

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Information System Success Model

According to Thanh et al. (2015), Information System Success Model is a theory which providing a complete comprehension of the model by recognizing, portraying and clarifying the connections among 6 most important dimensions. William DeLone and Ephraim McLean (D&M) analyzed and performed a review of the model from the previous research during the period 1981-1987. Based on research by Shannon and Weaver (1949), there are 3 categories of IS Success, which are Technical Level, Semantic Level and Effectiveness Influence. (DeLone & McLean, 2016) Shannon and Weaver identified Technical Level as the efficiency of the system that produce information, Semantic Level as the system delivers the intended meaning and Effectiveness Influence as the effectiveness of the information to the receiver.

To apply Shannon and Weaver's model, Mason (1978) refined the 3 categories into 6 dimensions, which are System Quality (as Technical Level), Information Quality (as Semantic Level), Use, User Satisfaction, Individual Impact and Organizational Impact (as Influence Level).

##### 2.1.1 DeLone and McLean IS Success Model 1992

(DeLone & McLean, 2016) Because of the dimensions were not independent success measures, but interdependent variables, DeLone and McLean proposed a new model based on Shannon and Weaver and followed by Mason. Figure 2.1 shows the first model from DeLone and McLean in the year of 1992.

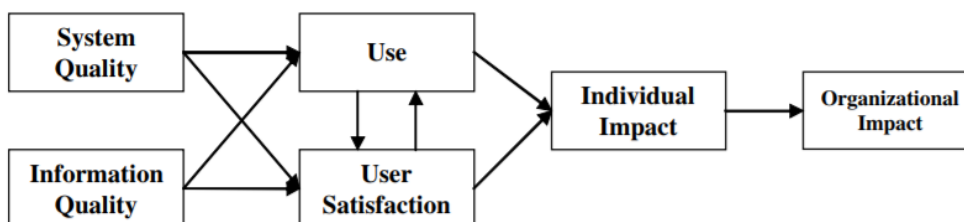


Figure 2. 1 DeLone and McLean IS Success Model (1992)

After the publication, Seddon (1997) proposed number of modifications to the D&M model. He argued that the D&M model was confusing, partly because in the same framework, both process and variance models were combined. He also suggested that further clarification to this model was needed. Researchers including Pitt et al. (1995) reviewed the model and suggested that the model need to be reconstructed by adding service quality.

Seddon (1997) created a modified version of DeLone and McLean's model of Information System Success Model (1992). Figure 2.2 shows the Seddon's model

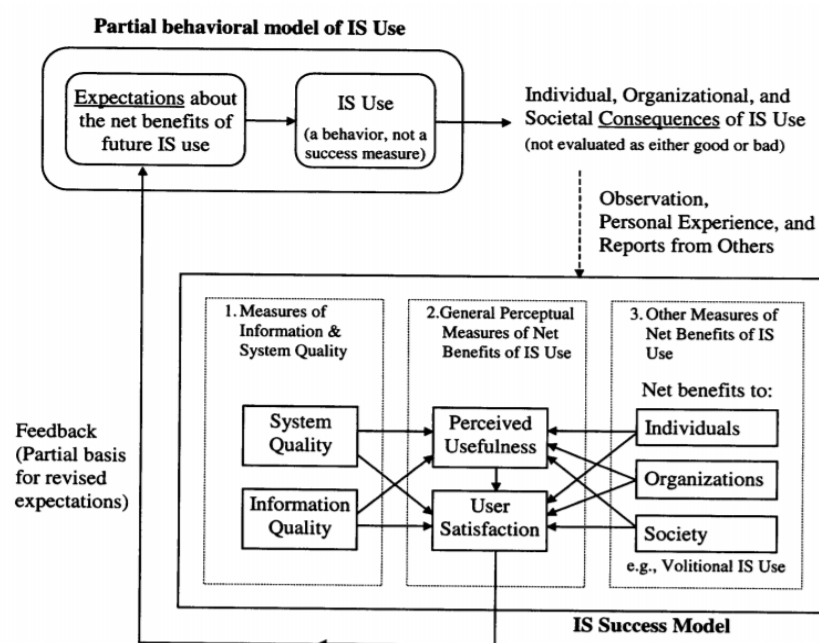


Figure 2. 2 Modified Version of DeLone and McLean's 1992 model by Seddon (1997)

The definition of variables in Figure 2.2 are:

- System Quality

Seddon (1997) stated that system quality is concerned with whether there are errors or not in the system, the user interface, ease of use, quality of documentation and quality and maintainability of the program code.

