bali. It is hoped that a fairly broad unit of analysis will reach various data sources in order to increase external validity by comparing the differences and similarities in the results of each subsidiary. According to Raco (2010), a qualitative research sample is purposive in nature which is in accordance with the aims and objectives of the research. Purposive sampling is a sampling methodology in which the sample group is targeted to have certain attributes.

The instruments in this study are as follows: (i). Main instrument; it is the researcher himself who acts as the main tool in the research, and (ii). Other instruments include interview guidelines. Interview recorder and image capture equipment (photo and video cameras). Analysis from existing data sources will be analyzed using NVIVO software, which is a qualitative data analysis software developed by Qualitative Solution and Research (QSR) International. Processing of interview data begins with making a transcript of the interview results, namely changing the voice recording file (audio) into text (transcript). based on research problems, namely research questions and interview questions, codify according to research questions and interview questions, and create models that map the relationships between informants and problems in research. The data analysis techniques developed in this research are hierarchies, matrix codes, comparative diagrams, to project mapping, and policy connectivity design.

Result and Discussion

There are several sources related to regulations regarding digital banking. One of them comes from the Law, PP, or Presidential Decree. For example, in Law No. 11 of 2008 which regulates information and electronic transactions, in article 16 it is stated that every Electronic System operator is required to operate an Electronic System that meets certain minimum requirements. Furthermore, related to strengthening the e-commerce ecosystem, Law No. 11 of 2020 concerning Job Creation states that, strengthening the e-commerce ecosystem can include accelerating the expansion of broadband infrastructure development, in which the central and regional governments facilitate and facilitate the building of telecommunication infrastructure. Furthermore, Bank Indonesia Regulation (PBI) No. 19/12/PBI/2017 concerning the Implementation of Financial Technology states that the implementation of Financial Technology (Fintech) must be registered with Bank Indonesia and fulfill 4 mandatory criteria, namely: (i). Innovative; (ii). Impact on pre-existing products, services, technologies, and financial business models; (iii). Beneficial for society; and (iv). Can be used widely. As for the OJK, one of them is through POJK No. 12/POJK.03/2018 concerning the Implementation of Digital Banking Services by Commercial Banks which regulates data and transaction security, implementation of Digital banking services, partnerships, to consumer protection. In addition, there are still several other sources such as; (i). The Indonesian Banking Development Plan (RP2I) 2021-2025 contains directions and guidelines for short-term development as well as gradual structural development over a period of five years, especially for BPRs and BPRS; (ii). Blueprint for Banking Digital Transformation regarding the draft OJK policy to encourage the acceleration of banking digital transformation in Indonesia; (iii) Commercial Bank Cybersecurity Risk Management Paper related to compliance with minimum standards by Banks in the implementation of cybersecurity risk management; and so forth.

The banking structure in Indonesia refers to Law No. 10 of 1998 concerning Amendments to Law No. 7 of 1992 concerning Banking, which regulates that in Indonesia there are two forms of banks, namely commercial banks (BU) and people's credit banks (BPR). The two types of banks referred to can be run with the option of two principles, namely conventional or Sharia-based. The grouping of commercial banks refers to the POJK No.21/POJK.03/2021 concerning commercial banks which regulates changes in the classification of grouping commercial banks based on business activities (BUKU) to groups based on core capital (KBMI). In addition, the grouping based on BUKU, if it is related to KBMI, can be: (i). BUKU 1 can be equated with KBMI 1; (ii). BUKU 2 can be equated with KBMI 1; (iii). BUKU 3 can be equated with KBMI 2 or KBMI 3; (iii). BUKU 4 can be equated with KBMI 3 or KBMI 4. Furthermore, OJK has also promulgated POJK No. 12/POJK.03/2016 concerning Business Activities and Areas of Rural Bank Office Networks Based on Core Capital on 17 February 2016 juncto SEOJK No. 45/SEOJK.03 /2017 concerning Business Activities and Areas of Rural Banks Office Networks Based on Core Capital and POJK No.25/POJK.03/2021 concerning Implementation of Rural Banks and Sharia Rural Banks Products which regulates the grouping of BPRs based on BPR business activities adjusted to the core capital owned.

