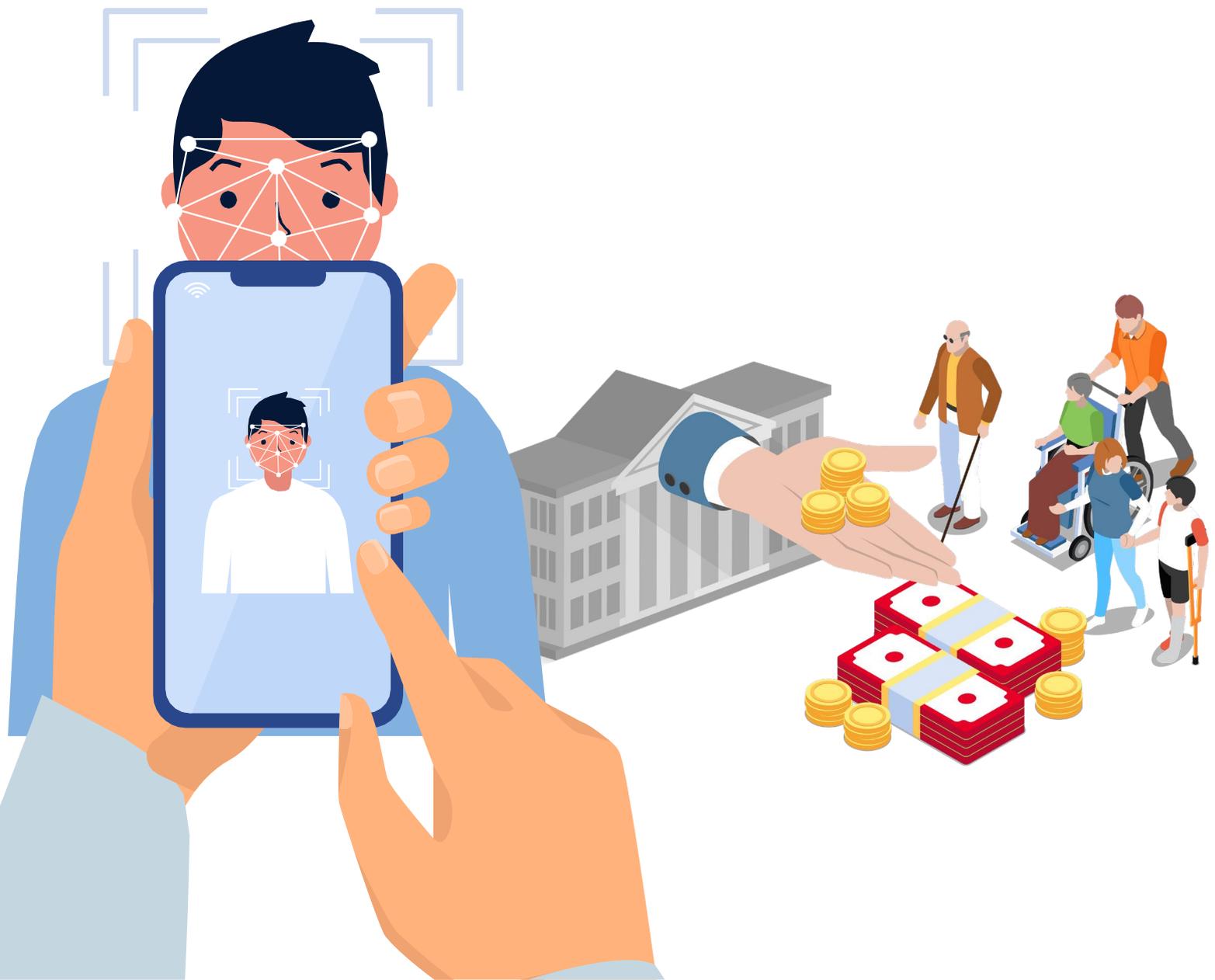


POLICY PAPER

MODERNIZATION OF GOVERNMENT TO PERSON (G2P) THROUGH FINANCIAL TECHNOLOGY (FINTECH) SOLUTION IN INDONESIA



Modernization of Government to Person (G2P) Through Financial Technology (Fintech) Solution in Indonesia

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EXECUTIVE SUMMARY

Since 2012, various studies evaluating the experiences around the distribution of governmental assistances and subsidies towards households, along with trial experiments in utilizing various distribution technology have been done. The distribution technology for governmental assistances and subsidies to households which have been experimented upon include the use of debit cards and

a variety of financial technology (fintech) such as facial biometric, fingerprint biometric, phone account, NFC, SMS/E-voucher, and QR Code. From the various studies and experiments on the technology, it can be concluded that fintech technology by using facial biometric as a method of authentication is the most optimal option.

The use of facial biometric technology is easy, safe, and cheap in the procurement of the transaction infrastructure, while it is also does not require a change of behavior for the beneficiaries. The changes of behavior such as storing the card, bringing the card or other tools for authentication during transaction, as well as memorizing PIN, have been some of the biggest hurdles in distributing governmental assistances and subsidies by using technology. Biometric technology is now available and able to be developed by fintech service providers in our country with a good quality.

In addition, the use of facial biometric technology also does not require the possession of transaction tools such as debit cards, QR codes, smartphones or simple handphones for the benefits recipients' families or households. The possession of smartphones to run the authentication application is enough for merchants. With this, transaction digitalization and expansion of service coverage for distributing governmental assistances and subsidies would be easier. This can also increase the inclusiveness of government's assistance program to support national strategy for inclusive finances (strategi nasional keuangan inklusif / SNKI).

This policy paper is made so that the government may adopt the use of fintech by gradually utilizing facial biometric technology, as a standard technology for distribution of governmental assistances and subsidies to the heads of family or household. The use of facial biometric technology for authentication offers advantages for the government, the beneficiaries, as well as the fintech industry operators. Additionally, the quality of the distribution of social assistances and subsidies will also experience improvements.

Even so, technical preparations along with supporting regulations are required for the technology to be able to be implemented widely. Some of the required preparations are:

- Preparation of infrastructure for storing and processing biometric data for the purpose of authentication including data server and technical guidelines regarding the management standards.
- Industry standard for fintech service providers to participate in the distribution of governmental assistances and subsidies by using facial biometric technology.
- Strengthening the regulations for noncash governmental assistances and subsidies, supporting regulations for storing and processing biometric, along with other supporting technical regulations regarding the standards for technology and fintech services.



Foreword

in Subsidi Pemerintah Memanfaatkan Teknologi Keuangan (FINTECH)



1. FOREWORD

The Government of Indonesia is keeping its commitment to improve the distribution of social assistances and subsidies program or what is commonly known as Government-to-Person (G2P). The government has consistently conducted evaluations over the distribution strategies and methods of the program in order to provide maximum contribution in eradicating poverty. According to Social Welfare Integrated Data (Data Terpadu Kesejahteraan Sosial / DTKS), in 2020 the social assistance distributions which used technology is 30.8 million people for Family Hope Program (Program Keluarga Harapan/PKH); 20.1 million people for Smart Indonesia Program (Program Indonesia Pintar/PIP); and 50.9 million people for Program Sembako.

However, those social assistance distributions still have a lot of limitations. Some of the limitations are:

- a. Lots of undistributed cards because the names and/or the addresses of the Beneficiaries Family (Keluarga Penerima Manfaat / KPM) cannot be found;
- b. The locations of the ATM or access points are unreachable by the people which caused a high cost of transportation;
- c. Dependence on their companions in cashing out the funds;
- d. Limited telecommunication infrastructures.

The advancement of digital technology, especially financial technology (fintech), offers an improvement for the G2P distribution method so that it may become more effective and efficient, in regards of its ease of use, costs, and time. Within the last ten years, the Government of Indonesia through the National Team for the Acceleration of Poverty Reduction (Tim Nasional Percepatan Penanggulangan Kemiskinan / TNP2K) has done a series of experiments in distributing governmental social assistances by using fintech. The result of the experiments shows that the fintech method by using e-KYC mechanism in the registration process for the benefit recipient and facial biometric authentication in cashing out the benefits are the best distribution methods. Moreover, the method that uses fintech is expected to help in expanding the G2P distribution, especially during and after the COVID-19 pandemic. The result of the experiments shows that fintech is not only cheap and fast, but it is also easily adopted by the beneficiaries, and technology providers.

2. THE EVOLUTION OF METHODS IN DISTRIBUTING SOCIAL ASSISTANCE IN INDONESIA

The Government of Indonesia has distributed a lot of G2P program along with various evolutions in the distribution methods since the New Order era. The timeline of the evolution of the forms and methods of the G2P program distribution can be divided into two parts¹, which is the era before the 1997/1998 crisis where the government used manual pattern, and the era after the reformation where the government distributed assistances by using banking services and followed by digital technology (Table 1).

This policy paper will elaborate on the distribution model of the G2P program after the reformation era, which will act as the basis of the current G2P method. The pattern of G2P distribution method since the reformation era until now can be differentiated into two, they are the model of noncash assistances and material subsidies distributed through nonfinancial/nonbanking institutions, and noncash assistances through banking institutions.

