

# IMPORTANT FACTORS THAT AFFECT CUSTOMER SATISFACTION WITH DIGITAL BANKS IN INDONESIA

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## ABSTRACT

Customer satisfaction has been considered as the measure of information system investment success in many businesses. Customer satisfaction could be difficult to clearly define but is considered as crucial evaluation construct for business investments. Covid-19 has triggered many financial institutions to invest heavily in technology to improve customer satisfaction and also generating more interaction. Indonesia banking industry evolution and revolution happened in accelerated manner to address this need. Traditional banks are creating and launching their digital applications, new banks are launched as digital bank. These banks invested significantly in building these digital solutions. In order to be successful, important factors influencing customer satisfaction in using the application should be considered to continuously improved the digital application and sustaining the business of this digital banks. This research aimed to evaluate hypothesis related to customer satisfaction in using these digital banks application by factoring in Ecosystem, Company Image, Promotion, Perceived Usefulness and Actual System Use. The benefit for this research was aimed to provide insights for digital banks to improve their strategy for their digital application and in the end will benefit the business. The result from the research contributed that ecosystem definitely a key component that need to be further researched to increase customer satisfaction with the digital bank application while also there is a need to do a deep dive for the offers/capability in the digital bank apps addressing specific customer needs to ensure they stay and use the digital bank application and less switching to other provider/banks; and in the end increased satisfaction and business for the bank.

Keywords: *Digital Bank, Customer Satisfaction, Ecosystem, Promotion, Indonesia*

## 1. INTRODUCTION

Digitalization has progressed tremendously in the past 10 years because of technology advancement, from IoT to BigData and AI/Machine Learning. Because of the pandemic of Covid-19, Banking as one of the most traditional businesses originally with one of the strictest regulations are facing challenges, firstly from the fintech players that accelerates digital lending, insurance and getting into daily life transaction and also with the changing behavior and demand from their customers that requires them to be less physical and more digital. The insurgent of digital-only banks (often powered by new digital core solution) were launched with the promise of having faster, better and more reliable way of transacting with customers.

In Asian nations, the digital-only bank movement is gaining traction. A number of new virtual bank brands have debuted. Hong Kong currently has eight virtual banks, with Taiwan, China, Singapore, Japan, Korea, Malaysia, and Indonesia following suit when their respective governments legalized the virtual banking system as reported by Mckinsey in 2021. In the same report, Mckinsey stated that for the digital banks in Indonesia to keep up with the fast pace of change in today's banking landscape, banks must become more agile; which they need to be both flexible and dynamic in response to shifts in technology, customer behavior and expectation. As digitization continues to spread across industries, traditional boundaries are fading between traditional banks, digital banks and their ecosystem. Ecosystem means that the bank are connected to companies/businesses to provide more meaningful

way to serve the end customer needs. In this new paradigm, Indonesian banks start with a significant strength, which is high high customer trust and with this foundation, Indonesian banks should start integrating and broadening their offerings across their customers' daily lives, creating seamless ecosystems that improve stickiness and drive growth. McKinsey further said that a successful ecosystem orchestration requires strong collaboration skills, as banks will need to work with nonbanking firms such as fintechs or other service providers to deliver value to customers.

According to Indonesia Financial Services authority (OJK -Otoritas Jasa Keuangan), there was a 300 percent increase in mobile banking and online banking usage in 2021, as well as a decline in transaction volume at 2593 traditional bank branches across Indonesia. This impacting both private banks and also public listed banks, even state-owned enterprise banks.

Aligning to this, conventional/traditional banks stated in their financial reports that their business strategy and investment were focused towards digital first business. This translated into major investment in technology spending for the business which again raise the question on the factors to make a successful digital business and in the end make their customer more satisfied.

Understanding customer satisfaction by responding to customer demand is crucial to deciding which areas of innovation banks will fund. Through its digital channel application, the IT team is under pressure to produce high-quality mobile applications that are durable, reliable, secure, and easy to use and comprehend (typically a mobile application). Understanding customer satisfaction is also critical for banks to identify areas for improvement and investment in order to grow and strengthen their business, as the trend showing majority of their transactions are conducted through their mobile application.