- Information Quality

According to Seddon (1997), information quality is concerned with issues of timeliness, accuracy and the relevance of information generated by an information system.

- Perceived Usefulness

Seddon (1997) said that perceived usefulness is an indicator for the stakeholder believes that using a particular system enhanced their job performance.

- User Satisfaction

Seddon (1997) stated that user satisfaction is an evaluation of various consequences.

- Net Benefits to Individuals, Organizations and Society

Seddon (1997) mentioned that net benefits as perceived by these 3 types of stakeholder.

### 2.1.2 DeLone and McLean Information System Success Model 2003

DeLone and McLean reviewed studies that had been performed since 1992 and the suggestion from researchers including Seddon (1997) and Pitt et al. (1995). They revised the original model (1992 model) and created a new model. Figure 2.3 shows the updated model.

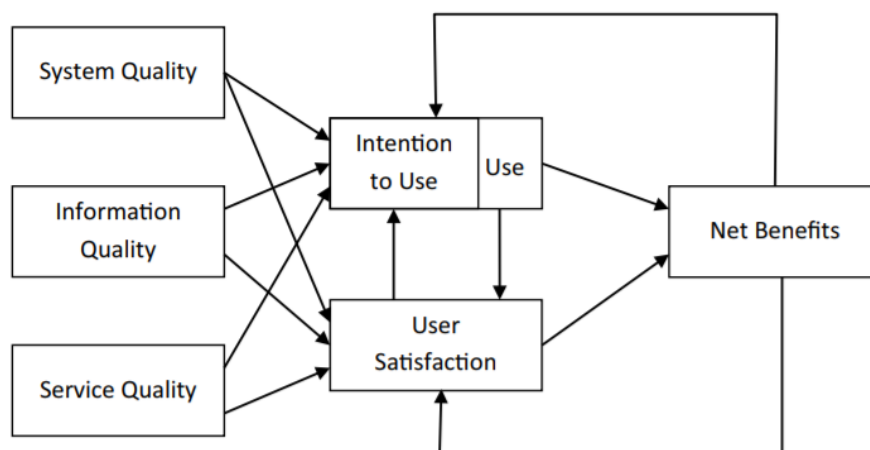


Figure 2. 3 DeLone and McLean's updated Information System Success Model (2003)

This updated model came from the suggestion from Pitt et al. (1995) to add service quality in the model. Another update to this model was this model not only affects on individual and organizational level. (Myers et al. 1997; Seddon et al. 1999) stated that Information Success Model affects workgroups, industries and societies. DeLone and McLean replaced these 2 variables (individual impact and organizational impact) with net benefits. With this updated model, the model can be applied to any level of analysis that the researcher consider most relevant.

This updated model describing the 6 major success dimensions, including:

- System Quality  
The characteristics of an application (ex. Easy to use, The flexibility of the system, The reliability of the system, ease of learning, and time that an application response).
- Information Quality  
How an application delivers information to the user (ex. important, understandability, and completeness).
- Service Quality  
The support that the user received from the IT support (ex. Responsiveness, accuracy, reliability, technical competence and empathy of the staff).
- System Use  
How customers use the capabilities of an application (ex. Amount of use, how frequent the users use an application, appropriateness of use, and purpose of use).
- User Satisfaction  
The level of the user's satisfaction to an application.
- Net Benefits  
The benefit that the individuals, groups, organizations received (ex. Improved decision making, improved productivity, increased sales, and cost reduction).

## **2.2 Previous Research about IS Success Model**

Number of studies have endeavored to additionally comprehend the DeLone and McLean show by endeavoring to approve a few or the majority of the model in a solitary report. Rai et al. (2002) assessed and thought about between the first model (1992) from DeLone and McLean and adjusted variant from Seddon (1997), expressed that the first model from DeLone and McLean was observed to be sensibly fruitful in the approval endeavor and beat the changed from Seddon. Sedera et al. (2004) tried a few achievement models, including DeLone and McLean's unique model and Seddon's altered model, expressed that DeLone and McLean's unique model gave the best device to estimating undertaking framework achievement.