Table 1. Social Assistance Programs and Distribution Methods throughout Various Eras

Period	Name and Form of Assistances	Distribution Method	Pattern
Before 1997/1998 crisis	Presidential Instruction for Underdeveloped Villages (Inpres Desa Tertinggal / IDT)	Subsidies for the regional government, development of facilities & infrastructures	G2P transfer
	Productive Family Development (Pembangunan Keluarga Sejahtera): Family Welfare Deposit (Tabungan Keluarga Sejahtera / Takesra) and Productive Family Business Credit (Kredit Usaha Keluarga Sejahtera)	IDR 2,000 from the central government to BNI Bank accounts of Underprivileged Family (Keluarga Prasejahtera)	G2P – distribution through banks
	Health Fund (Dana Sehat / Dana Upaya Kesehatan Masyarakat – DUKM)	Community self-reliance	Community self-reliance
During economic crisis	Social Security (Jaringan Pengaman Sosial / JPS) – Special Market Operation (Operasi Pasar Khusus / OPK)	Price Subsidies	Nonbanking distribution
	Rice for Poor Families (Beras untuk Keluarga Miskin / Raskin)	Price Subsidies	Nonbanking distribution
	JPS – labor intensive	Cash assistance in the form of wages for labor intensive workers (through the regional government)	Nonbanking distribution
	JPS – Student Special Assistance (Bantuan Khusus Murid / BKM) & School Special Assistance (Bantuan Khusus Sekolah / BKS)	Cash assistance, through the department of education	Nonbanking distribution

¹ Bappenas (2014) *Perlindungan Sosial di Indonesia. Tantangan dan Arah ke Depan*.

Period	Name and Form of Assistancess	Distribution Method	Pattern
	JPS – Health Assistance (Bantuan Kesehatan / BK)	Health services subsidies through the department of health	Nonbanking distribution
Reformation Era – compensation of fuel subsidies	Direct Cash Assistance (Bantuan Langsung Tunai / BLT)	Cash assistance distributed by PT Pos Indonesia & BRI	Nonbanking distribution
	Direct Temporary Assistance (Bantuan Langsung Sementara Masyarakat / BLSM)	Cash assistance distributed by PT Pos Indonesia	Nonbanking distribution
Reformation Era until now	Family Hope Program (Program Keluarga Harapan / PKH) 2007 - 2016	Cash assistance distributed by PT Pos Indonesia	Nonbanking distribution
	PKH 2017 - now	Noncash assistance using cards by Bank Himbara	Banking distribution
	Noncash Food Assistance (Bantuan Pangan Non Tunai / BPNT)	Noncash assistance using cards by Bank Himbara	Banking distribution
	Smart Indonesia Program (Program Indonesia Pintar / PIP)	Noncash assistance using cards by Bank Himbara	Banking distribution
	Electricity subsidies	Subsidies through PLN	Nonbanking distribution
	3-kh LPG subsidies	Price subsidies through Pertamina (until 2016)	Nonbanking distribution
	Collective Business Group (Kelompok Usaha Bersama / KUBE)	Noncash community business assistance using cards by Bank Himbara	Banking distribution
	Social Assistance for the Severe Disabled (Asistensi Sosial Penyandang Disabilitas Berat / ASPDB) until 2016	Cash assistance distributed by PT Pos Indonesia	Nonbanking distribution
	ASPDB 2017 – now	Noncash assistance using accounts by Bank Himbara	Banking distribution
	Social Assistance for Displaced Elderly (Asistensi Sosial Lanjut Usia Terlantar / ASLUT) until 2016	Direct cash assistance distributed by PT Pos Indonesia	Nonbanking distribution
	ASLUT 2017 – now	Noncash assistance using accounts by Bank Himbara	Banking distribution

a. The Pattern of G2P Assistance Program Distribution – NonBanking

Up until 2016, several of G2P programs, namely PKH, ASPDB, and ASLUT, used the method of cash distribution through distributing institutions appointed by the government (See Table 1). Generally, the assistance distributions were done based on the technical procedures of social assistance programs managed by The Ministry of Social Affairs, in which funds are transferred from the state general treasury authority (kuasa bendahara umum negara / KPPN) to the accounts of the distributing institutions, that is PT Pos Indonesia, which will then be transferred to the checking accounts of the beneficiaries, which are specifically created by the distributing institutions on

behalf of the Directorate of program management in the Ministry of Social Affairs. For the distribution of PKH, the central and regional government along with PT Pos Indonesia conduct quite a long process of data verification. In addition, the verification procedures that need to go through some institutions may increase the possibility of abuse of funds and/or authority (corruption) and target inaccuracies for the PKH beneficiaries.

For G2P program in the form of price subsidies, which are subsidies of 3-kg LPG and electricity, the method for assistance distribution used is different than that of the cash assistance. Until 2016, the assignment of subsidies benefit recipient for 3-kg LPG has still not used the Integrated Data Basis (now known as DTKS) and there is no selection process for the beneficiaries. The price subsidies are distributed from the central government through PT Pertamina which later distributes the 3-kg LPG and sells them with the subsidized price. However, there are no mechanisms in place to monitor whether the 3-kg LPG can only be accessed by poor families and by small and micro enterprises just as purposed by the program. Meanwhile, electricity subsidies for poor families in households within the 900 VA power category has used DTKS. Although the matching of customers' data between PT PLN and DTKS has been done for the category of 450 VA and 900 VA category, up until now DTKS has yet to be used in its entirety for the customers' data in 450 VA category. By using DTKS, PT PLN then determines the list of customers who are recipients of electricity subsidies and sets the electricity fee subsidies for the beneficiaries through a customer service application. The verification process for the electricity subsidies program is shorter than other G2P program because PT PLN owns the customers' data which can be easily verified with the DTKS data.

b. Pattern of G2P Assistance Program Distribution – Banking

Under the leadership of Joko Widodo and Jusuf Kalla, the government set out strategies to eradicate poverty, which are as follow:

1. Improving social protection;
2. Increasing the access to basic services;
3. Empowering the groups of poor community; and
4. Creating an inclusive development².

As a part of the targets of inclusive development, the Government of Indonesia developed a National Strategy for Inclusive Finances (Strategi Nasional Keuangan Inklusif / SNKI) through the Presidential Decree Number 82 year 2016. Through the strategy, the government encourages the expansion of access to formal financial services, including towards underprivileged groups of people and individuals. The strategy then stimulates transformation of the form of G2P program distribution from cash to noncash through savings accounts in banks. Through the strategy, the government empowers small businesses that cooperate with G2P program distributing banks to be the location for social assistance disbursement through the e-Warong program. The government and Bank Himbara provide Basic Savings Account (BSA) service to distribute social assistances within the framework of SNKI.

The method of G2P program distribution through banking is deemed successful in raising the financial inclusion index in Indonesia. Compared to the cash distribution, the noncash distribution method through banking may simplify assistance distribution process, especially for the Family of Beneficiaries (Keluarga Penerima Manfaat / KPM) during the benefit disbursement. However, the result of field evaluation shows some weaknesses in the distribution method through banking institutions, they are: the high cost that is imposed on banks to print and distribute debit cards to KPM as a transaction tool in ATM and banking agents, the loss of debit cards, the beneficiaries forgetting their PIN, and hurdles during transfers due to the limited signal and infrastructure.



Source: AFTECH

According to the result of the study, among PKH women recipients, the debit cards and the accounts are not utilized due to several factors³. They are worried when using the debit cards so they ask help from other people, such as the security guards at the ATM, banking agents, and their family members to help withdrawing funds from the ATM and conduct transaction at e-Warongs. There are also many cases of forgetting their PIN found in PKH women recipients. To make it easier, they replace their PIN and make it the same with other PKH recipients.

c. Pattern of Electronic Banking and Fintech Partnership for Electronic Transaction

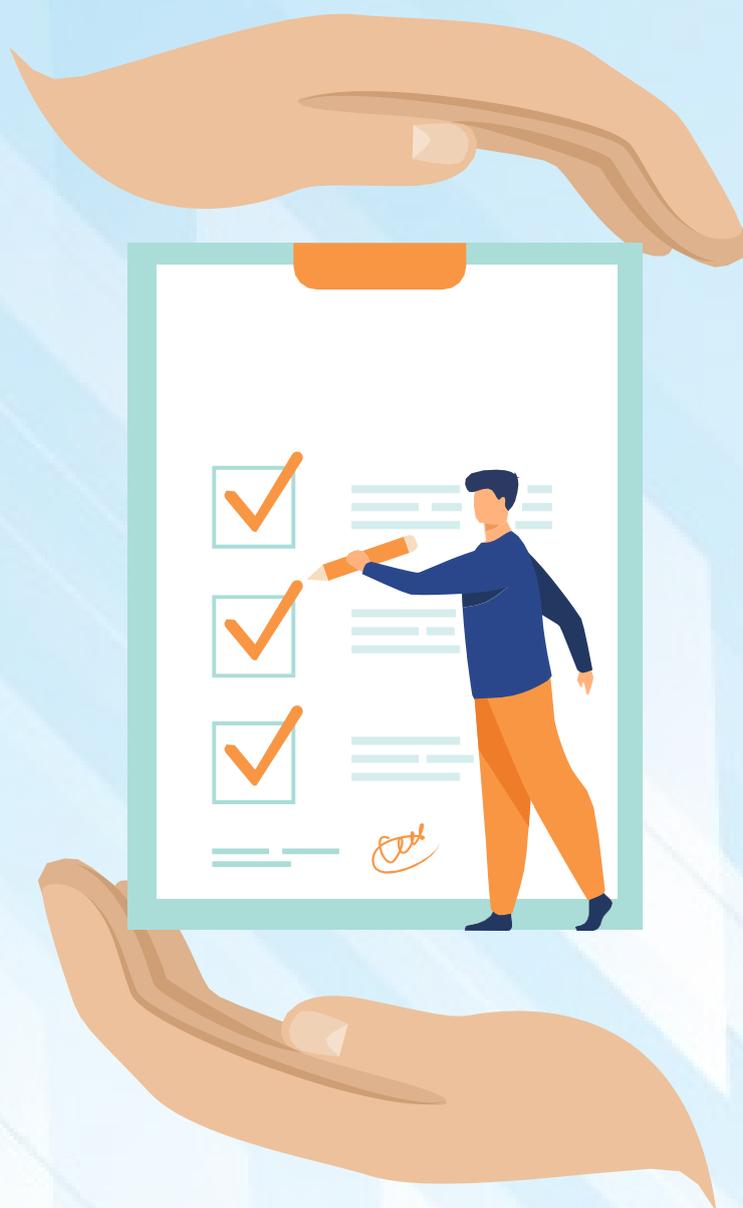
As the “policy kitchen” of the government, TNP2K has made a serious effort in the last 10 years to develop and test several models of digital technology uses for social assistances and subsidies

²Murdiyana dan Mulyana, 2017, ANALISIS KEBIJAKAN PENGENTASAN KEMISKINAN DI INDONESIA, JURNAL POLITIK PEMERINTAHAN, Agustus 2017, Hlm. 73 – 96, Volume 10, No. 1, Agustus 2017.