For a variety of reasons, an organization's capacity to serve customer needs until they are fully satisfied is critical. Dissatisfied customers, for example, are more likely to complain to a company and, in some situations, can have major consequences if service providers fail to properly address such issues. With the highly competitive digital business, customer can easily switch banking provider if they need are not being met.

This research will look into the factors that influence customer satisfaction when using a digital banking application from a using combination of TAM and DeLone & McLean methodology with additional promotion, ecosystem and company image component.

There were several studies conducted before for specific banks digital application in Indonesia but researcher found that ecosystem was never part of the research. This is important because in other industry (eg: automotive industry), ecosystem is one of the key factors that affecting customer satisfaction and in the end more business for the company. For example, having a good network of dealers, distributors, even custom car makers and racers using the automotive company brand is found to be effective way to keep customer engaged with the brand.

As differentiating factor, this study covers the landscape Indonesia digital banking after covid-19 pandemic and the crash of digital bank stocks to re-test the factors affecting customer satisfaction.

The contribution for the research is to explore the relationship between hypothesis factors and customer satisfaction in using digital bank application in Indonesia to address their needs.

We hypothesize that ecosystem has significant impact to customer satisfaction in addition to promotion and company image in using the digital bank application within Indonesia banking landscape.

## 2. LITERATURE REVIEW AND METHODOLOGY

[1] Temelkov's research found that different factors may cause the drastic expansion of the bank services. The bank business model depends on variety segments of the target market or customers they have served or plan to served, the target services offered, source of funding to the end customer and also the level of technology maturity level of the bank itself while running its operation.

Four primary reasons why bank business model changes and evolved are the dynamic in customer expectations, degree of profit volatility, ongoing pressure from the competition and update in regulatory in their country (European Banking Authority, 2018).

The banking industry undergoing a major shift with theme of digital transformation where financial

technology (fintech) companies' solution impacted the traditional bank business models powered by Open Banking [2], Indonesia not excluded.

This wave of digitalization also impacting banking. [3] Moşteanu research found that digital banks are seen the way to cut bureaucracy, ability to register from anywhere, reduce time needed to open account, and transact, and also with competitive fee, and real-time balanced update.

Digital banking is the blend and merge of new and emerging technologies within a financial services company, which will impact with changes related to internal and external corporate structure and personnel relationships and duties, to provide enhanced customer services and experiences effectively and efficiently which support the business [4]

According to OJK annual report 2021, digital bank is a legally incorporated bank in Indonesia that provides and implements business activities primarily via electronic channels without a physical branch other than head office or using limited physical branch offices. Based on this definition, the list of digital bank product are Jenius (Bank BTPN), Jago (Bank Jago), Blu (BCA Digital), Neobank (Bank Neo Commerce), Seabank (PT Bank Seabank Indonesia), Raya (Bank Raya Indonesia), Digibank (DBS), Line Bank, TMRW (UoB), MotionBanking (Bank MNC), Bank Aladin and the latest is Allobank (which was launched in May 2022) that target youngsters as their business segmentation target.

## 2.1 PREVIOUS STUDY

Customer satisfaction in banking can be defined as a pleasant and happy feeling a customer has after receiving a service [5], or the outcome of a customer developing an emotional link with a service provider [6]. According to Klaus [7] that customer experience, customer satisfaction and loyalty are variables that are often used in research on banking in the UK and impacting customer experience. SST recently often referred to the use of Digital Technology in Banking (banking anywhere). Satisfaction along with subsequent usage is deemed important as the key to fostering, maintain and retaining a loyal relationship with consumers. Past studies of mobile services and e-commerce website have also supported this perspective that customer satisfaction is positively related to post-purchase intention to keep buying the products and engaging with the company [8].

