

ROLE OF NETWORK EXTERNALITIES AND INNOVATION CHARACTERISTICS IN INFLUENCING INTENTIONS TO USE AN ONLINE BANK: MODERATING TECHNOLOGICAL ANXIETY

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ABSTRACT

Digital innovations have numerous impacts on modern life; as such, many business models have integrated online or virtual forms, which includes banking. An online bank is a virtual form of a bank's business model that utilizes smartphones and the Internet. This paper intends to analyze the role of network externalities, innovation characteristics, and technological anxiety on the intention to use new forms of this financial business model. The model of this research uses three aforementioned theories on intention to use an online bank in Indonesia. This paper further verifies the relationship between network externalities to intention to use and examines whether any mediating effect of innovation and/or technological anxiety have a moderating effect on the proposed relationships. With the participation of 174 respondents, the data were gathered through purposive sampling and then analyzed using structural equation modeling with three types of relationships: direct, indirect/mediation, and moderation. The result show that network externalities have direct effects on intention to use, most characteristics of innovation have mediating effects on previous relationships, and technological anxiety has a moderating effect in some paths

Keywords: network externalities; innovation characteristics; technological anxiety; intention to use; online bank

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1. INTRODUCTION

A quarter of the Indonesian population now owns a computer/laptop, and more than half own phones that can access the Internet (Indonesian Internet Service Providers Association, 2017), although only 7.39% use these devices for banking services. Additionally, McKinsey reported a shift in consumer behaviour in Asia toward digital technology and innovations over the last decade (Sengupta, 2014). There are not only increases in the use of digital technology but also in channel preferences in banking, consumer decisions, and digital sales/transactions. The authors

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also stated that the digitalization of banking will disrupt, make threats, and create opportunities for banks, depending on their starting point and how they respond to digital trends.

Thus, many banks have enhanced their operations with digital solutions, i.e., starting from ATMs, to mobile/SMS banking, to Internet banking (Chen, Durairaj, Vinayak & Lam, 2014).

An online bank is among the newest IT-based business model innovations caused by the trend of IT uses in daily life. The use of smartphone applications has brought more freedom and convenience for people to do daily activities, including controlling their finances. FinTech startups are part of this trend and have replaced banks as financial institutes (Williams-Grut, 2015). Thus, conventional banks have been forced to catch up, and many have proceeded in utilizing and integrating many forms of IT to allow practical service/availability for their customers. An online bank is a type of bank designed to eliminate the hassle of its brick and mortar form and is mostly available in digital form [this will be referred to as an online bank (nouns) in this paper]. An online bank itself refers to banking activities using online technologies (e.g., the Internet).

Unlike a conventional bank, which has physical branches that offer face-to-face/physical service such as books and tellers, digital/online banks aim to exist only in digital form, at least on the front end of its business (not talking about their physical office or marketing stand). Prominent examples of these banks in Indonesia are Digibank by DBS and Jenius by BTPN. Jenius is essentially a bank that offers consumer banking products. However, unlike conventional banks, most of its business is conducted through digital connections, via applications, with the exception of cash through "ATM Bersama". One is not only able to check, transfer, and pay through its app, but one can also compartmentalize the money on one accounts, put it in "saver" account and many other banking features offered by the application. These two online banks were operated by banking corporation except no bank office. In Indonesia, other mobile payment applications exist, namely, Gopay, Grabpay, OVO, TCash, and Linkaja. The increasing number of brands show the potential market of online banks in Indonesia.

These sociological phenomena, having adopted successful innovations, are dubbed "diffusion of innovation" (DoI) (Rogers, 1995). For example, in financial activities, people used to conduct transactions through barter systems and physical money; with digital technology, we can now use cards, FinTechs, and cryptocurrencies (Burn-Callander, 2014). It began with few "early adopters" (Rogers, 1995) and slowly spread to later types of adopters. According to Roger (1995), these innovations have five characteristics: relative advantage, complexity, compatibility, observability, trialability. Then, as innovation spreads, the network of users grows and affects the behaviour toward it (Leibenstein, 1950; Katz & Shappiro, 1986; Liebowitz & Margoliz, 1994).