³Women's World Banking (2020) Mewujudkan Potensi Digitalisasi G2P: Mendorong Keuangan Inklusif dan Pemberdayaan Perempuan melalui PKH Indonesia.

distribution from the government, especially the methods which are parts of G2P digitalization for underprivileged groups of community and individuals in Indonesia. TNP2K conducts numerous series of studies and experiments on digitalized method for G2P program distribution since 2012. The result of the latest study conducted by TNP2K concludes that some weaknesses as explained above can be countered by implementing the pattern of financial transaction by using biometrics as the authentication method.

Facial biometric is considered as the most effective authentication technology in distribution social assistances compared to other authentication methods. Combined with fintech services, facial biometric technology may be an option for the government to effectively and efficiently improve the distribution of G2P program to beneficiaries, with all the ease of transactions and high level of security.

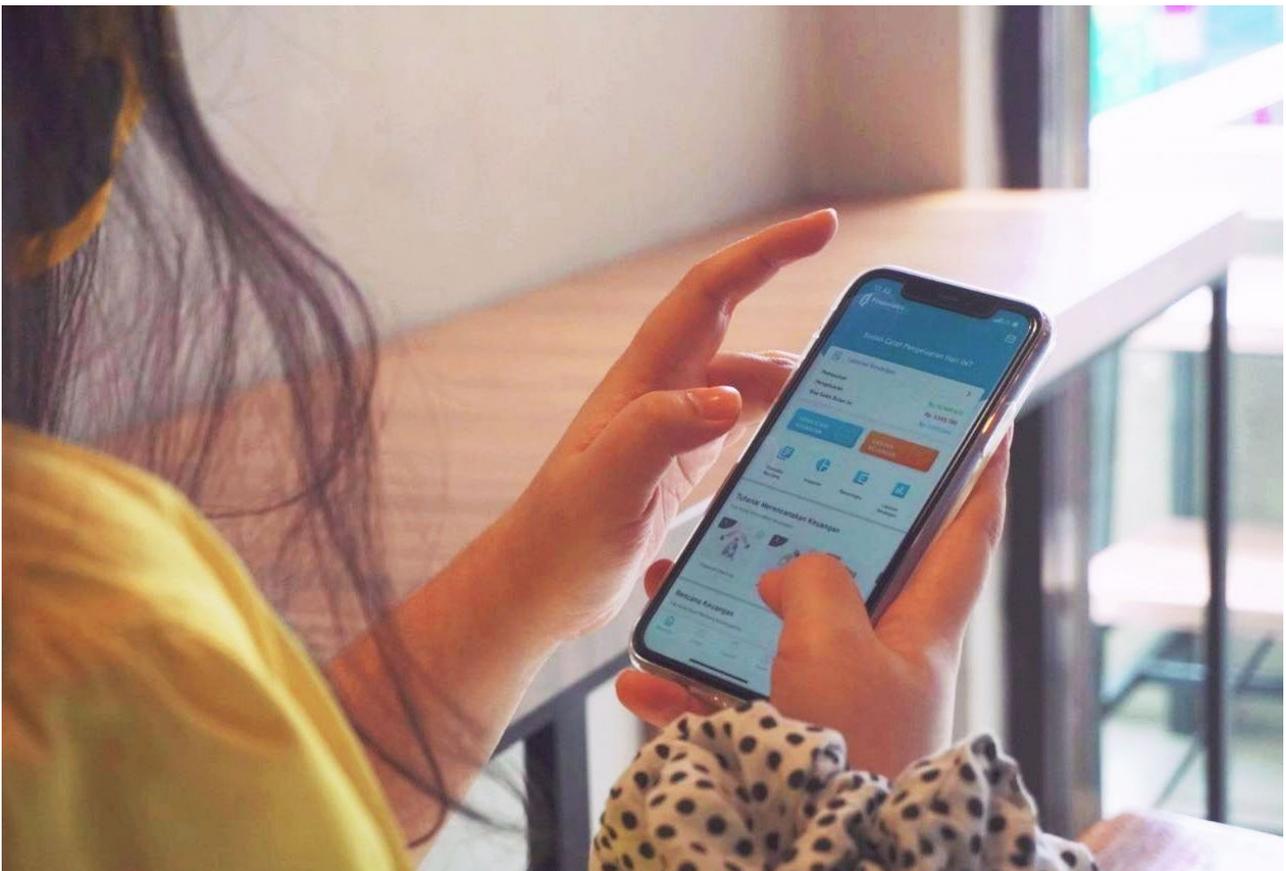


Policy Direction for the Transformation of G2P Program

3. POLICY DIRECTION FOR THE TRANSFORMATION OF G2P PROGRAM

The government has set out the direction for the policy and government strategy for an accurate digitalization and integration of G2P program in the Presidential Decree Number 18 Year 2020 Regarding RPJMN 2020-2024. The policy aims to create the 5T principles: tepat sasaran (target accuracy), tepat jumlah (appropriate amount), tepat waktu (punctual), tepat kualitas (appropriate quality), and tepat administrasi (appropriate administration). The G2P transformation in the framework of the policy has positive impacts, they are:

1. With the digitalization of G2P program, the beneficiaries are able to gain closer access points, cheaper costs, better services, and deeper financial service interactions.
2. The government can reduce the cost of card distribution, decrease the dependency on vendors, improve the service quality, and increase the coverage of beneficiaries.
3. The service providers may gain benefits in the form of a more efficient scale of business by adjusting it to the beneficiaries, reducing onboarding costs due to the decrease of utilization of papers/documents and human interactions, and the interoperability of service providers may increase the efficiency of the transfer process of G2P assistance program.



Source: AFTECH

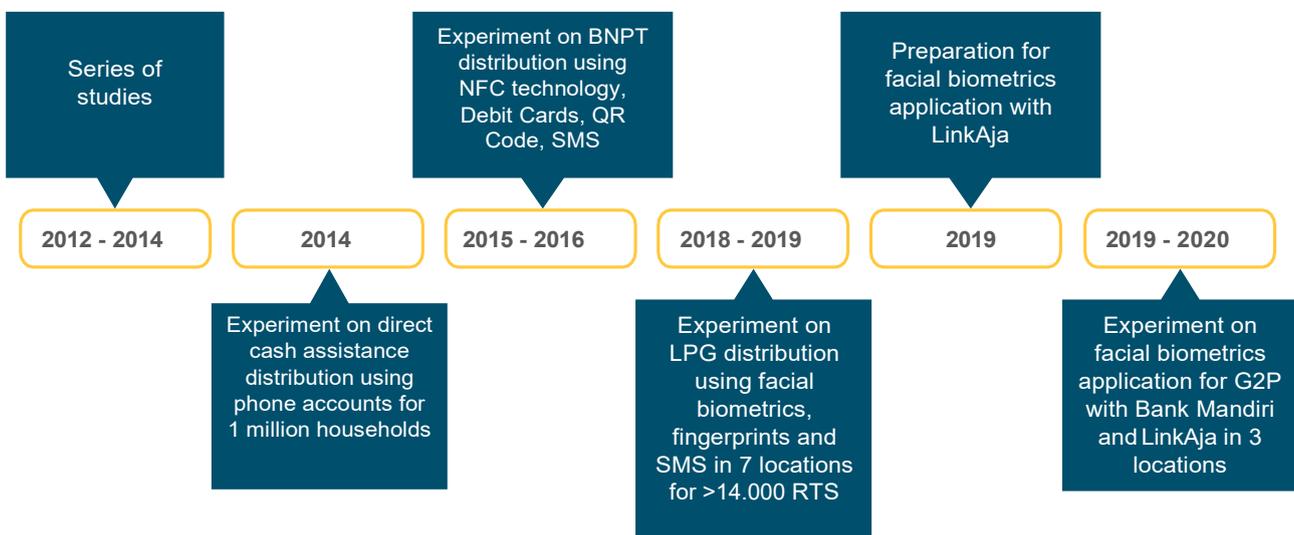


Trial Experiment in the Utilization of Technology for Distributing Assurances and Subsidies

4 TRIAL EXPERIMENT IN THE UTILIZATION OF TECHNOLOGY FOR DISTRIBUTING ASSISTANCES AND SUBSIDIES

Along with the related stakeholders, TNP2K has conducted several experiments from year to year in using various solutions for payment method and authentication technology, from mobile money NFC, QR Code, Debit Cards and PIN, Fingerprint Biometrics, and Facial Biometrics. The purpose of the experiment is to look for the safest, most effective and most efficient distribution method for the government, the beneficiaries, as well as the third parties which cooperate with the government in distributing the assistance.

Diagram 1. Timeline of Experiments on the Methods for G2P Assistance Program Distribution by TNP2K



IN 2012-2014, TNP2K analyzed the payment method for Social Assistance, including PKH program. In the study conducted in 2012, TNP2K with Oxford Policy Management Ltd. identified the effectivity of the experiment on electronic payment system for PKH through Giro Pos and TabunganKu account from Bank Rakyat Indonesia (BRI), as well as studied various electronic payment systems for direct social assistance from its costs, benefits and business processes as alternatives for distribution method. The result of the study becomes the start of the process of completing the distribution of G2P assistance program in Indonesia.