[9] Khuan analyse the users in one digital bank in Indonesia (Bank Jago) related to the factors that customer likes are free monthly free, free bank transfer (with a limit), personalization in the application, ability to be used for foreign transaction like Paypal, but the same study also show that because of pressure from Investors and target for profitability, the competition in digital banking start to charge for fee and this potentially impact customer satisfaction and in the end affecting customer loyalty in doing business with the digital bank.

[10] Andrian find in their study related to mobile application that most of the tweets from the mobile app user were related to features, user experience, regulation/policies and promotion which highlights the importance of promotion which also further strengthen the importance of promotion, but this research also did not yet cover the ecosystem component. [11] Muzakir research which focused on service quality, brand image, and promotion also find out that there was significant influence toward customer satisfaction but further research needed around ecosystem in a digital product for a bank.

Another research [12] find that brand image may impact loyalty and satisfaction, previous research by Natadirja [13] found out that perceived value positively impact on e-trust, e-satisfaction and e-loyalty and monetary value does not positively impact trust towards the bank, which is contra dictionary where usually promotion is equal monetary value. [14] Windasari found out that from these variables (economic value, ease of use, social influence, firm reputation, promotion, features, curiosity and reward), only curiosity and sales promotion not impacting significant usage for Digital only banking. In specific about ecosystem, researcher find that there is limited study related to ecosystem and also satisfaction in related to digital bank. A study by a team in Russia [15] stated that success and effectiveness of the the national digital financial ecosystem directly depend on new and productive forms of integration of public and private ecosystems for the benefit of consumers. Another research related to ecosystem which done on Banking and digital currencies also shows that digital ecosystem will hold key components for bank growth [16]. This study [17] reveals that digital payments by banks is critical in payment ecosystem.

Based on previous literature, researchers found that while some of the variables were valid but there was no research specific highlighting ecosystem that hypothesize to improve customer satisfaction especially after the crash of stock of digital banks

and covid-19 pandemic is over, therefore a further validation is needed.

We use modified TAM and DeLone & McLean model with additional component for Satisfaction, Promotion, Ecosystem and Company image.

The usage of TAM (Technology Acceptance Model) often combined with DeLone & McLean to measure both acceptance and also success model as the goal as also being used in previous study by Ali [18].

For the research, we created below hypothesis:

- The effect of Company Image (CI) to Perceived Usefulness (PU), Actual System Use (AU) and Satisfaction (S). This is where by developing better Company image will trigger people to use the application and also impacting Satisfaction.

- Hypothesis 1 (H1): Ecosystem significantly impact PU,
- Hypothesis 2 (H2): Ecosystem significantly impact AU,
- Hypothesis 3 (H3): Ecosystem significantly impact S.

The effect of Promotion (P) to Actual System Use (AU) and satisfaction (S). This is where by having better promotion personalized to the digital bank application, can impact System Use and Satisfaction.

- Hypothesis 4 (H4): Ecosystem significantly impact AU,
- Hypothesis 5 (H5): Ecosystem significantly impact S.

The effect of Ecosystem (E) to Actual System Use (AU) and Satisfaction (S). This is where by having better ecosystem connected to the digital bank application, can impact System Use and Satisfaction.

- Hypothesis 6 (H6): Ecosystem significantly impact AU,
- Hypothesis 7 (H7): Ecosystem significantly impact S

Below are modified and simplified TAM and Delone & Mclean success model, still focusing on customer satisfaction but adding components of Ecosystem, Company Image and Promotion.