**2.3 IS Success Model According to Tjen et al. (2019)**

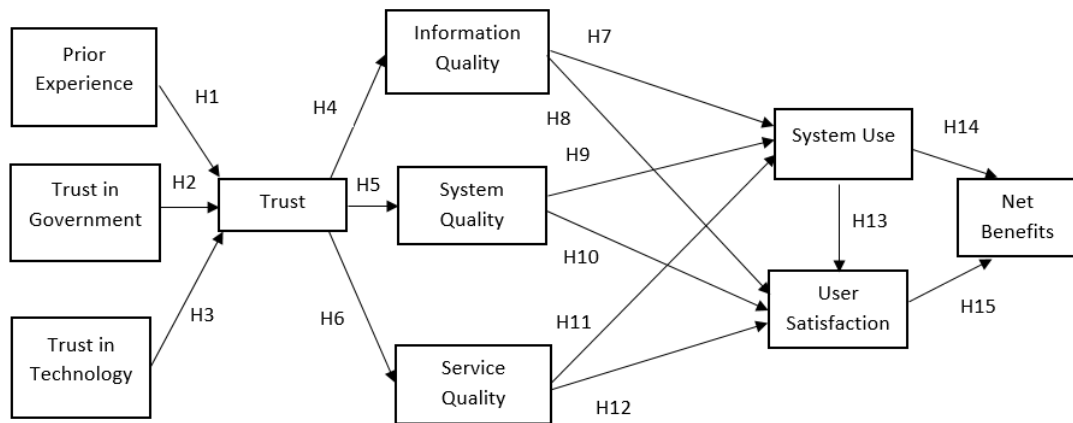


Figure 2. 4 Tjen et al. (2019) Research Model

The figure above is Tjen’s research model, where she modified the DeLone and McLean’s 2003 model. She defined Trust as society’s perception on the integrity and ability of the company who provide public service. According to Mostafa and El-Masry (2013), Trust can be gained through develop a trustworthy relationship with the users, by giving assurances that their personal data will be secure.

**2.4 User satisfaction affects on Digital Wallet using DeLone and McLean’s Model**

Below is the list of journal proves that digital wallet influences user satisfaction

| Auth or               | Title   | Sample   | Variables   | Analysis Technique                                    | Results  | Conclusion   |
|-----------------------|---|--|---|---|--|--|
| Ismael M. Romi (2013) | Testing DeLone and McLean’s Model in Financial Institutions | 39 financial institutions, 234 Survey were distributed | System Quality, Service Quality, Information Quality and User | Correlation Analysis and Multiple Regression Analysis | All 3 variables are positively influence User Satisfaction | Net Benefits in Financial Institutions are positively influence User |

|   |   |   | Satisfacti<br>on  |   |  | Satisfactio<br>n  |
|---|---|---|---|---|--|---|
| Kun<br>Chan<br>g Lee<br>&<br>Nam<br>ho<br>Chun<br>g<br>(200<br>9) | Understand<br>ing Factors<br>Affecting<br>Trust In<br>and<br>Satisfactio<br>n with<br>Mobile<br>Banking in<br>Korea: A<br>Modified<br>DeLone<br>and<br>McLean's<br>Model<br>Perspective | 276<br>questionnai<br>res were<br>distributed | Trust,<br>System<br>Quality,<br>Informati<br>on<br>Quality,<br>Interface<br>Design<br>Quality<br>and User<br>Satisfacti<br>on                       | PLS<br>(Partial<br>Least<br>Squares)        | All 4<br>variables<br>are<br>positivel<br>y<br>influence<br>User<br>Satisfacti<br>on | Net<br>Benefits of<br>Mobile<br>Banking<br>are<br>positively<br>influence<br>User<br>Satisfactio<br>n             |
| Tao<br>Zhou<br>(201<br>3)   | An<br>Empirical<br>Examinatio<br>n of<br>Continuanc<br>e Intention<br>of Mobile<br>Payment<br>Services  | 200<br>questionnai<br>re were<br>distributed  | System<br>Quality,<br>Informati<br>on<br>Quality,<br>Service<br>Quality,<br>Trust,<br>Flow,<br>Satisfacti<br>on and<br>Continua<br>nce<br>Intention | Structura<br>l<br>Equation<br>Modellin<br>g | All 7<br>variables<br>are<br>positivel<br>y<br>influence<br>User<br>Satisfacti<br>on | Net<br>Benefits of<br>Mobile<br>Payment<br>Services<br>are<br>positively<br>influence<br>User<br>Satisfactio<br>n |