Based on the result of the study on PKH distribution through TabunganKu in 2012, several problems are identified, which are as follow:

- Distribution points were still conducted in bank branches so it increased the travel costs and time for beneficiaries who live far from the city center.

- The beneficiaries still have low level of literacy on the formal financial services although a lot of them already possess bank accounts.
- Long waiting time compared to the method of postal money order.
- The usage of phone accounts for transactions is still low although the level of phone penetration is high.

Moreover, the study found problems from the service providers, namely: the limited amount of payment service providers that matches the target group, the regulation regarding banking agents which at that time still have not received the license from Bank of Indonesia that caused the disbursement to be done in bank branches, the lack of cooperation among market actors that limits the interoperability especially in remote areas.

Payment mechanism through the ATM/savings accounts as well as phone-based accounts or e-wallet was also facing challenges at that time. The use of ATM/bank accounts was still low due to the limited network of bank branches especially in villages. Additionally, the features of an account are limited in terms of flexibility in doing transactions (it needs to be done in bank branches) and the initial balance which was still very big at that time for the very underprivileged group of customers. Meanwhile, this study sees e-wallet in phones as very potential in simplifying the assistance distribution due to the relatively simple process to open an account and faster disbursement of fund. However, the limited disbursement location becomes the main challenges in implementing this method. At that time, the banking agents that became the disbursement locations need to obtain a license as money transfer service providers from the Bank of Indonesia.

This study is the start in identifying the role of nonbanking financial institution which can potentially aid the distribution of governmental social assistance. If the phone-based accounts are issued by nonbanking institutions in villages, the beneficiaries will be able to cash out their e-money collectively in a large amount. Furthermore, informal individual operators will emerge to help the fund disbursement process of the assistance because they have e-wallets. However, the phone-based accounts from nonbanking institutions, especially from telecommunication companies, are limited only to payment transaction and cannot be used for savings.

In 2014, the Joko Widodo administration launched various social assistance programs. The president launched Productive Family Savings Program (Program Simpanan Keluarga Sejahtera / PSKS), Smart Indonesia Program (Program Indonesia Pintar / PIP) and Healthy Indonesia Program (Program Indonesia Sehat / PIS). Those programs were launched as a social security for poor families as well as to improve the standard of living of the underprivileged. The program gradually targeted to provide for 15.5 million underprivileged families all over Indonesia by using Family Welfare Card (Kartu Keluarga Sejahtera/KKS) as an identity card, replacing Social Security Cards (Kartu Perlindungan Sosial/KPS). The government also gave Smart Indonesia Card (Kartu Indonesia Pintar/KIP) to identify the beneficiaries of Smart Indonesia Program as well as Healthy Indonesia Card (Kartu Indonesia Sehat/KIS) to identify the benefit recipients of Healthy Indonesia Program.



Source: TNP2K

To KKS recipients, the Government provided Family Welfare Deposit through an electronic money savings in their phones' SIM cards to more than 1 million families. Family Welfare Deposit is a cash assistance for underprivileged families given in the form of savings accounts as a part of the national strategy for inclusive finances. The Government distributed PSKS through PT Pos Indonesia. The savings in the form of e-money or e-cash in sim-cards were given to 1 million target households, while savings in the form of Postal Deposit were distributed to 14.5 million target households.

To improve the reach of banking services, especially in villages and remote areas, the Government encourages the use of savings through Digital Financial Service (Layanan Keuangan Digital/LKD) in the form of electronic money. LKD is a facility to save and conduct noncash transactions using phone numbers as the account to save funds. The use of LKD to distribute social assistance has been experimented upon with a good result to 1,600 beneficiary households of Family Hope Program (Program Keluarga Harapan/PKH) in 4 provinces. Meanwhile, KIP is targeted to help children from 7 to 18 years old from underprivileged families to stay in school. For Healthy Indonesia Card (Kartu Indonesia Sehat/KIS), the program is in the form of subsidies for the premium fee for BPJS Kesehatan for individuals from underprivileged families.

In 2014, TNP2K also experimented by cooperating with Bank Mandiri to use Mandiri E-cash method to distribute electronic money (e-money). The assistance was given to 1,300 beneficiary households in Central Jakarta, Cirebon, and Kupang using phone accounts. From the distribution experiment, TNP2K concluded that the advantages of assistance distribution using phone accounts are fast registration and distribution processes, and high transaction security. However, there are still problems such as transaction failures or network errors. Moreover, the beneficiary households are also still not familiar in using this method.

In 2015, TNP2K cooperated with Telkomsel to distribute assistance in the form of electronic vouchers in 3 cities, which were Central Jakarta, Cirebon, and Semarang, including eight districts. In choosing the areas for the experiment, TNP2K took a lot of aspects into account, such as the signal strength, location not too far from Jakarta, and not too high number of beneficiaries in the area.

There were three types of assistance experimented in this Cooperation of assistance distribution, namely vouchers worth of IDR 100,000 which can be used to purchase rice, electricity and gas, cash worth of IDR 100,000 or a combination of two. This assistance was distributed two times, in December 2015 and January 2016. In this experiment, TNP2K distributed the assistance to 2,029 underprivileged households by using the authentication method of T-Cash. T-Cash itself is a Near Field Communication (NFC) technology developed by Telkomsel. T-Cash technology was chosen because it was free of charge and safe as well as easy to use. The registration process took 20-30 minutes, where the people registered their personal data and received a T-Cash NFC sticker after the registration to be used when disbursing the assistance. During the experiment, each household received a message through SMS that announced the time for receiving assistance. After receiving the information, the beneficiary visited the kiosk or agents who cooperated with Telkomsel, where they only needed to bring their KTP and phone with NFC sticker they got during the registration on it.

From the result of the experiment, the distribution of the assistance was quite smooth, even though there were some obstacles, such as: weak signal, imperfect system so there were some errors during registration, the beneficiaries did not own phones, the difficulty in understanding the instructions from the officer in doing the transactions, and some failures in fund transfer during the disbursement. From this experiment, the result concluded that beneficiary households prefer the assistance distribution via electronic (noncash) method rather than the traditional (cash and material) method.

In 2016, TNP2K did another experiment in G2P distribution by cooperating with several banking partners and using various noncash transaction tools, with details as follow:

Bank BRI using debit cards, Bank Mandiri using SIM Cards, Bank BNI using debit cards, BPD Jateng using web-based QR Code, and BTPN cooperating with Telkomsel using SIM Cards and NFC. The assistance given was in the form of vouchers worth of IDR 110,000 which could be used to purchase rice, eggs and milk, or direct cash assistance worth of IDR 110,000. The assistance was distributed two times in eight chosen cities, which were Medan, East Jakarta, Central Jakarta, Bogor, Surakarta, Malang, Sidoarjo and Makassar, including 11 districts and 2,937 beneficiaries.

Although the experiment ran well, some obstacles were found, namely: weak signal in some areas, imperfect system so a lot of technical hurdles were faced such as failure to receive SMS OTP (one-time password) or failures in cashing out the assistance, and the failure of the beneficiaries to understand the technicalities of the disbursement of assistance. Moreover, beneficiaries who did not understand, were most likely sharing their confidential data such as their PIN to others so the distribution process was prone to be misused.

Based on the result of this experiment, it can be concluded that the use of debit cards and QR code is deemed the simplest compared to other modes, where the beneficiaries only need to come and bring the cards and the paper containing the QR code by verifying their identity through KTP or KK. The weaknesses of the distribution method through debit cards are the provision of EDC machines and debit cards that cost a lot. Meanwhile, the obstacles in the distribution method by using QR code printed on a piece of paper and given to the beneficiaries is the high risk of the paper to be lost or fallen when being brought over. On the other hand, the SIM cards and NFC solutions are deemed not suitable for the beneficiaries, regardless of the ease of use of the two modes. This is because the beneficiaries need to own mobile phones, whereas there are a lot of people who do not possess mobile phones, considering the targets of the governmental social assistance are underprivileged individuals and/or people.