As of November 2021, the number of Commercial Banks has reached 107 banks and BPRs have reached 1,632 banks. Commercial banks consist of 95 conventional commercial banks (BUK) and 12 BUS sharia commercial banks (Indonesian Banking Statistics; November 2021). The number of BUK is 95 banks consisting of 75 banks in the KBMI 1 category; 16 banks in the KBMI 2 category; 12 banks in the KBMI 3 category and 4 banks in the KBMI 4 category. The number of BUK has decreased compared to the end of 2014, which totaled 107 banks. The decline in the number of conventional commercial banks was mainly due to corporate actions in the form of mergers/integrations and the closing of business licenses. In addition, with the spirit of strengthening commercial banks as stated in POJK No. 12/POJK.03/2020 concerning the Consolidation of Commercial Banks, banks are encouraged to carry out institutional strengthening in terms of capital. In the December 2021 period, BPRs consisted of 1,468 Conventional BPRs and 164 Sharia BPRs (Indonesian Banking Statistics; November 2021). The total 1,632 BPRs referred to as institutional and capital consist of 1,246 banks in the BPRKU category, 1,305 banks in the BPRKU 2 category, and 81 banks in the BPRKU 3 category.

OJK has also promulgated POJK No.12/POJK.03/2016 concerning Business Activities and Network Areas of Rural Banks Based on Core Capital on 17 February 2016 juncto SEOJK No. 45/SEOJK.03/2017 concerning Business Activities and Network Areas of Rural Banks Offices Based on Core Capital and POJK No. 25/POJK.03/2021 concerning the Implementation of Rural Bank and Sharia Rural Bank Products which regulates the grouping of BPRs based on BPR business activities adjusted to the core capital owned, with details on the embodiment of 3 (three) BPR clusters based on business activities (BPRKU). Until November 2021, there were 107 Commercial Banks and 1,632 BPRs. Commercial banks consist of 95 conventional commercial banks (BUK) and 12 BUS sharia commercial banks (Indonesian Banking Statistics; November 2021). The number of BUK is 95 banks consisting of 75 banks in the KBMI 1 category; 16 banks in the KBMI 2 category; 12 banks in the KBMI 3 category and 4 banks in the KBMI 4 category. The number of BUK has decreased compared to the end of 2014, which totaled 107 banks.

Next, is the banking structure spread across the province of Bali. In Bali Province, there are 51 Commercial Banks with an office network of 636 offices and 134 BPRs with an office network of 321 offices. The Commercial Bank office network in Bali Province consists of 1 Head Office, 6 Regional/Regional Offices, 84 Branch Offices, 292 Sub-Branch Offices, 132 Unit Offices, 98 Cash Offices, and 23 Functional Offices. Most commercial bank office networks are located in Denpasar City (36.79%) and Badung Regency (21.54%). Meanwhile, the BPR office network in Bali Province consists of 134 Head Offices, 55 Branch Offices, and 132 Cash Offices. Most BPR office networks are located in Badung Regency (33.64%) and Gianyar Regency (18.07%). In general, there are a total of 957 banking office networks in the Province of Bali, which are widely spread in Denpasar City (30.20%), Badung Regency (25.60%), and Gianyar Regency (12.12%). However, there are areas with relatively few banking office networks, namely Bangli Regency (2.61%), Klungkung Regency (3.13%), and Jembrana Regency (3.66%).