|                         |  |  |   |  |   |   |
|-------------------------|--|--|---|--|---|---|
| Hiram Tig et al. (2016) | Intention to Use Mobile Payment System: A Case of Developing Market by Ethnicity | 450 Questionnaire were distributed   | Behavioral Belief, Normative Belief, Control Belief, Attitude, Subjective Norm, Perceived Behavioral Control and Intention towards M-payment System | Multiple Linear Regression and Independent Sample T-Test | Two of the variables are positively influence User Satisfaction | Net Benefits on Intention Use Mobile Payment System are positively influence User Satisfaction                        |
| Dong Hee Shin (2009)    | Towards an Understanding of The Consumer Acceptance of Mobile Wallet             | Individual Interview with 10 Undergraduate Students and Group Interview with 6 Focus Groups consist of 4-6 | Perceived Usefulness, Perceived Ease of Use, Attitude, Social Influence, Perceived Security, Trust, Self  | Structural Equation Modelling                            | All variables are positively influence User Satisfaction        | Net Benefits towards understanding of consumer acceptance of mobile wallet are positively influence User Satisfaction |

|  |  |                    |   |  |  |  |
|--|--|--------------------|---|--|--|--|
|  |  | Individual<br>each | Efficacy,<br>Intention,<br>and Use<br>Behaviou<br>r |  |  |  |
|--|--|--------------------|---|--|--|--|

Table 2. 1 List of Journal proves that Digital Wallet Influences User Satisfaction

## 2.5 Mobile Wallet

Mobile wallet is a virtual wallet that enable people to make transaction easier. For example, buying food with only their mobile phone. Previously, without the existence of mobile wallet, people are making transaction using their cash. Sometimes, when they want to buy something but they run out of cash, they have to go to nearest ATM to withdraw the money first. Also, most of restaurant or fashion outlet will give the discount with only using credit cards. The latest technology before mobile wallet was mobile banking, which is enable people to transfer their money to another account or make transaction easier. They can do transaction via their mobile phone, without having them to go to the nearest ATM or branch. But still, mobile banking is not a wallet that can be used on daily activities. With mobile wallet, people can store their money in there, buy stuff with only using their mobile phone. There are several types of mobile wallet payments, which are using NFC (Near Field Communication) and using Barcode. The main difference is by using NFC, the users tap their mobile phone to the POS merchant and place fingerprint to proceed (ex. Apple Pay), while using Barcode, the users scan the merchant's barcode and enter the PIN to proceed (ex. GO-PAY).

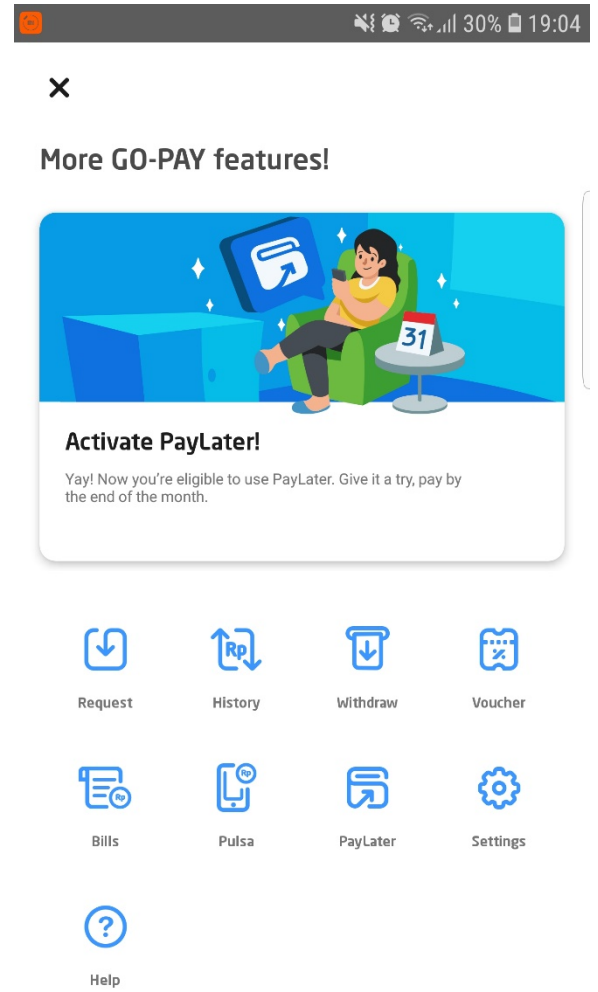
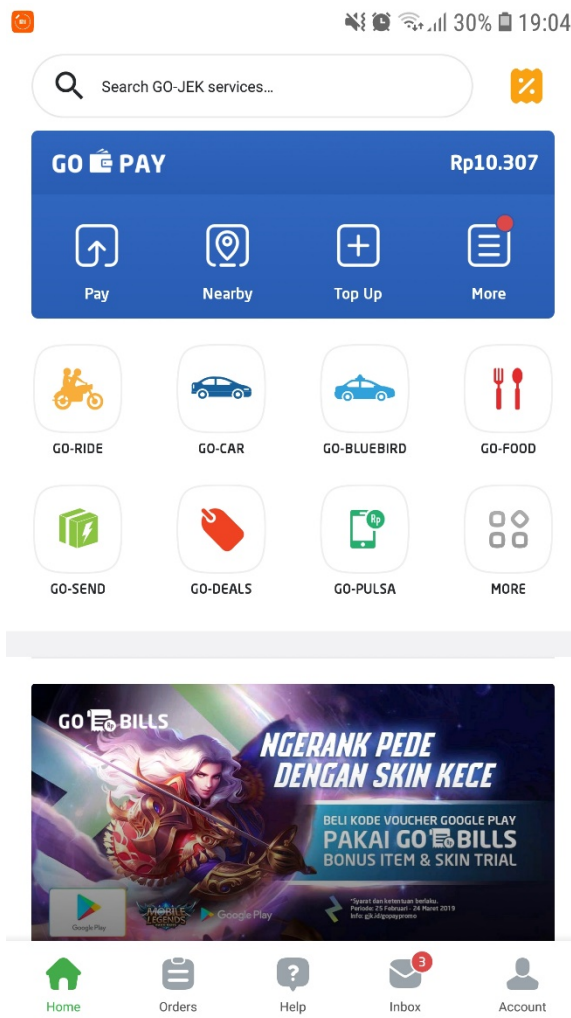
### 2.5.1 GO-PAY