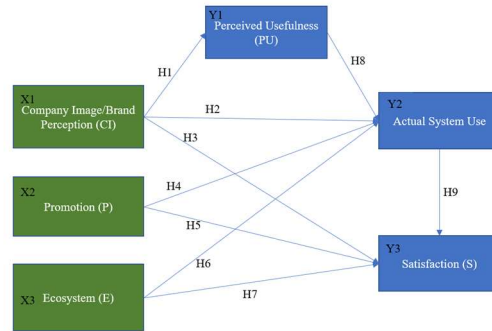


Figure 1: Research Model

### 3. METHODOLOGY

We first adopted quantitative survey for this research. and the questionnaire was designed based on previous studies and adding components of ecosystem, promotion and company image. The questionnaire was shared to demographic within Jabodetabek area and was prepared by using five-point Likert type scale, starting from strongly disagree (1) to strongly agree (5). The five-point Likert (established in 1932 by Rensis Likert) scale widely used for quantitative data collection due to its high reliability. We received 483 data and after validation, about 75 of them are not using digital bank applications and we conclude with 408 respondents. Age groups were 31% between 20-30, 28.92% between 30-40, 31.62% between 40-50, 4.66% between 50-60 and about 3.7% above 60 / under 20 years old. Based on gender there were 75.98% male and 24.02% female responder and about 92% respondents were from Jabodetabek area with income level varied from 10-20M IDR (33.61%), 20-40M IDR (21.67%), 40-80M IDR (10.83%), 5-10M IDR (20.83%), above 80m IDR (6.11%) and under 5M IDR (6.94%). Based on the result, then we further conducted an interview to 10 people related to the finding.

Table 1: Age Group of Respondents

Age Groups	Count of responders	in Percentage
Between 20-30 Years old	127	31%
Between 30-40 years old	118	29%
Between 40-50 years old	129	32%
between 50-60 years old	19	5%
above 60 years old	5	1%
under 20 years old	10	2%
Grand Total	408	1

If we combine the analysis between age group and also income level of those 360 people willing to give indication of their income, the result is as per below.

Table 2: Age Group and income of Respondents

Age Group and Income Range	Number of Respondent	in percentage
<b>between 20-30 years old</b>	<b>118</b>	<b>32,8%</b>
income between 10-20 m IDR/month	51	14,2%
income between 20-40 m IDR/month	6	1,7%
income between 40-80 m IDR/month	5	1,4%
income between 5-10 m IDR/month	46	12,8%
income above 80 m IDR/month	1	0,3%
income under 5m IDR/month	9	2,5%
<b>between 40-50 years old</b>	<b>109</b>	<b>30,3%</b>
income between 10-20 m IDR/month	30	8,3%
income between 20-40 m IDR/month	36	10,0%
income between 40-80 m IDR/month	14	3,9%
income between 5-10 m IDR/month	13	3,6%
income above 80 m IDR/month	11	3,1%
income under 5m IDR/month	5	1,4%
<b>between 30-40 years old</b>	<b>102</b>	<b>28,3%</b>
income between 10-20 m IDR/month	36	10,0%
income between 20-40 m IDR/month	33	9,2%
income between 40-80 m IDR/month	14	3,9%
income between 5-10 m IDR/month	13	3,6%
income above 80 m IDR/month	5	1,4%
income under 5m IDR/month	1	0,3%
(blank)		0,0%
<b>between 50 - 60 years old</b>	<b>17</b>	<b>4,7%</b>
income between 10-20 m IDR/month	3	0,8%
income between 20-40 m IDR/month	2	0,6%
income between 40-80 m IDR/month	6	1,7%
income between 5-10 m IDR/month	2	0,6%
income above 80 m IDR/month	3	0,8%
income under 5m IDR/month	1	0,3%
<b>below 20 years old</b>	<b>10</b>	<b>2,8%</b>
income between 5-10 m IDR/month	1	0,3%
income under 5m IDR/month	9	2,5%
<b>above 60 years old</b>	<b>4</b>	<b>1,1%</b>
income between 10-20 m IDR/month	1	0,3%
income between 20-40 m IDR/month	1	0,3%
income above 80 m IDR/month	2	0,6%
<b>Grand Total</b>	<b>360</b>	<b>1</b>

Based on the data above, we can see majority the user of digital bank apps is between 20-50 years old and income level of 10-40 million IDR/month (USD 645 – 2580 with currency rate of IDR 15,500 in Oct 2022).

Since data collection is using questionnaire, we need a measurement tool to define the validity and reliability.