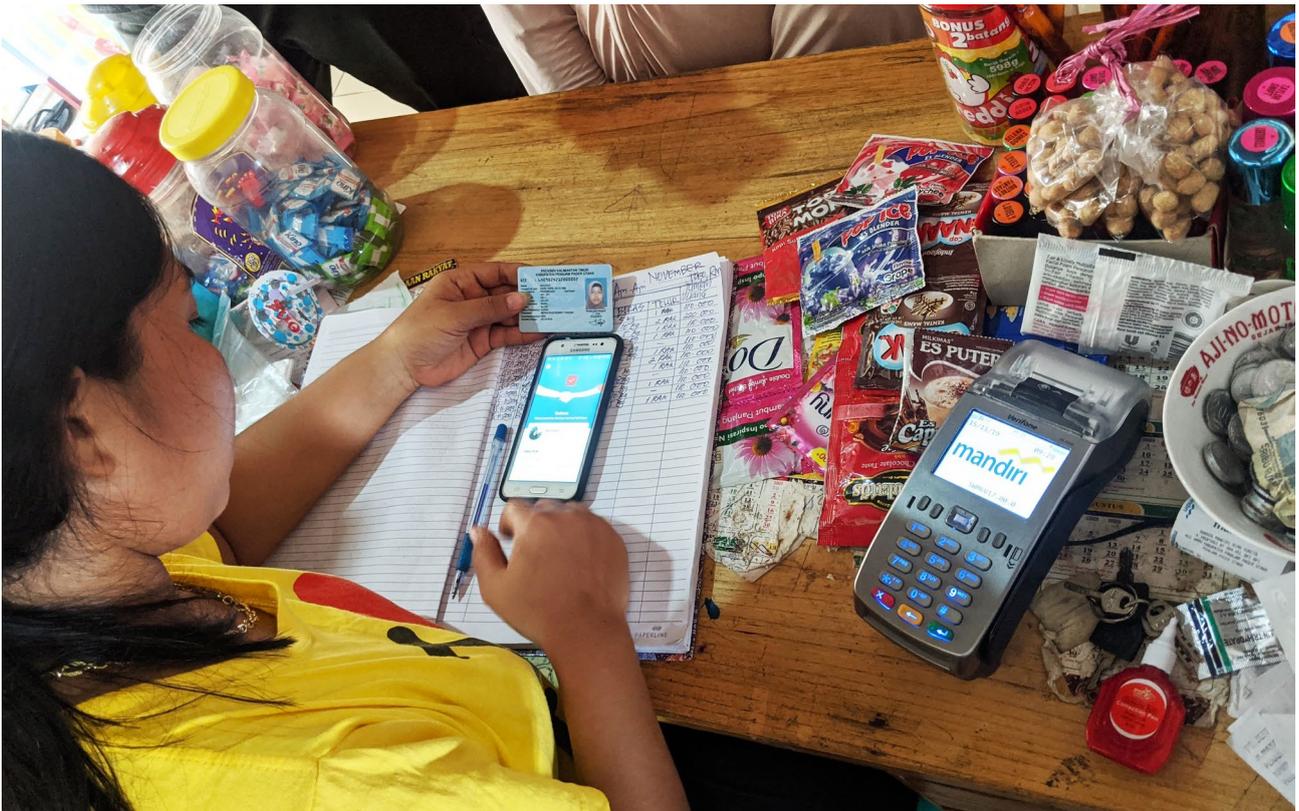
In the next experiment in 2019, TNP2K did another comparison on three payment solutions and authentication technology method to distribute 3-kg LPG subsidies. First, by using facial biometric technology and fingerprints with Bank BRI and Everest. Second, using e-vouchers and SMS with Bank BNI and PT VOX. Third, using e-KTP and fingerprint biometrics with Bank Mandiri as a partner. The experiment is conducted in seven cities, namely Bukittinggi, Tangerang, Tomohon, North Jakarta, Bogor, Gunung Kidul, and Kediri, including 13 districts and 14,193 beneficiary households. The assistance given was in the form of electronic coupons worth of IDR 20,000 – IDR 25,000 which could only be used to purchase 3-kg LPG. The assistance distribution during the experiment was conducted two times.

In its entirety, the registration process by using facial and fingerprint biometrics took 10-15 minutes, while the registration process of e-vouchers and SMS took 5-10 minutes, and the e-KTP and fingerprint biometrics method took 9-10 minutes. Meanwhile, the ideal time to distribute assistance using facial and fingerprint biometric method was 3 minutes, however due to some technical errors and problems, the transaction time became 7-8 minutes. The e-voucher and SMS method ideally needed 2 minutes, but in its practice, it took an average of 8 minutes. The e-KTP and fingerprint method needed approximately 5 minutes and sometimes it could be done faster in 2 minutes when the signal in the area was good.

In this experiment, the success rate of completing the registration by using facial biometrics is 82% on average, and the rate of transaction completion within the time limit reaches 84%. However, the experiment of assistance distribution using facial biometrics also experienced some obstacles, namely: the accuracy of the biometric recording application which was still not optimized, so there were some problems in the authentication process of the facial and fingerprint biometrics during the assistance claiming process. Furthermore, the distribution via SMS mode often encountered problems due to the poor cellular quality. The beneficiaries also often encountered administrative problems, such as incomplete requirements or mistakes in inputting the identity data.



Source: TNP2K



Source: TNP2K

TNP2K then cooperated with LinkAja to develop a better special biometric application for the purpose of distributing governmental assistances and subsidies. The result of the biometric application development was then experimented in 2019. The experiment was done in three cities with 50 beneficiary households in each city, namely Madiun, Sleman, and North Penajam Paser. There were 3 types of assistance distributed, namely electronic vouchers worth of IDR 20,000 to purchase 3-kg LPG, electronic vouchers worth of IDR 50,000 to purchase food, and PLN token worth of IDR 20,000.

The facial biometrics recording process during the registration was quite smooth during the experiment. The implementation of the SOP that prohibits the use of facial accessories proved to be capable of accelerating the facial biometric data recording process and reducing the possibility of re-recording. The beneficiaries also felt a lot easier in their process of claiming the assistance because they did not need to bring any authentication proof. Furthermore, the merchants only needed smartphones for the authentication process of the beneficiaries during the disbursement of assistance.

The success rate in this experiment is considered high, which is 88.3% for the transactions of subsidized 3-kg LPG assistance, 97.3% for the transactions of Social Food Assistance, and 70% for the transactions of subsidized electricity assistance. Technologically speaking, the success for the distribution of subsidized 3-kg LPG and the subsidized electricity assistance are above 97%, but some participants in the experiment did not conduct any purchase of gas because their LPG was yet to be empty. Meanwhile, because the subsidized electricity assistance was given in the form of electricity token, most participants in the experiment did not conduct any transactions due to them being PLN postpaid customers.

This result shows that facial biometric technology is worthy to be utilized as a method of authentication in distributing G2P program. However, there are still some obstacles, such as the problems in the smartphone applications which often force stopping itself or failing to read the facial biometric of the beneficiary. Moreover, there are some instances where the application mismatching the facial biometric with the beneficiary's identity, so the face is recognized under a different name. The registry data still also presents another challenge, the Regional Dukcapil data and the Central Dukcapil data are yet to be synchronized and so this holds up the data verification.

Table 2. Comparison of Experiments on Assistance Distribution 2012-2020

Year	Types of Assistance	Methods	Number of Households	Region	Working Partner	Advantages	Obstacles
2012	Social Cash via Bank Accounts	Banks; Postal money order & Postal checking account	Postal money order: 708,118 Postal checking account: 249,424	<ul style="list-style-type: none"> - Indonesia <ul style="list-style-type: none"> ▪ Postal money order: 72 cities ▪ Postal checking account: - Tabunganku: 15 cities 	<ul style="list-style-type: none"> - Bank BRI 	<ul style="list-style-type: none"> - know financial literacy - PKH Management Information System (Sistem Informasi Manajemen/SIM) for - BUMN (PT Pos and Bank BRI in distributing social assistance 	<ul style="list-style-type: none"> - Requirements for fund disbursement is not precise (beneficiary does not own KTP, - inconsistent in the branches level - Management Information System (Sistem Informasi Manajemen/SIM) - Variety of fees needed by the beneficiaries to get to the nearest fund disbursement point (PTPOS office and/or BRI office.
2014	Cash worth of IDR 200,000/month	Mobile money, phone accounts with Mandiri e-cash	1,300 households	<ul style="list-style-type: none"> - Kota Cirebon - Kota Kupang 	Bank Mandiri	<ul style="list-style-type: none"> - Distributed via electronic money (uang elektronik/U-nik) which can be used anywhere through LKD Agents 	<ul style="list-style-type: none"> - digital financial service in society

Year	Types of Assistance	Methods	Number of Households	Region	Working Partner	Advantages	Obstacles
2014	<p>South Jembrana</p> <ul style="list-style-type: none"> - Family Welfare Deposit (Program Simpanan Keluarga Sejahtera) Cash worth of IDR 200,000/family/month 	Phone number (SIM Card)	1 million families	<ul style="list-style-type: none"> - Kabupaten - Kabupaten Pandeglang - Kota Jakarta Barat - Kota Jakarta Pusat - Kota Jakarta - Kota Jakarta - - Kabupaten Cirebon - Kabupaten - - Kabupaten Banyuwangi - Kota Balikpapan - Kota Kupang - Kabupaten Mamuju Utara - Kota Pematang Siantar - Kabupaten - 	<p>Pos Indonesia, Indosat, XL</p>	<p>accountability in distributing the assistance</p> <ul style="list-style-type: none"> - Change in process of distributing assistance - accessing the assistance, into independent process - the most suitable location and method - to access assistance fund - Telecommunication - (five) years without requirements to top up credits for the Program 	<ul style="list-style-type: none"> - BRTI has granted the permission for the active period of the SIM Card - phone credits of PSKS Program - the people in finding the credit " package" - (NIK & KK registration) causes SIM - electronic and has been collected in the PSKS Program were not forwarded to KPM.

Year	Types of Assistance	Methods	Number of Households	Region	Working Partner	Advantages	Obstacles
2015	<ul style="list-style-type: none"> - Voucher worth of IDR 100,000 for rice, electricity and gas - Cash worth of IDR 100,000 - Combination - Two times distribution 	<ul style="list-style-type: none"> - e-voucher using T-cash 	2,209 households	<ul style="list-style-type: none"> - Kabupaten Cirebon - Kota Semarang 	<ul style="list-style-type: none"> - Telkomsel 	<ul style="list-style-type: none"> - - - - 	<ul style="list-style-type: none"> - System is not perfect - - -
2016	<ul style="list-style-type: none"> - Electronic coupon worth of IDR 110,000 to purchase rice, eggs and milk - Cash worth of IDR 110,000 - Two times distribution 	<ul style="list-style-type: none"> - e-voucher and bank account using debit cards, SIM cards, QR Code, or NFC 	2,937 households	<ul style="list-style-type: none"> - Kota Medan - Kota Jakarta Timur - Kota Jakarta Pusat - Kabupaten Bogor - - - - 	<ul style="list-style-type: none"> - - BPD Jawa Tengah - - 	<ul style="list-style-type: none"> - - more efficient claim - 	<ul style="list-style-type: none"> - PIN is not confidential - QR Code - PIN is not confidential - Debit Cards - e-wallet -
2019	<ul style="list-style-type: none"> - Electronic voucher worth of IDR 20,000-25,000 to purchase 3-kg LPG - Two times distribution 	<ul style="list-style-type: none"> - Fingerprint - e-voucher and SMS - e-KTP and fingerprint 	14,193 households	<ul style="list-style-type: none"> - Kota Jakarta - Kabupaten - Kabupaten Gunung Kidul - Kota Kediri 	<ul style="list-style-type: none"> - - - - 	<ul style="list-style-type: none"> - Easy to be understood by Households - Need additional tools (handphone) - e-voucher & SMS - - Does not depend on internet connection - 	<ul style="list-style-type: none"> - recognize the face - Application fails to recognize the face - e-voucher & SMS - - System/server failure - Need additional tools