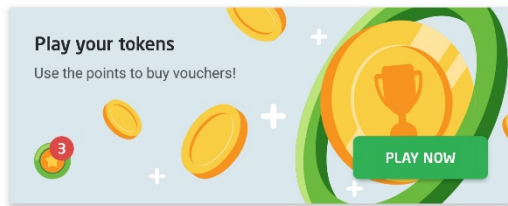
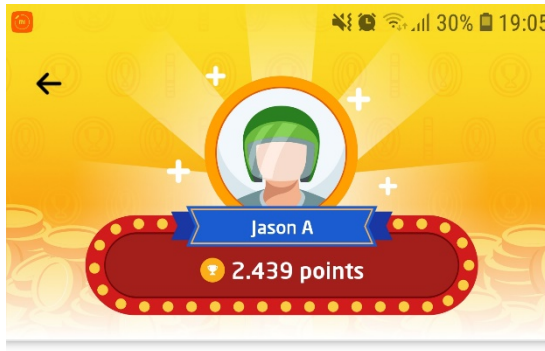
GO-PAY or GO Wallet is a virtual wallet to conduct transactions inside the Go-Jek mobile application. It can be used to order Go-Ride, Go-Car, Go-send or even order some foods by using Go-Food. Moreover, it also can be used to pay electric bills, BPJS, Voucher (games and google play), Cable TV, Water bills, and many more. To add balance to this wallet, the user can simply transfer from their personal banking (ex. BCA). They also provide virtual account for faster transferring the balance. Also,



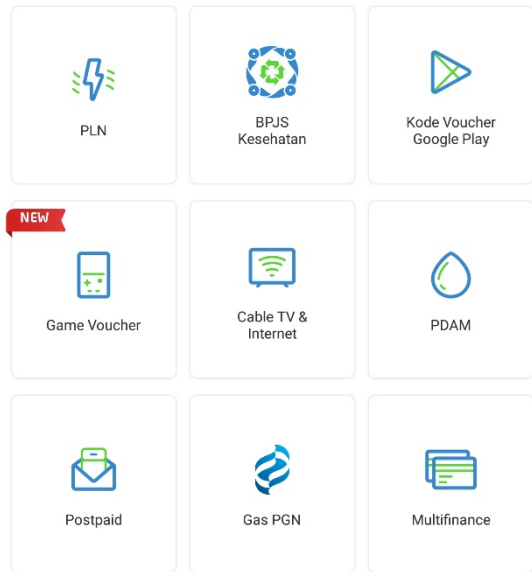
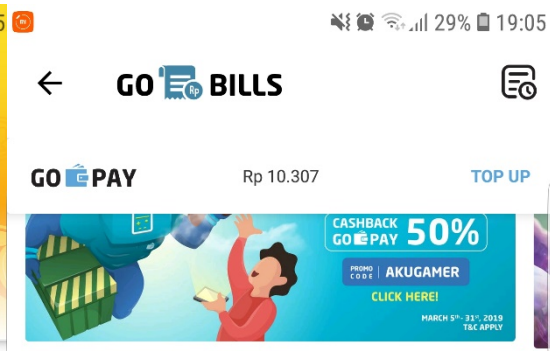
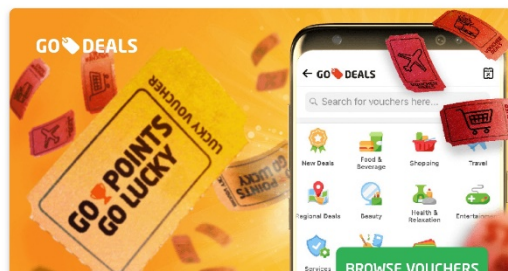
they provide with feature named “Go-Points”. Go-Points is a feature for the user to collect the points from using GO-PAY to make transactions. Go-Points can be redeemed into discount vouchers.