Table 3: Convergent Validity Result

Variable	Actual Usage	Company Image	Ecosystem	PU	Promo	Satisf action	Result >0.7
AU1	0.917						Valid
AU2	0.864						Valid
AU3	0.926						Valid
AU4	0.909						Valid
CI1		0.746					Valid
CI2		0.874					Valid
CI3		0.911					Valid
CI4		0.906					Valid
CI5		0.897					Valid
E1			0.856				Valid
E2			0.880				Valid
E3			0.787				Valid
E4			0.844				Valid
P1					0.876		Valid
P2					0.912		Valid
P3					0.897		Valid
P4					0.913		Valid
P5					0.925		Valid
PU1				0.928			Valid
PU2				0.902			Valid
PU3				0.891			Valid
PU4				0.934			Valid
PU5				0.931			Valid
PU6				0.931			Valid
S1						0.816	Valid
<b>S2</b>						<b>0.533</b>	<b>Not valid</b>
S3						0.917	Valid
S4						0.921	Valid
S5						0.909	Valid

The validity test has 2 types, which is convergent validity which can be done by looking at the loading factor in each indicator which need to be larger than 0.7 (>0.7) or using the AVE (Average Variance Extracted) in each of the variable which need also to be bigger than 0.7 (> 0.7).

The 2<sup>nd</sup> type of test is discriminant validity which tested by using Cross Loading methodology.

This research used SmartPLS version 4.0 and there were 2 phase of test, outer and inner model.

We conducted discriminant validity result as per below.

Table 4: Discriminant Validity Result

	Actual Usage	Company Image	Ecosystem	Perceived Usefulness	Promo	Satisfaction
AU <sub>1</sub>	<b>0.917</b>	0.700	0.630	0.770	0.522	0.724
AU <sub>2</sub>	<b>0.864</b>	0.568	0.678	0.617	0.498	0.686
AU <sub>3</sub>	<b>0.926</b>	0.652	0.620	0.763	0.484	0.716
AU <sub>4</sub>	<b>0.909</b>	0.652	0.587	0.704	0.444	0.707
CI1	0.538	<b>0.746</b>	0.356	0.603	0.330	0.528
CI2	0.627	<b>0.874</b>	0.475	0.691	0.386	0.656
CI3	0.656	<b>0.911</b>	0.476	0.737	0.443	0.684
CI4	0.635	<b>0.906</b>	0.531	0.740	0.499	0.737
CI5	0.630	<b>0.897</b>	0.534	0.735	0.464	0.715
E1	0.634	0.476	<b>0.856</b>	0.534	0.443	0.600
E2	0.656	0.536	<b>0.880</b>	0.606	0.501	0.656
E3	0.441	0.336	<b>0.787</b>	0.325	0.444	0.478
E4	0.577	0.477	<b>0.844</b>	0.484	0.504	0.584
P1	0.477	0.408	0.496	0.383	<b>0.876</b>	0.499
P2	0.541	0.497	0.554	0.455	<b>0.912</b>	0.583
P3	0.476	0.410	0.501	0.386	<b>0.897</b>	0.532
P4	0.462	0.453	0.509	0.400	<b>0.913</b>	0.535
P5	0.474	0.452	0.477	0.387	<b>0.925</b>	0.551
PU <sub>1</sub>	0.749	0.789	0.551	<b>0.928</b>	0.433	0.698
PU <sub>2</sub>	0.722	0.722	0.571	<b>0.902</b>	0.418	0.666
PU <sub>3</sub>	0.688	0.706	0.551	<b>0.891</b>	0.433	0.684
PU <sub>4</sub>	0.734	0.728	0.505	<b>0.934</b>	0.386	0.666
PU <sub>5</sub>	0.751	0.751	0.540	<b>0.931</b>	0.408	0.673
PU <sub>6</sub>	0.718	0.767	0.547	<b>0.931</b>	0.383	0.677
S1	0.604	0.624	0.549	0.557	0.515	<b>0.816</b>
S2	0.301	0.271	0.427	0.228	0.433	<b>0.533</b>
S3	0.764	0.750	0.637	0.743	0.531	<b>0.917</b>
S4	0.748	0.742	0.637	0.714	0.510	<b>0.921</b>
S5	0.727	0.690	0.622	0.683	0.526	<b>0.909</b>

The loading factors (correlation between item scores or component scores and construct scores) obtained by SmartPLS are used to assess the measurement model's convergent validity with the reflective model of indicators. The predicted loading factor value > 0.7 indicates that the convergent validity is ideal. Although a loading factor value of >0.5 can be accepted, a loading factor value of <0.5 can be omitted from the model.