Year	Types of Assistance	Methods	Number of Households	Region	Working Partner	Advantages	Obstacles
						<ul style="list-style-type: none"> - e-KTP and fingerprint - although it is below facial biometric - Understandable by Household - Need additional tools (handphone) 	<ul style="list-style-type: none"> - e-KTP and fingerprint - -
2020	<ul style="list-style-type: none"> - - PLN token worth of IDR 20,000 - 	Facial biometric using LinkAja	50 households /region	<ul style="list-style-type: none"> - - - 	<ul style="list-style-type: none"> - - - - 	<ul style="list-style-type: none"> - Dukcapil data is not yet synchronized - - - 	



Advantages of Using Facial Biometric by fintech in Distributing G2P Assistance

a. Comparison of Advantages of Authentication Technology

Based on the result of the experiment, TNP2K compares the effectivity and costs of the various authentication technology used. A short survey was also conducted to some chosen households to find out the advantages and disadvantages of each technology, and to discover the difficulties and preference of the beneficiaries. From the comparison result of the survey, the advantages and disadvantages of each authentication technology are concluded and summarized as shown in the table below.

Table 3. Comparisons of the Advantages of Authentication Technologies

	Debit Cards	Facial Bio	Fingerprint Bio	SMS/E-Voucher	QR Code
Transaction Infrastructure	Expensive - Cards printing - Cards distribution - EDC machines	Cheap Smartphone*	Cheap/Moderate Fingerprint reader machines/ smartphone	Cheap/moderate Integration with telco providers - Smartphone	Cheap/Moderate QR reader/ smartphone
Risks / Transaction obstacles	Moderate - Cards may be lost or stolen - KPM forgets to bring the card - KPM forgets the PIN	Low The system fails to recognize the face	Low The system fails to recognize the fingerprint	Moderate -HP may be lost or stolen - KPM Deletes the SMS - KPM forgets the PIN	Moderate - QR code may be lost or stolen - KPM forgets to bring the QR code paper
Changes of behavior	Quite a lot - KPM must bring the debit card - KPM must memorize the PIN	None KPM only needs to come*	None KPM only needs to come*	A few KPM owns simple HP	A few KPM needs to bring the QR code
Registration and disbursement	Fast	Fast	Moderate	Fast	Fast

*) Note: For Facial Biometric authentication method, smartphones are not needed in the household level. The ownership of smartphones is only for the merchant level.

b. Advantages of Facial Biometrics for the Program

High transaction security

TNP2K wants to ensure the safest technology to use for distributing G2P assistance program for the underprivileged. According to the experiments, the use of debit cards proved to have some risks such as cards may be lost/fallen down or the beneficiaries forget the PIN of the card. Beneficiaries sometimes also share their PIN to other parties such as the facilitator or the owner of e-Warong. This surely creates security risks and increase the possibility of theft. The SMS/E-Voucher method also poses some risks when the beneficiaries lose their handphones, or when their SIM Cards expires before the due date of the distribution of the assistance. The beneficiaries

also sometimes delete the SMS, mistaking it for fraud.

The QR Code method poses a lower risk, where the QR Code is given inside the invitations for assistance claim which are distributed to the beneficiaries. However, the risk of this method is the beneficiaries sometimes forget to bring the QR Code or the printed QR Code is damaged so it becomes unreadable. From the various method applied, the authentication solution using facial biometrics is considered as the safest method. The beneficiaries only need to come to the merchants for facial authentication, so there is no risk of losing anything and this can ensure the target accuracy for the beneficiary during the disbursement.

Convenient transaction process

Facial biometric authentication method is a simple method so this may make the transaction process easier for the merchants and the beneficiaries during the fund disbursement. For facial biometric method, the beneficiary only needs to come to the merchants for facial scanning. After their face is recognized, the assistance can be disbursed and given to the beneficiary. This process is surely simpler than using debit cards, where an authentication process using EDC machine is needed, followed by entering the PIN of the card.

Facial biometric method is also simpler compared to the e-Voucher or SMS or NFC method, where the merchants and the beneficiaries need to scan their phone numbers to be authorized using SMS OTP. The simplicity of the disbursement process in facial biometric method provides convenience for both the merchants and the beneficiaries, so this becomes a method that can be easily understood by all parties.

Speed of transaction process

Aside from the advantages above, facial biometrics is also a fast method for authentication process, with only an average of 10 minutes for registration, and 3 minutes for transaction. The facial biometrics reading process is also far superior compared to the fingerprint biometrics which often fails because of wet, dirty hands, or when the skin is too smooth. The speed of the facial biometric method makes it the ideal method for disbursement of assistance, where long queues often occur because of the slow system or complicated process. Therefore, a fast authentication method may reduce the duration of assistance disbursement and make the assistance disbursement more efficient.

c. Advantages of Facial Biometrics for the Government

Cheap cost of transaction infrastructure

Biometric technology is an efficient technology in terms of costs. Unlike debit cards that require a high cost of procurement as well as a maintenance fee for the EDC machines, facial biometric only requires smartphones for merchants which do not need to be sponsored in a huge amount by the distributing banks because most merchants already own smartphones. Moreover, the beneficiary households do not need to own a smartphone or even a simple handphone. The Government does not need to cooperate with SIM providers to procure SIM Cards or NFC Stickers, or to provide simple handphones for the beneficiaries like in the e-Voucher/SMS method. For the government, the cost needed for facial biometric method is only for the review in choosing the merchants and during the registration because they need to rent a place or provide facilitators during registration.

Expanding coverage and improving the distribution of social/government assistance

For benefit distribution, facial biometric method is also very effective because the assistance can directly be distributed from the government to the beneficiaries without any distributing institutions by cooperating with fintech. There is no need for interventions from the regional governments in the form of temporary fund reservoir, which may potentially trigger corruption and misuse of assistance funds. With the help of fintech, the assistance distribution process may be shorter and more accurate to target.

Increasing financial inclusion and healthy competition ecosystem for Fintech

This involvement of fintech is also expected to raise the financial inclusion index in Indonesia. Through fintech solution, the procurement and use of formal financial service may be expanded through the G2P program distribution. The beneficiaries may later utilize fintech solutions for their financial transaction needs. The government plans to give permission to fintech interested in helping to distribute the assistance fund. This will encourage the creation of healthy competition ecosystem among fintech in Indonesia.

d. Advantages of Facial Biometric for Assistance Recipients

No need for changes of behavior

One of the hurdles in G2P program distribution is that some distribution methods basically need several changes of behavior for the beneficiaries who are mostly coming from the underprivileged. This factor hinders the assistance distribution process because a lot of recipients encounter difficulties in applying the changes of behavior for the disbursement of assistance.

Debit cards is the technology that requires the most changes of behavior, where the beneficiaries need to develop a habit of bringing their cards and remembering their PIN. The e-Voucher/SMS technology also requires behavior changes, where they need to have a habit of bringing their handphones and the need to top up their phone credits so that the number will not expire. The QR Code technology requires quite a simple change, where the beneficiaries need to only bring the QR code paper during the claim, however as mentioned above, some beneficiaries lost their QR code paper. Facial biometric technology is the method that does not require a change of behavior, the beneficiaries need only to come and scan their faces to disburse the governmental assistance program. Device ownership in the form of smartphones is only needed in the merchant level, so the beneficiaries do not need to bring any devices or change their behavior.

Decreasing *burden-of-proof*

Beneficiaries often fail to cash out the assistance they receive because they forget to bring their identity cards, cellphones which contain the SMS OTP, or the QR Code paper that they must show as a proof of being a beneficiary.

By using facial biometric method, the beneficiaries do not need to bring any additional documents to prove to the operators that their names are on the list of beneficiaries. This reduces the difficulties for beneficiaries in verifying their identities, because by doing facial scanning, their identity will be automatically displayed during assistance disbursement.

e. Advantages of Facial Biometrics for Fintech Operators

Low cost - low investment

Fintech does not require much change of infrastructure when participating in this governmental scheme. They are advised to own a reliable application for reading facial biometrics, to be able to recognize the identities of the beneficiaries effectively.

Increasing market coverage

By participating in the G2P program distribution, fintech may expand their market and increase the users of fintech services. The active users for the fintech application will increase along with the additional merchants participating the program so they need to download and use the fintech application to distribute G2P program assistance.

Furthermore, the beneficiary households do not directly become the users of the fintech application. If the fintech services used by the merchants offers additional services such as payments for electricity, water bills and others, then the beneficiaries may conduct payment via the

fintech application with merchants as the intermediaries so the beneficiaries become indirect users.

Participation of Fintech Providers in the Effort to Eradicate Poverty

By participating in G2P distribution program, fintech partners may directly contribute towards the eradication of poverty as a form of their corporate social responsibility in order to socially strengthen the industrial reputation of the fintech operators.

f. Case Studies of Assistance Distribution using Biometric

India

In 2009, the Unique Identification Authority of India (UIDAI) launched Aadhaar ID scheme. The ID scheme captures biometric information of an individual, including iris scan, thumbprint, and issues a 12-digit unique ID number for each individual. UIDAI has also developed an e-KYC (Know Your Customer) platform based on the Aadhaar ID database. This technology uses demographic information, such as: name, address, date of birth, gender, phone number, and email address along with biometric data collected through fingerprint and iris scanner, and camera for facial recognition.