The digital evolution of banking started with Bank 1.0 (1472-1980) as the conventional era. Then it developed into Bank 2.0 (1980-2007) when banks had ATMs. Bank 3.0 (2007 – 2017). The next generation is internet banking and mobile banking (Bank 3.0), allowing customers to carry out banking activities anywhere. This generation started with the emergence of smartphones in 2007 which accommodated mobile payments, Peer to Peer, and challenger banks. The next generation is Bank 4.0 (2017 – present). The emergence of Bank 4.0 was motivated by the implementation of the First Principles. Banks are starting to abandon the concept of 'face to face', branch office services, and various derivatives of the two concepts. Technological resources that support the Bank 4.0 industry include: blockchain technology, artificial intelligence (AI), and databases (including Big Data). Currently, banking technology has entered Bank 5.0, which is marked by the change from Fintech to banking in the post-pandemic “new normal” period.

The Covid-19 pandemic, which started with health problems, has spread to social, economic, and financial problems. According to OJK, there are 4 dimensions to be faced, namely: 1) dealing with covid; 2) dealing with structural challenges; 3) dealing with digital transformation and 4) dealing with international standards. The challenge for the banking sector in this Pandemic era is that VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) must be able to be answered by the OJK so that it does not cause unrest in the banking industry. To answer this, the preparation of public policies is emphasized on good governance so that banking digitalization and technology flows that are growing and developing very fast can grow more prudently and reduce risks that may occur.

The implementation of digital transformation by banks in Bali Province has been carried out at PT Bank Central Asia (BCA), PT BPD Bali, PT BPR Indra Candra, PT Bank Mandiri, PT Bank Permata, PT BPR Adi Jaya Mulya. Digital banking services for the convenience and comfort of customers provided by BCA include: OneKlik, BCA KlikPay, QR Code, Online Account Opening, Lifestyle, Sharing, Cardless cash withdrawal/deposit, Mastercard Online Debit, Virtual Assistant Chat Banking (VIRA), Welma, Sakuku, and BCA e-Branch. BCA also collaborates with fintech and e-commerce companies through Application Programming Interface (API) technology which enables seamless integration between the Bank's platforms and fintech and e-commerce platforms.

The Bank's Core Banking System at PT BPD Bali includes the entire network of offices, ATMs, CRM, and EDC machines owned by PT BPD Bali which are connected to the ATM Bersama network. The data communication network used is ICON+, Lintasarta, and Telkom, the network backhole is managed by the Head Office of PT BPD Bali. In order to improve services to customers/stakeholders, the applications used by banks include: Foreign Exchange Obligations, PAPI Obligations, AutoProc, SPAN, Electronic Employee Cards, LBU Merger Tools, LHBU Interface (Commercial Bank Daily Reports), Payment Systems (BPD Payment), credit agreements, BPD payment web services, SP2D online, ATM Bersama Rekon, Convert CST, SMS Info, Kasda Online, SID compare, Tax Interconnection, BPK eAudit, Web CSM Intranet, PDF Koran, Gapura BPD Bali. The digital product services owned by PT BPD Bali are internet banking, corporate internet banking, BPD Bali mobile banking, and BPD Bali QRUS.

Furthermore, BPR Indra Candra is a BPR whose head office is in Singaraja Regency with a total network of 11 offices spread across Denpasar City, Badung Regency, and Buleleng Regency. BPR Indra Candra has digital services which include: Indra Mobile, EDC Android, and Payment Poiny Online Banking. As for Bank Mandiri, in supporting the alignment of the 2020-2024 Corporate Plan, Bank Mandiri has a digital transformation strategy through the implementation of the "4-Pronged Framework" as a digital strategy which includes: Digitize Internal Platform, developing digital native products, modernize digital channels, and digital leverage ecosystem. Its digital banking products include: Mandiri Online, Mandiri SMS, Mandiri E-Money, and Mandiri Chat Banking.