Because of this, S2 was removed because it was not a valid measurement question. After removing S2, the loading factors changed a bit but not significant impact.

S2 interestingly is a question about whether by using a certain digital bank application, the user/customer will not be using other digital bank application. The conclusion seems to be that even though a customer maybe using and maybe satisfied, that does not prevent the same user/customer to use other bank application. We cover this topic further in the interview following the analysis.

Cross loading assessments using constructs are used to examine the discriminant validity of the measurement model with reflective indicators. If the construct correlation with the measuring items is bigger than the size of the other construct, it is considered to meet discriminant validity. Furthermore, if the average variance extracted root (AVE) for each construct is greater than the correlation between constructs with other constructs in the model, the model has sufficient discriminant validity [19]

To determine discriminant validity, compare the square root value of each construct's Average Variance Extracted (AVE) with the correlation between other variables in the model.

There are two types of reliability tests that can be used to quantify reflected indicators in PLS: Cronbach's alpha and composite reliability.

Cronbach's alpha is used to determine the lower limit of a construct's reliability, whereas composite reliability is used to determine the genuine value of a construct's dependability. If the Cronbach's alpha value is greater than 0.6 and the composite reliability

value is greater than 0.7, a construct is said to be reliable [20]

The validity test will be measured in this study utilizing Pearson' item-total correlation (loading factor) with a 0.7 limit. As a result, if an indication's loading factor is less than 0.7, the indicator is considered legitimate. This study used Cronbach's alpha with a cutoff of 0.7 for the reliability test. If the Cronbach's alpha value is less than 0.7, an indication is regarded to be dependable. All of this analyzed statistically using confirmatory factor analysis (CFA).

The inner model is used to assess the Goodness of Fit Index or to test research ideas. For meaningful

tests between constructs in SmartPLS, the structural model is first evaluated using R2 for the dependent construct, the path coefficient value, or the t-value of each path.

The level of variation in variable changes independent of the dependent variable is measured compared with the R2 value. The greater the R2 score, the better the proposed research model's prediction model. The R2 limits are separated into three categories, with R2 values of 0.67, 0.33, and 0.19 being classified as substantial, moderate, and weak, respectively [21]

Table 5: Reliability Test Result

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Actual Usage	<b>0.925</b>	<b>0.927</b>	<b>0.947</b>	<b>0.818</b>
Company Image	<b>0.917</b>	<b>0.924</b>	<b>0.939</b>	<b>0.755</b>
Ecosystem	<b>0.864</b>	<b>0.877</b>	<b>0.907</b>	<b>0.709</b>
PU	<b>0.963</b>	<b>0.964</b>	<b>0.971</b>	<b>0.846</b>
Promo	<b>0.945</b>	<b>0.947</b>	<b>0.958</b>	<b>0.819</b>
Satisfaction	<b>0.882</b>	<b>0.921</b>	<b>0.916</b>	<b>0.693</b>

We did evaluation for Coefficient of Determination ( $R^2$ ) and results were below that shows that for Actual usage, 71.8% of the variable that construct of Actual Usage is being covered in this research and the rest of the variables is not covered. Similar to Perceived Usefulness with 65.5% is being covered

in this research and the Satisfaction is 74.8% is being covered in this research. If reader wants to extend the research, we can try to find other variable which will make the results higher.