Up until now, almost 1.2 billion Aadhaar ID numbers have been issued, 339 million Aadhaar connected to bank accounts, and more than 1.7 billion authentications have been done through Aadhaar in the last 3 years. The total of digital transactions has reached 17.57 billion during the fiscal year 2017-18, which is 70% more digital transactions compared to those in the fiscal year of 2016-17 (10.75 billion).

Nigeria

Each citizen above 16 years old has the right to register for a National Identification Number (NIN). The registration consists of the recording to individual demographic data and taking the scan of ten (10) fingerprints, a head-to-shoulder photo and digital signature, which are used to crosscheck the data in the National Identity Database to make sure there is no double entry. The use of NIN includes getting a National Electronic KTP, a passport, opening a personal bank account, obtaining a driver license, Permanent Voter Card, participating in National Health Insurance Scheme and paying taxes.



Source: TNP2K

g. Advantages of Biometric Technology in G2P in India and Nigeria

Efficient distribution of government assistance (accurate targeting and low cost)

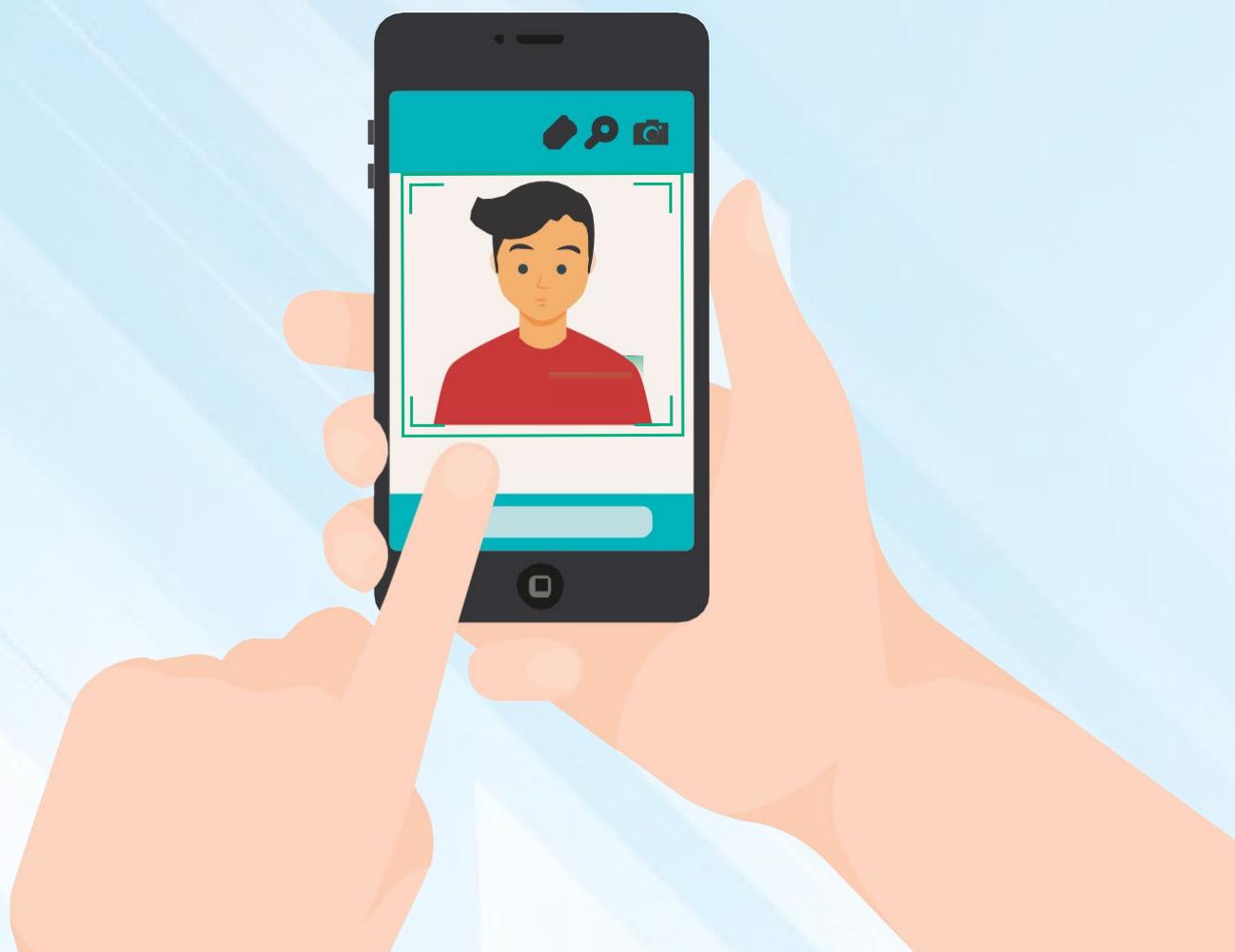
Banerjee study (2016) shows that the use of biometric technology may reduce a leak of fund because this helps decrease non-intended recipients, including to avoid duplication and ghost recipients.

- In Nigeria the audit result of the implementation of biometric authentication for social assistance finds that the number of non-intended recipients decrease to around 40% from 97 thousand to 60 thousand beneficiaries (NetNewsPublishers, 2011).
- In India, the Aadhaar biometric technology decreases the possibility of a corruption since the fund is given directly to the beneficiaries through a G2P distribution system. Moreover, Aadhaar also increase the convenience in the process of G2P program distribution by reducing the waiting time and claiming time for the beneficiaries. Additionally, Banerjee (2016) also expresses that Aadhaar makes the KYC process faster in India which the reduces time and process costs up to 50%.

Increase of financial inclusion

The Government of India synchronizes the Aadhaar biometric authentication with PMJDY (Prime Minister's People's Wealth Scheme) bank accounts or accounts without minimum balance for the underprivileged and cellular phones or JAM (Jan-Dhan Aadhar Mobile) Trinity. The synchronization plays a big role in accelerating KYC process so that it promotes an increase in the ownership of bank accounts especially for the underprivileged or those in remote areas in India.

According to the World Bank (2018), the number of bank account ownership in India has increased from 53 percent in 2014 to 80 percent in 2017 (a rise of around 300 billion in three years) after the synchronization of Aadhaar-PMJDY and JAM. Moreover, the account ownership for poor households and women each saw a rise of 40 percent and 30 percent during those periods, which shows that biometric technology helps a pro-poor development. Additionally, the biometric data integrated with registry data also makes it easier for the government in providing financial services (Banerjee, 2016).



Preparation Steps for the Implementation of facial biometrics by fintech for the Distribution of Governmental Social Assistance

5 PREPARATION STEPS FOR THE IMPLEMENTATION OF FACIAL BIOMETRICS BY FINTECH FOR THE DISTRIBUTION OF GOVERNMENTAL SOCIAL ASSISTANCE

To start the transformation of the distribution of the Governmental Social Assistance by using facial biometric technology and using financial technology (Fintech), some preparatory measures need to be taken are as follow:

a. Transition Period for Technology Adoption

The transition process in adopting the facial biometric technology for the distribution of governmental social assistance is needed as an effort to bridge the sustainability of the distribution service so it will not be cut off when the change of pattern from the banking system to electronic system takes place. The duration of the transition period along with the technical measures needed to be done by each stakeholder need to be designed and aligned with the characteristics of each governmental social assistance.

b. Infrastructure for Storing and Managing Beneficiaries' Data for the Purpose of Authentication

Data of the beneficiaries is key to the success of distribution of governmental social assistance through any mechanisms. The data basis used as the basis of determining the participation in the governmental social assistance program must be sophisticated and consistent with the Registry Administration in Directorate General of Population and Civil Registration (Administrasi Kependudukan di Dirjen Kependudukan dan Catatan Sipil, Kementerian dalam Negeri/Admuduk Dukcapil). According to the result of G2P study and experiment done until 2020, the authentication using facial biometric technology is the cheapest, safest option that does not require a change of behavior for the beneficiaries.

To ensure that the facial biometric authentication mechanism can run smoothly, the government needs to prepare the mechanism for using the Admuduk Dukcapil data for cross programs and governmental social assistance distributing institutions. In the registration process of the beneficiaries, facial biometric authentication is done by combining the NIK data of the (potential) beneficiaries with other data components in the Admuduk Dukcapil data. If the registration is finished, facial biometric recognition may take place so that the beneficiaries may conduct their transaction, that is receiving G2P program benefit.