Banking transformation was driven by the Covid19 pandemic which affected changes in consumer preferences and expectations in conducting financial transactions (Digital Minded & Efficiency Minded). In carrying out banking transformation, there are several issues, namely regulatory issues, bureaucracy, HR competence, and those related to infrastructure readiness (IT investment). Banking transformation through digitalization (digital banking) is expected to have an impact on money circulation and increase financial deepening. In terms of IT infrastructure readiness, it can be supported by the role of the Association. The use of social media can be continued to increase digital literacy and increase customer awareness of digital banking. Digital banking is seen as providing convenience in various activities that involve financial transactions and is associated with the transformation of the Balinese economy, especially in the creative and digital economy sectors. The implementation of digital banking has not been fully implemented in the Bali area, and there are still issues related to the security of digital banking transactions. The success of the team in accelerating and expanding regional digitization was carried out through the preparation of adequate facilities and infrastructure. Customers want information on solving problems that occur in digital banking services. Meanwhile, operators want regulations/laws and policies that are integrated between BI, the government, and OJK regarding more solid digital transactions.

Based on the results of FGDs and in-depth interviews as well as the results of the author's contemplation in studying and observing the transformation and acceleration of digital banking in the Bali region, the research findings or novelties are revealed as follows:

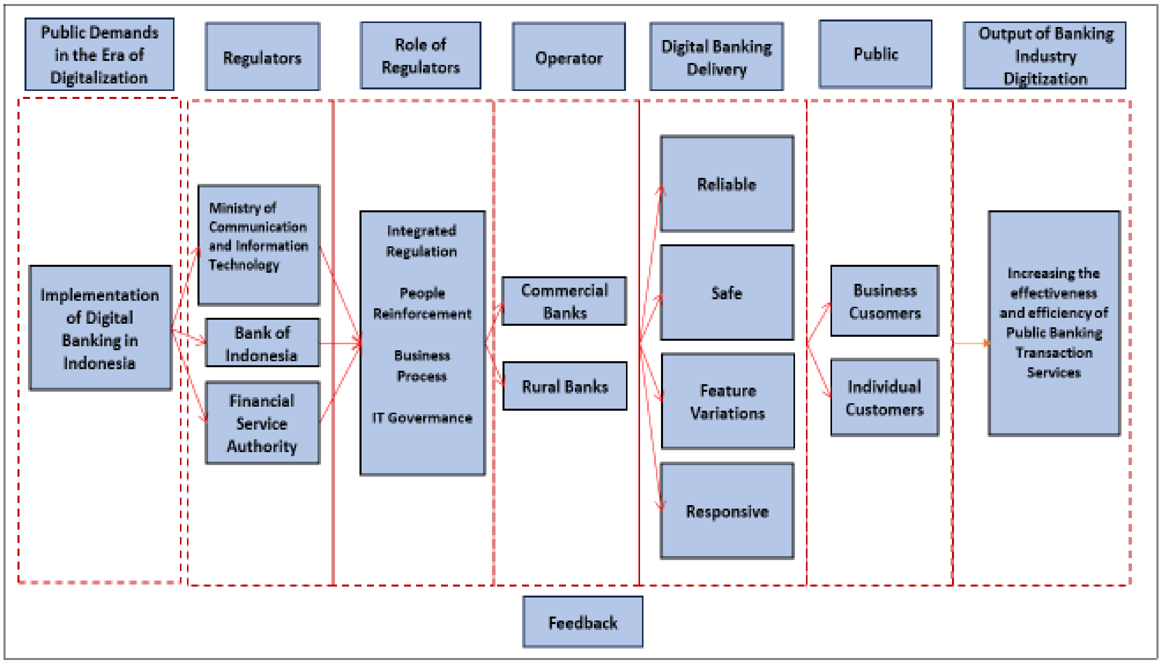

Figure 1. Research Novelty "Digital Banking Service Public Policy Ecosystem Model in Indonesia"

It is hoped that the novelty above, although the study is in Bali Province, this research can be generalized to be applied to other provinces in Indonesia. Novelty described that the implementation of public policy for digital banking services in Indonesia was built through collaboration between regulators, namely the Ministry of Information and Communication, Bank Indonesia, and the Financial Services Authority, to produce integrated regulations, supported by strengthening people, business processes, and good IT Governance. can guide banks to deliver digital banking service delivery services that are reliable, safe, with a complete variety of features and fast response so as to increase effectiveness and efficiency in banking services for the public.