Table 6: AU, PU, S and  $R^2$  result

Variables	R-square	R-square adjusted
Actual Usage	0.718	0.716
Perceived Usefulness	0.655	0.655
Satisfaction	0.748	0.745

#### 4. RESULT, ANALYSIS AND DISCUSSION

After analysis, the results of the hypothesis analysis showed the P-values using bootstrapping method, the relationship between Company Image and Actual Usage was not significant.



Table 7: Hypothesis Analysis

	Original sample (O)	P values	Status
Actual Usage -> Satisfaction	0.303	0.000	Significant
Company Image -> Actual Usage	0.107	0.053	not significant
Company Image -> PU	0.810	0.000	Significant
Company Image -> Satisfaction	0.375	0.000	Significant
Ecosystem -> Actual Usage	0.287	0.000	Significant
Ecosystem -> Satisfaction	0.200	0.000	Significant
Perceived Usefulness -> Actual Usage	0.486	0.000	Significant
Promo -> Actual Usage	0.108	0.003	Significant
Promo -> Satisfaction	0.138	0.000	Significant

Figure 2: Relationship Diagram (ini diperbaiki)

This is further confirmed by the relationship diagram shown above.

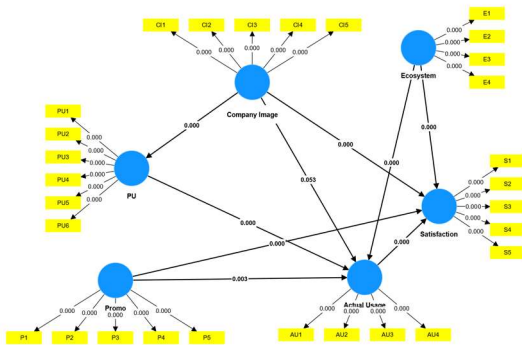


Table 8: Indirect Effect

Analysis

Variable Relationship	Original sample (O)	P values	Status
Company Image -> Actual Usage -> Satisfaction	0.033	0.072	not significant
Company Image -> PU -> Actual Usage -> Satisfaction	0.119	0.000	significant
Promo -> Actual Usage -> Satisfaction	0.033	0.010	significant
Company Image -> PU -> Actual Usage	0.394	0.000	significant
PU -> Actual Usage -> Satisfaction	0.148	0.000	significant
Ecosystem -> Actual Usage -> Satisfaction	0.087	0.000	significant

Based on the result of indirect results analysis, the Company Image -> Actual Usage does not have significant impact to satisfaction.

As a follow up of this finding; we found that Company Image is not impacting the Actual System Use but it's actually helped to improve Satisfaction triggered a question of why to understand more on how in direct context (Company Image -> Satisfaction) but in indirect context (Company Image -> Actual Usage -> Satisfaction) is not strongly impactful.

We decided to conduct an interview to several people who are willing to be interviewed. We asked these 3 validating questions:

- 1) explain more on whether company image can help you feel more satisfied with the digital bank application?
- 2) Whether the company image make you want to use the digital bank apps and
- 3) whether actual usage affect satisfaction towards the digital bank application.

The result of the interviews strengthened our findings previously related to S2 that when

customers already using a certain digital bank apps, does not mean that they will not use other digital bank apps, mainly for the purpose of serving different needs, for example if a bank have a specific promotion, then they potentially will use the other bank application. Also, if the feature of certain bank app is more relevant to the task/goal they wanted to achieve, they potentially will use the other digital bank application. When answering whether the image of the bank can impact the satisfaction of the digital bank application, most respondent said that they feel with the branding/image/news they know about the new features/capabilities/offers from this digital bank applications and therefore feel more satisfied. When asked related to the impact of company image towards using digital bank application, the responds are mix, again its related whether the image/news/offers from the company actually relates to the needs that they are looking for to be fulfilled. Researcher has assumptions that this study could be further detailed by what kind of news/offer/branding that can impact the customer to actually use the application. Lastly on the 3<sup>rd</sup> question on whether actual usage impact satisfaction, the responds also varied depends on the level of usage, level of user-friendliness in using, level of availability and response time of the application which in the may or may not impact satisfaction.