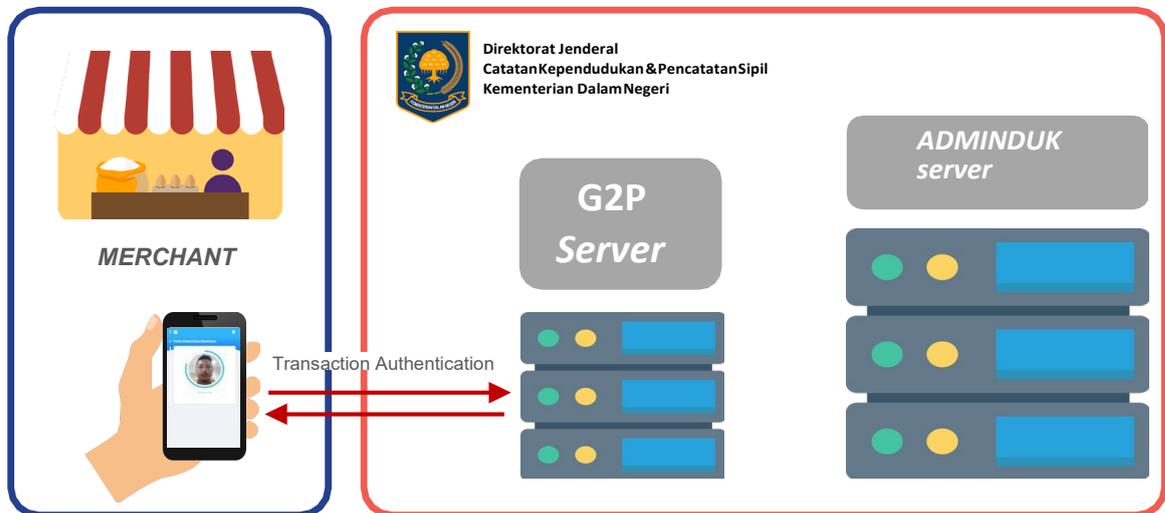
Important factors that support the success of facial biometric authentication in distributing G2P program are, among others:

Provision of G2P Server

G2P server is needed as a storage for the facial biometric data of the program beneficiaries so that the distribution mechanisms using biometric transaction may be operated. As the transaction frequency of the distribution of G2P program is very high and will reach a high number of

Beneficiaries, this G2P server is expected to be separated from Adminduk Dukcapil server. With this separation of data basis storage, each authentication of assistance distribution transaction will be done on the G2P server and not on the Adminduk Dukcapil server. This is done in order not to overload the Adminduk Dukcapil server and to prevent a leak of registry data. After the biometric data from the registration for transaction authentication is stored in the G2P server, the data in adminduk Dukcapil server may be used to verify the biometric data of the beneficiaries. Other than functioning as a storage, the feedback data from the G2P server may enrich Adminduk Dukcapil data because it contains the latest facial biometrics, phone numbers, bank account numbers, and other data attached to the beneficiaries.

Diagram 2. Concept of G2P Server Preparation



Server Communication among data basis (DTKS and Adminduk Dukcapil data)

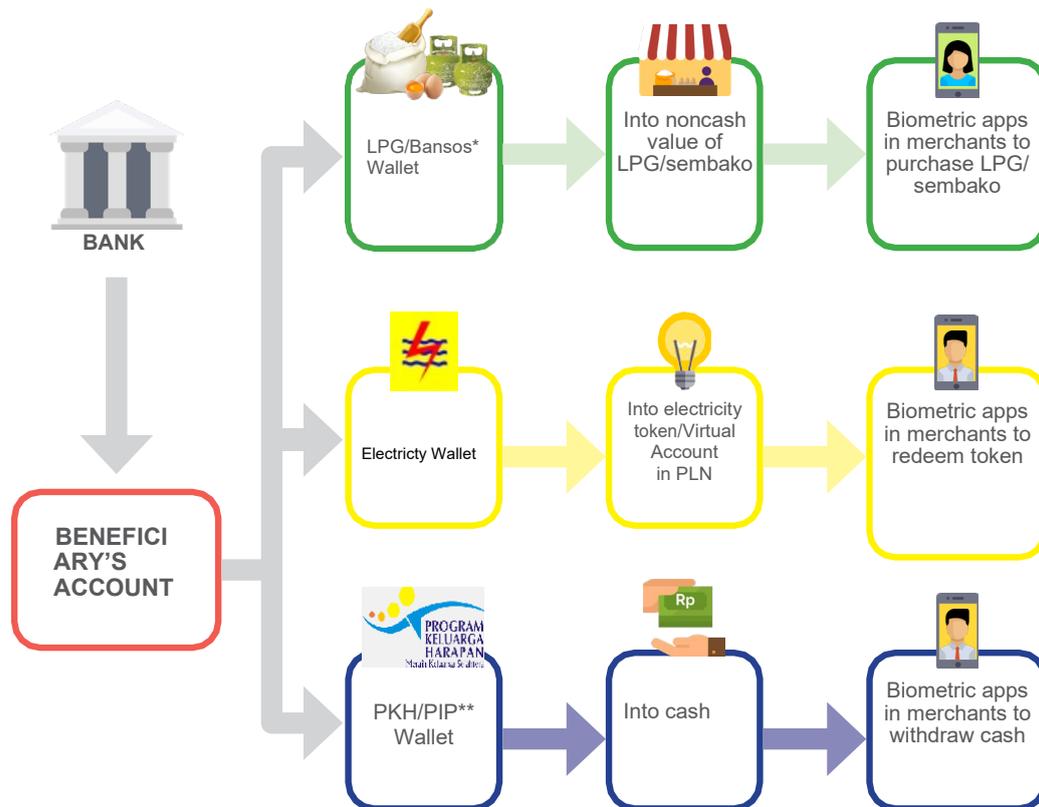
Besides preparing servers for G2P beneficiaries data basis storage, the Government also needs to conduct coordination and synchronization of the data basis of the existing social assistance beneficiaries such as the DTKS for social security programs in eradicating poverty and updating the data of the new social assistance beneficiaries affected by COVID-19.

Technical Guidelines regulating the Standard for G2P Assistance Distribution Service program for beneficiaries by Banking institutions and Fintech Operators.

To ensure that the mechanism for G2P program distribution towards the beneficiaries is running well so the purpose of the program may be achieved, technical guidelines are needed to manage and provide detailed information regarding the integration of G2P program distribution using facial

biometrics, the registration and transaction process, the form or model of field cooperation between banks and fintech to support the implementation of facial biometric application, management of beneficiaries' data in the distribution mechanism, and other technical information related to service standard for the distribution of assistance to the beneficiaries. These technical guidelines also need to regulate the technical aspect of the G2P server and its connectivity aspect with all actors in the fintech industry.

Diagram 3. Advanced Integration Phase of the Distribution of G2P Program using Facial Biometric Application



According to World Bank (2020), the implementation of biometric or digital ID application poses some risks including excluding risk, which is the possibility of a group of citizens who are unreachable for the biometric data collection, and the issue of data security and privacy including ethical problems in collecting individual biometric information. Moreover, the early stages require the preparation of supporting infrastructure such as servers for biometric data storage, and the application development from fintech service providers. Therefore, this needs the support from the government and the industry.

Those risks have mostly been mitigated by the result of the experiment conducted by TNP2K. The Government can also make the integration of biometric technology easier by setting the guidelines for data management and providing support for the ecosystem to develop the use of digital ID using biometrics.

c. Preparation of Industry Standard for Fintech Operators

The preparation of standard among the actors in the fintech operator industry related to authentication and application used to distribute the G2P program is needed so that all actors in the industry can directly get involved in the distribution of assistance/subsidies when the government decides to use fintech as the distributor of assistance.

To maintain security, accuracy of the recipient, convenience and speed of transaction in distributing assistance, the government needs to set out general and specific criteria that must be met by fintech operators to determine their feasibility before participating in the distribution of G2P program. Furthermore, this standard needs to regulate the rights and obligations/responsibilities of fintech operators in distributing assistance.

The followings are the general/ specific criteria that fintech operators must meet in order to participate in the distribution of G2P program:

- Has at least a national scale of service coverage
- Has an adequate information and technology system, applies international standard of information and technology security, including ISO 270001.
- Has an online portal, website or application on the internet.
- Cooperates with banks that are partners in the distribution of G2P program.
- Has the capacity to use facial biometric registration and transaction technology, is specifically licensed and has an agreement with K/L regarding the use of NIK data, electronic certificates, and others.
- Has an interoperable capacity with various operators (Banking and Fintech).
- Applies the standard of personal data protection which provides protection capacity for the personal data of the beneficiaries, and has the capacity to conduct audit trail.

Fintech operators who will distribute the G2P program has the following obligations to:

- Facilitate the distribution of G2P program to the beneficiaries.
- Provide the information system suitable with the needs of G2P program.
- Disclose complete information regarding the list of beneficiaries, the flow of G2P program, and the report on the transaction of assistance disbursement
- Monitor and evaluate the performance of the distribution of governmental social assistance
- Report the result of the distribution of G2P program to the related stakeholders.

- Keep the security and confidentiality of the G2P program beneficiaries' data.
- Ensure that the beneficiaries data is only for the use of G2P program distribution.

To ensure the enforcement of the obligation, some considerations to be made are the discretion of fintech operators who distribute the G2P program in imposing suitable service fees for the distribution of governmental social assistance. The amount of service fee may be regulated in the technical regulations regarding the mechanism of distributing governmental social assistance through fintech.

d. The Need for Supporting Regulation

As mentioned in the previous section, some regulations are needed to ensure the distribution of assistance using facial biometric technology by fintech operators can run smoothly. According to the results of the study regarding G2P conducted by TNP2K since 2012 and various experiments on the distribution of assistance, the use of facial biometric technology for distributing assistance can be implemented within the regulatory framework/regulation which is embodied in the following three things:

- The revision or amendment to the Presidential Decree No. 63 Year 2017, which mandates the distribution of noncash social assistance to be done through banks only, so the G2P program distribution may use financial technology (Fintech). The amendment states the opportunity for fintech to support the distribution of social assistance in order to achieve the 5T principles, namely *tepat sasaran* (target accuracy), *tepat jumlah* (appropriate amount), *tepat waktu* (punctual), *tepat kualitas* (appropriate quality), and *tepat administrasi* (appropriate administration).
- The technical regulations regarding the integration of distribution of governmental social assistance by using biometric application, which regulates some of the aspects below:
 1. The options for the field cooperation between banks and fintech to support the implementation of facial biometric application
 2. The management of beneficiaries' data, including data transfer, interoperability system between banks and fintech operators, and the improvement of the technical aspects of G2P server and its connectivity with all actors in fintech industry.
 3. The minimum service standard by the fintech industry operators in distributing assistance to the beneficiaries.
- The registration mechanism for the beneficiaries up to the details of the flow of governmental social assistance distribution transactions using facial technology authentication. What needs to be emphasized in this regulatory framework is how to create a simple registration procedure for the beneficiaries, especially for the vulnerable groups such as the elderly, the disabled, and remote ethnic communities.

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POLICY PAPER

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