Go-Jek is a startup company that provides transportation services and financial services (GO-PAY), was founded in 2010 by Nadiem Makarim. Currently, Go-Jek becomes the leader of financial technology in Indonesia. Now, Go-Jek has operation outside Indonesia, which is in Singapore, Vietnam and Thailand.





**What vouchers are poppin'**  
Find what's worth your points to spend on.



### 2.5.2 OVO

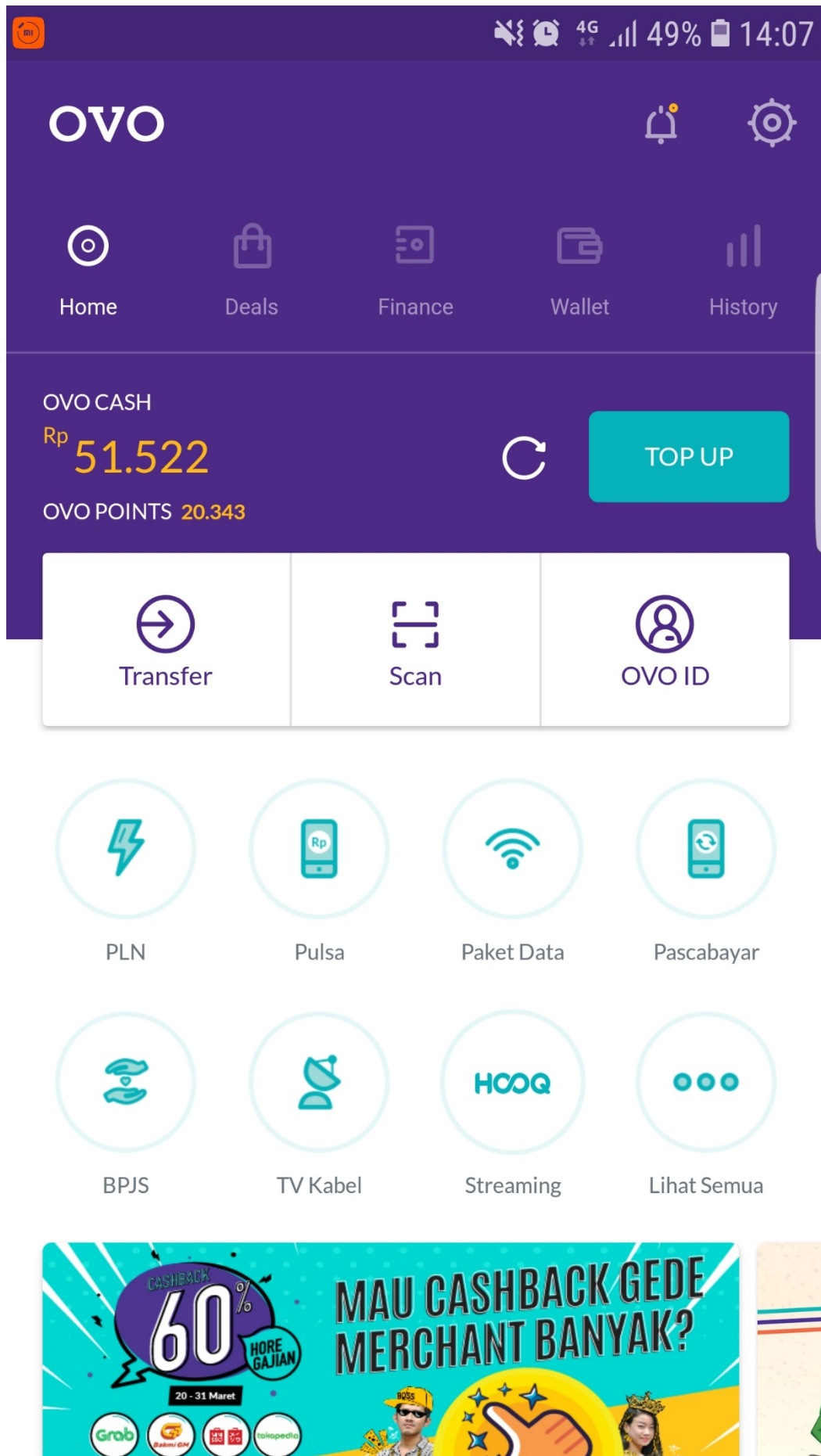
OVO is a digital payment application that can be used to pay electric bills, phone balance, BPJS, cable TV, and insurance. OVO has been integrated with GRAB and Tokopedia, enable the people to make transactions inside GRAB and Tokopedia application using OVO. OVO introduces OVO Cash as their virtual wallet and OVO Points as a reward for the users who use OVO Cash to make transactions. OVO Points can be used not only to redeem vouchers, but the users can use to pay bills in Tokopedia. According to Adrian (2018), OVO has up to 10 million active users and they integrated their system with GRAB and Tokopedia. With this integration, allow users to make payment using OVO in GRAB application such as:

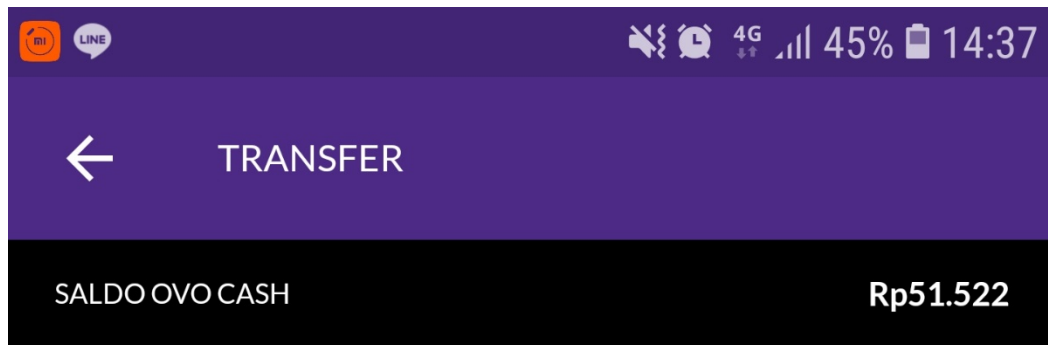
- Top-up the balance (this feature is used to top-up OVO Cash through mobile banking and GRAB's driver).
- Pay the GRAB driver (GRAB car, GRAB bike, GRAB food, GRAB delivery).
- Pay the bills (pay electricity bill, pay phone credits).

Also, by integrating with Tokopedia, users can easily:

- Use their OVO Cash and OVO Points to pay their transactions in Tokopedia
- Cashback from Tokopedia will be added to their OVO Points, so users can use the points to make any transactions in the future.
- The total payment can be split, so users can use the remaining balance in their OVO Cash and pay the rest of the transaction using other payment method.

OVO was developed by LippoX, which is under supervised by Lippo Group.