As additional information, these are the spread of digital bank application that being used by the customer (top 10)

Table 9: Top 10 digital banks application based on survey

Digital Bank Apps being used	Total Respondents	Percentage
Jenius (bank BTPN)	87	21,32%
myBCA (BCA)	66	16,18%
BLU (BCA Digital)	48	11,76%
LIVIN (Bank Mandiri)	44	10,78%
Allo Bank	21	5,15%
Jago (Bank Jago)	20	4,90%
Octo (CIMB Niaga)	19	4,66%
PermataME (Bank Permata)	18	4,41%
BCA Mobile	14	3,43%
Digibank (DBS)	11	2,70%
		85,29%

As additional insights, researchers asked below question in the survey:

Q: how you heard the first time about the digital bank application? A: Friends/Family, social media and

company websites were the primary source of information.

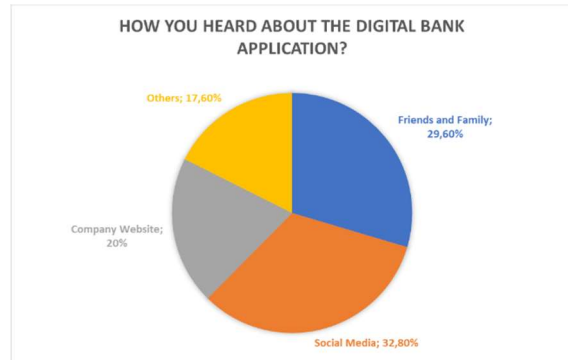


Figure 3: Where the Customer heard about the digital application

Bank should keep continue their digital advertisement through social media and their websites, while also push for family and friend's member get member approach.

#### 4.1 THEORETICAL IMPLICATION

This study refers to the combination of TAM and Delone and Mclean conceptual theories to see the factors that may influence the satisfaction of digital banking users. In terms of academic contributions, this research tried to empirically analyses the hypothesizes factors that impacted satisfaction towards digital bank application in Indonesia (especially Jabodetabek area). After analysing and processing research data, it shows that the result aligned and relevant to previous research with additional emphasis to ecosystem.

This shows that the satisfaction of users in using digital bank application is vastly and varied interconnected to these different factors, which may not be covered in this research. Uniquely even though the company brand does not impact indirectly to actual use and towards satisfaction, but it does impact directly towards satisfaction. This is an interesting future area to be deep dive.

#### 4.2 PRACTICAL IMPLICATION

This research goals is to understand more about the factors that affecting digital bank customer satisfaction with the hope that the result can help the companies to adjust or improve their strategy when building digital applications. One of the goals is to

reduce waste of effort and only focusing to the one most important for the customers.

This research reveals that digital bank customers does care about ecosystem and while maintaining good company image and promotion are still a good way to attract customer and improve customer satisfaction, by focusing with ecosystem it can further accelerate the customer engagement and satisfaction and this is where the digital bank should add more focus into.

## 5. CONCLUSION AND FUTURE RESEARCH

The research originally plans to understand the important factors that affects customer satisfaction in using Digital Banks application. In Indonesia banks compete heavily not just with other bank but also fintech and neo-bank putting pressure to their business and understanding customer satisfaction better can help to improve their business. This research revealed some of the important factors that may affect customer satisfaction and validated that ecosystem should be explored further.

This answering hypothesis around ecosystem, promotion and company image significant towards building customer satisfaction.

These findings are consistent with previous research with the addition of ecosystem as key differentiator. Our contribution covers that Company Image, Promotion and Ecosystem does impact directly customer satisfaction in using digital bank application. The research also provides insights on the area where bank should explore further in improving their digital banking application especially in Indonesia where digital literacy still at the early stage and only limited around big cities in Indonesia. Lastly this research is important to be continued with other research that deep dive which part of ecosystems that can really strengthened the relationship by improving customer satisfaction and in the end delivering more business for the bank.

Limitation of this study includes the need to further categorize the ecosystem in the different financial and non-financial level, coverage in other cities outside Jabodetabek and the longer-term result of the application use to business impact.

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