Network externalities (Liebowitz & Margoliz, 1994) is another popular theory used for network-based innovation. This theory applies to the system of money/finance (Fugger, 2004) and information technology alike; hence, its inclusion in this paper. The idea is that the more people use the system, the more utility/value it can offer to its users (Rohlf's, 1974). Essentially, the theory is related with trust of the consumer to the network of connection offered by the extranet system (Panian, 2001). Trust (and respect gained) in virtual communities is an intangible that might be turned to the success of the business and contribute (utility) to the members (Panian, 2001).

Trust is associated with lower perceived risk of using the system; further, trust is expected to be affected by the consumers' perceptions of the size and reputation (network externalities) of the company (Jarvenpaa, Tractinsky & Vitale, 2000). Depending on the industry and product, this can be positive or negative (Liebowitz & Margoliz, 1994; Panian, 2001). This research will, thus, focus on the positive effect of the size and trust and will be tested on an online consumer bank (B2C). Also, the importance of network externalities is the complementary nature between the components of a network. It is divided into two types, direct and indirect, depending on the nature of the network effect (Liebowitz & Margoliz, 1994; Panian, 2001). Direct network externalities may influence indirect network externalities, and both may influence intention to use.

Despite the apparent convenience of these technologies, there has been resistance against change and/or adoption of innovation. Cornescu and Adam (2013) noted that research on the negative/unintended effects of innovations since Roger's publication of *Diffusion of Innovations* is lacking; thus, this research will take into account people's anxiety of technology (Compeau & Huff, 1999).

This research also intends to study the role of the aforementioned theories in regard to potential users/adopters of Jenius, specifically, how network externalities (NE) are important to the adoption and role of characteristics of innovations (CI). Additionally, in regard to possible resistance to change and whether technological anxiety (TA) plays any part/moderation in the relationships, there has much research in regard to NE and CIs on many IT innovations. However, online banks (banks that are only available virtually/online) in Indonesia are relatively new at this point of time (year 2018), and there has been scant related research. Jenius is targeted to digital-savvy customers. Indonesia has the third largest youth population in the world and 130 million active social media users; as such, Indonesia has become the biggest digital economy country in Southeast Asia (Kinda & Yan, 2018). Here, Jenius was chosen because (1) the researcher intends to examine consumer behaviors of the Indonesian people, as we believe an Indonesian-based online bank is more fitting than a multinational bank such as Digibank by DBS, which based outside of Indonesia; (2) we assume that more people will know Jenius because it was introduced prior Digibank in Indonesia (Woo, 2017).

2. LITERATURE REVIEW

2.1 *Network Externalities and Intention to Use*

Liebowitz and Margolis (1994) define network externalities (NE) as an economic theory defined by a change in the benefit that an agent (i.e., consumer) derives from a good (i.e., product) when the number of other agents (consumers) consuming the same kind of good changes. There are two types of NE: direct and indirect. Direct network externalities are when an individual expects that the value of the innovation depends on who also uses the innovation (Liebowitz & Margolis, 1994). Thus, the concept of direct effects is when externalities generated a "physical" effect of the number of purchasers on the quality of the product. Indirect network externalities do not involve direct physical effects (Liebowitz & Margolis, 1994). As the name implies, it still involves the number of users but in an indirect way, e.g., file format being more plentiful,

variable, compatible, and lower in price as the number of software users increases (e.g., .psd for photoshop, .doc for Microsoft word, .jpg for picture).

As claimed by Liebowitz and Margoliz (1994), when choosing a network to join, the number of users/size and perceived idea of who use the said network influence the decision. Essentially, it may be perceived as the amount in general or based on people around the potential user. However, the perceived size of the network's user will influence the perceived gains, values, or utility of said network system (Panian, 2001; Song, Parry, & Kawakami, 2009).