In essence, the regulators, which include the Ministry of Information and Communication, the Financial Services Authority, and Bank Indonesia, are developing more integrated policies to make it easier for banks to implement digital banking services for their customers. In addition, the regulators should jointly be able to carry out people development, related to the knowledge and skills of operators in running digital banking services. In addition, it is hoped that in the future operators will be able to develop business processes that are more reliable, easy to use, and guaranteed safety. Another aspect related to the regulator is the development of IT governance, which is hoped that through the development of IT governance, digital banking applications can be more secure in order to be able to serve customers more reliably with wider service area coverage.

It is expected that operators, both commercial banks and BPRs, will be able to provide reliable service delivery for customers in conducting online banking which is supported by guaranteed security for customers in digital transactions, by adding service features that are more supportive and able to be responsive in serving customer complaints. so that it will increase the value of digital banking utilization for customers.

Conclusion

1. Regulations regarding digital banking originate from laws, government regulations, or presidential regulations. For example, Law No. 11 of 2008 regulates information and electronic transactions and Bank Indonesia Regulation (PBI) No. 19/12/PBI/2017 concerning Implementation of Financial Technology.
2. The banking structure in Indonesia refers to Law No. 10 of 1998 concerning Amendments to Law No. 7 of 1992 concerning Banking, which regulates that in Indonesia there are two forms of banks, namely commercial banks (BU) and people's credit banks (BPR).
3. Evolusi digital perbankan berawal dari Bank 1.0 (1472-1980) sebagai era konvensional. Then it developed into Bank 2.0 (1980-2007) when banks had ATMs. Bank 3.0 (2007 – 2017). The next generation is internet banking

and mobile banking (Bank 3.0), allowing customers to carry out banking activities anywhere. This generation started with the emergence of smartphones in 2007 which accommodated mobile payments, Peer to Peer, and challenger banks. The next generation is Bank 4.0 (2017 – present). The emergence of Bank 4.0 was motivated by the implementation of the First Principles. Banks are starting to abandon the concept of 'face to face', branch office services, and various derivatives of the two concepts. Technological resources that support the Bank 4.0 industry include: blockchain technology, artificial intelligence (AI), and databases (including Big Data). Currently, banking technology has entered Bank 5.0, which is marked by the change from Fintech to banking in the post-pandemic "new normal" period.

4. Banking transformation was driven by the Covid-19 pandemic which has affected changes in consumer preferences and expectations in conducting financial transactions (Digital Minded & Efficiency Minded). In carrying out banking transformation, there are several issues, namely regulatory issues, bureaucracy, HR competence, and those related to infrastructure readiness (IT investment). Banking transformation through digitalization is expected to have an impact on money circulation and increase financial deepening. In terms of IT infrastructure readiness, it can be supported by the role of the Association. The use of social media can be continued to increase digital literacy and increase customer awareness of digital banking. Digital banking is seen as providing convenience in various activities that involve financial transactions and is associated with the transformation of the Balinese economy, especially in the creative and digital economy sectors. The implementation of digital banking has not been fully implemented in the Bali area, and there are still issues related to the security of digital banking transactions. The success of the team in accelerating and expanding regional digitization was carried out through the preparation of adequate facilities and infrastructure. Customers want information on solving problems that occur in digital banking services. Meanwhile, operators want regulations/laws and policies that are integrated between BI, the government, and OJK regarding more solid digital transactions.

Because this research concentrates on public policy where the main output of the study is increasing the effectiveness and efficiency of digital banking services for the public, further research is recommended to examine the outcomes of digital banking, namely increasing efficiency and developing the national economy in Indonesia through digital banking services. It is very interesting to carry out further research related to customer experience in using digital banking services in Indonesia today.

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