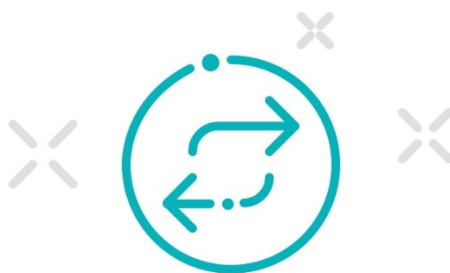




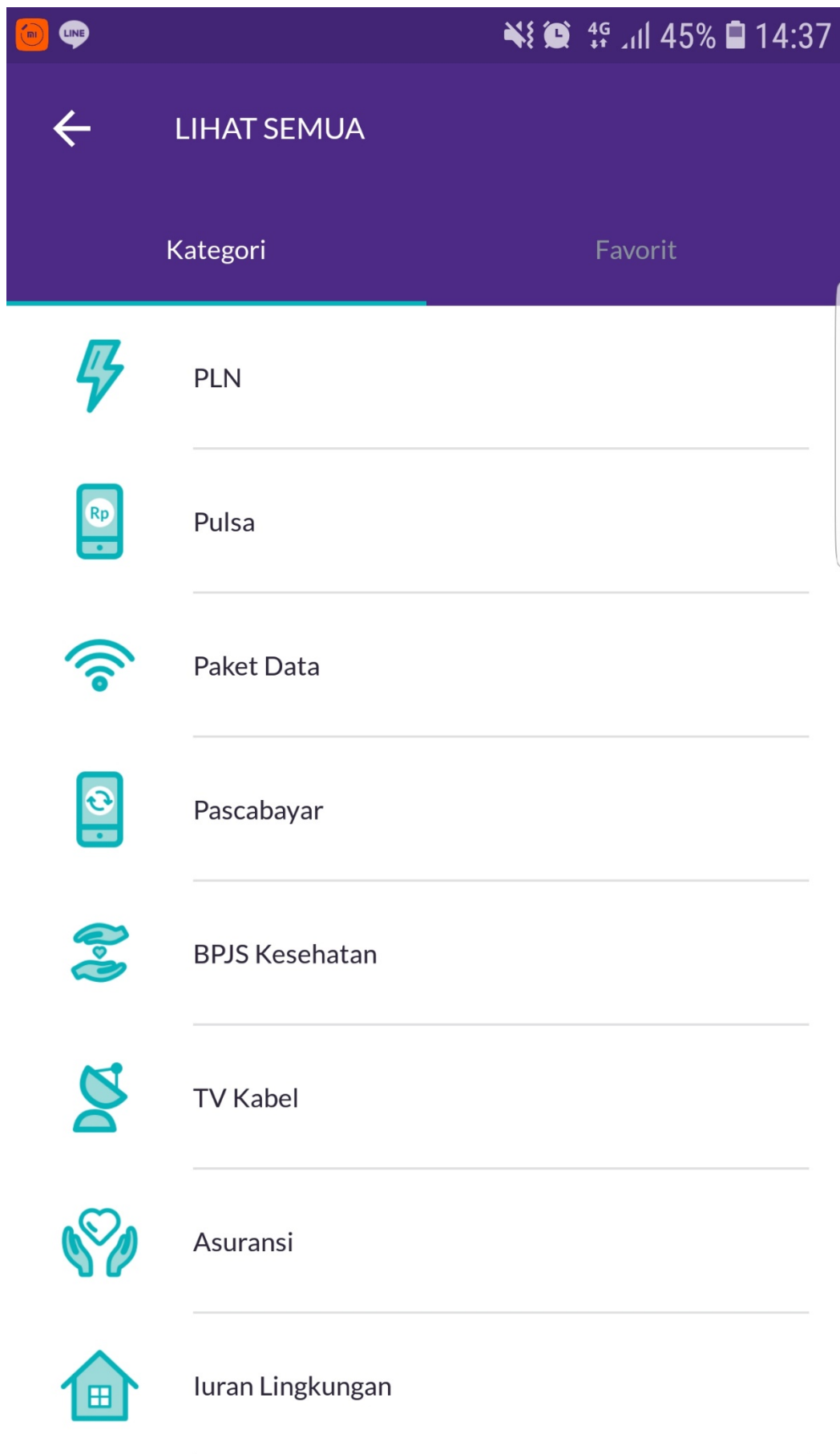
- Nominal  
Rp
- Antar OVO
  - Scan
  - Rekening Bank

### Upgrade ke OVO Premier

Aktifkan menu Transfer



**UPGRADE SEKARANG**



The screenshot displays the OVO mobile application interface. At the top, there is a status bar with icons for LINE, 4G, signal strength, 45% battery, and the time 14:37. Below this is a dark purple header with the OVO logo on the left, a notification bell icon, and a settings gear icon on the right. A navigation bar below the header contains five icons with labels: Home, Deals, Finance, Wallet, and History. The main content area shows a list of transactions, each separated by a horizontal line and a date separator. The transactions are as follows:

- 18 MAR 2019**
  - Transfer from Jason Antonio**  
Incoming Transfer +Rp50.000
  - TOKOPEDIA**  
Rewards +OVO Points 10.075
- 16 MAR 2019**
  - TOKOPEDIA**  
Rewards +OVO Points 3.500
  - TOKOPEDIA**  
Pembayaran -OVO Points 50.000
- 10 MAR 2019**
  - TOKOPEDIA**  
Rewards +OVO Points 5.136
  - TOKOPEDIA**  
Rewards +OVO Points 1.112
- 09 MAR 2019**
  - Star Booking**

A teal circular button with left and right arrow icons is overlaid on the bottom right of the screen.