A bank is a service-based business built on a network of customers. Ewe, Yap and Lee (2015) noted the similarity with social media and email, i.e., the more people use it, the more people will perceive its complementary use/service. Technically, the amount of available interaction (transactions) from one customer to another is part of a bank's complementary products in regard to its network. Thus, network size corresponds with the amount of potential transactions a consumer can make, which is a complementary service/product of the bank. As more people use the product, the possibility for increased production of complementary products becomes greater (Chou & Shy, 1990). In this study, direct network externalities were mirrored to the perceived number of users, and indirect network externalities were reflected by perceived complimentary services. Therefore, for Hypothesis 1:

H₁: Perceived number of users positively influences perceived complementary service

In a network-based innovation, such as social media, e-mail, and anything Internet-based, this can be crucial in regard to behavioural intention (Strader, Ramaswami, & Houle, 2007). Studies indicate that the size of the network (number of users) and the complementary products or service that come along with it play a major role in adoption (Brynjolfsson & Kemerer, 1996; Katz & Shapiro, 1986). Song et al., (2009) suggested that complementary service can influence behavior in certain services-based products than perceived number of users. This is also in line with Ewe et al., (2015) findings. As such, it is reasonable to hypothesize that the more people believe there are more complementary products and services that follows its usage, the more likely they will intend to use/adopt it. Thus,

H₂: Perceived number of users positively influence intention to use.

H₃: Perceived complementary service positively influence intention to use.

2.2 Mediating Effect of Innovation Characteristics

Much research has studied and analyzed the effects of Roger's characteristics of innovation (CIs) on adoption, use, or even discontinuation in all kinds of innovations (Moore & Benbasat, 1991; Agarwal & Prasad, 1997; Parthasarathy & Bhattacharjee, 1998; Limthongchai & Speece, 2003; Van Slyke, Ilie, Lou, & Stafford, 2007; Ewe et al., 2015; Bozbay & Yasin, 2008). The connection between indirect NE and innovation characteristic has been inspired loosely from Song et al., (2009) study of incorporating network externalities into TAM, which supports the mediation of indirect NE to behavioural intention, and heavily on Ewe et al., (2015) empirical study of mobile banking, which supports that perceived CIs partially mediate indirect NEs toward intention to use. In this study, indirect NE means perceived complementary service (PCS).

As stated in the literature review, previous research did not fully test all of Roger's CIs because Moore and Benbasat (1991) claimed that observability and trialability tend to be insignificant. However, this research will test all CIs on the basis that Moore and Benbasat's case was tested in Western countries, which have a different culture than Indonesia's. Additionally, Moore and Benbasat's research was done within organizations and conducted more than a decade in the past (in 1991). Not only there has been further advancements of technology since then, but there has been change in Asian consumer's behaviour over the last decade (Chen et al., 2014), i.e., Asian consumers have flocked to digital technologies. Bozbay and Yasin's (2008) research on smartphones and Limthongchai and Speece's (2003) research on e-commerce were not prevalent in Moore's research, which tested all the characteristics, i.e., the alienated characteristics, which were found to be significant. Thus,

H_{4a}: Perceived relative advantage mediates the influence of perceived complementary service toward intention to use.

H_{4b}: Perceived complexity mediates the influence of perceived complementary service toward intention to use.

H_{4c}: Perceived compatibility mediates the influence of perceived complementary service toward intention to use.

H_{4d}: Perceived observability mediates the influence of perceived complementary service toward intention to use.

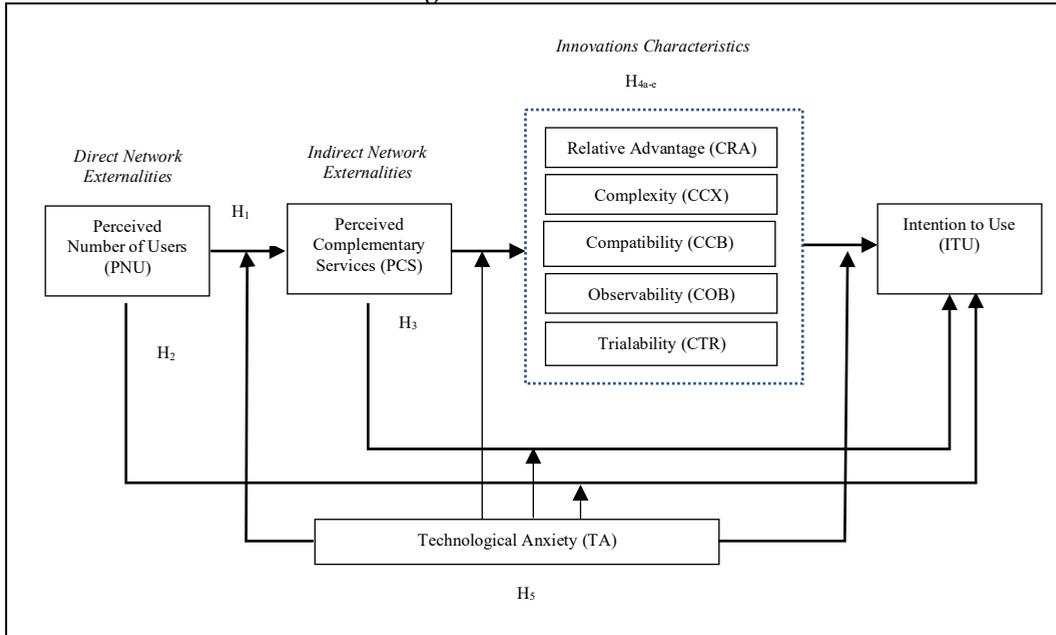
H_{4e}: Perceived trialability mediates the influence of perceived complementary service toward intention to use.

2.3 Moderating Role of Technological Anxiety

Change is not always viewed positively and not everything about innovation is always good; there are side effects and resistance (Cornescu & Adam, 2013). Resistance of an innovation has many forms and factors; however, pulling from Ewe et al., (2015) research and due to the nature of this research being the perception of the consumer, technological anxiety may act as a possible deterrent variable of the causal relationship within the model. Note that, an online bank is a new type of business form brought by the digital age; many regard it as being high-tech or modern. It is based on mobile banking, which uses complex technology to process important transactions involving large amounts of money and information (Ewe et al., 2015). Meuter Ostrom, Bitner, and Roundtree (2003) revealed the impact of technological anxiety in self-service technology. The natures of self-service tech and online/mobile banks are similar. Despite the mobility and practicality of the system, it is still a "new" concept, and customers might feel anxious about adopting it; further, it might also dilute the previously proposed relationship. The Ewe et al., (2015) test was conducted using multisamples and resulted in overall insignificance; however, this research will go into more detail of these specific relationships using moderation interaction, which will test each relationship. Thus, we reveal the following hypothesis:

H₅: Technological anxiety moderates the relationships between all variables.

The model of this research is designed to confirm the causal effects of economic theories in regard to an online bank as an innovation. The foundation of the model is NE theorized as being the antecedent of ICs and both being the antecedent of intention to use (ITU) or adopt the innovation (Figure 1).

Figure 1: Research Model

3. METHODOLOGY

3.1 Research Design

This research is categorized as descriptive research because the researcher intends to test existing theories (Cooper & Schindler, 2014). The type of this research is also a cross-sectional survey, i.e., a snapshot at one time only. The data will then be analyzed via structural equation modelling. The main test was conducted through online survey, spread through the Internet, and via 174 respondents. Due to the nature of this research, only respondents who have knowledge of online banks but have not yet adopted/used them are eligible for our snowball sampling.

3.2 Measurement

In building the instrument for this research, the researcher used a compilation of research instruments from several journals (Gu, Lee, & Su, 2009; Moore & Benbasat, 1991; Parthasarathy & Bhattacharjee, 1998; Song et al., 2009; Strader et al., 2007; Van Slyke et al., 2007; Venkatesh, Morris, Davis & Davis, 2003; Wang, Lo, & Fang, 2008; Dearing, 2007; Ewe et al., 2015) with similar research. One particular journal, which was especially used to develop instruments regarding ICs (Moore & Benbasat, 1991), and the further development/summary of it by Dearing (2007). In total, 39 items gained from these studies are then repurposed for this research. The questionnaire was translated to Bahasa Indonesia for the convenience of the respondents. All items in this study were measured using a 5-point Likert scale, ranging from very disagree to very agree. After translation, the researcher conducted a wording test on potential respondents to

ensure the translations are understandable, followed by pre-tests, and eventually the main test to maximize the accuracy of the instrument.

4. RESULTS AND DISCUSSION

Following two-step structural equation modeling (SEM) procedures, the data were analyzed using measurements and structural models (Wijanto, 2008) and tested on one-tail; $\alpha=5\%$.

4.1. Profile of the Respondent

The gathered samples consisted of 58% female; more than half (61%) are aged 17 – 26. A large portion of them live in the Jabodetabek (Jakarta-Bogor-Depok-Tangerang, Bekasi) area; 85% have used conventional banking services. The target segment of Jenius lived in Jakarta and in the small town of Jabodetabek. More than half respondents (59%) have experience in mobile banking, with 55% in Internet banking. Out of 174 respondents, 53% have experience using FinTech for payments and transfers. Additionally, 58% of the samples have a job either full-time/part time or are freelancing/entrepreneurs. Additionally, about 66% use personal banking several times a week. The mean score of the latent range is between 2.43 – 3.73 (Table 1)

Table 1: Mean Score of Latent

Latent	Indicators	Mean
PNU	NED1 - NED 4	2.78
PCS	NEI1 - NEI 4	3.56
CRA	CRA1 - CRA5	3.73
CCX	CCX1 - CCX4	2.43
CCB	CCB1 - CCB5	3.33
COB	COB1 - COB4	2.65
CTR	CTR1 - CTR4	3.52
TAX	TAX1 - TAX5	2.68
ITU	ITU1 - ITU4	3.46

4.2. Measurement model (Confirmatory Factor Analysis)

Researchers then proceeded to conduct the main test and gained valid and reliable results because all items in confirmatory factor analysis (CFA) have a loading factor t -value greater than the critical value (≥ 1.65) and standardized loading factor (SLF) of observed variables ≥ 0.70 (Wijanto, 2008) or ≥ 0.50 (Hair, Black, Babin & Anderson, 2010) the composite reliability (CR) have to be ≥ 0.70 and variance extracted (VE) ≥ 0.50 (Fornell & Larcker, 1981). Respecification was based on the suggested modification indices, but none of them are made between items outside their variables. The goodness-of-fit measurement of the model fit gained was also satisfactory (Wijanto, 2008): RMSEA at 0.6; ECVI close to its saturated model; incremental fit index such as NNFI, CFI, and IFI are also above 0.9.

Table 2: Validity and Reliability

Variables	No of Items	SLF	<i>t</i> -value	Construct Reliability	Variance Extracted
PNU	4	0.668 – 0.949	9.707	0.852	0.596
PCS	4	0.622 – 0.733	10.875	0.870	0.870
CRA	5	0.686 – 0.781	11.425	0.918	0.918
CCX	4	0.570 – 0.745	9.101	0.867	0.867
CCB	5	0.724 – 0.795	12.810	0.938	0.938
COB	4	0.699 – 0.937	9.347	0.907	0.907
CTR	4	0.716 – 0.765	11.367	0.884	0.884
TAX	5	0.590 – 0.849	8.695	0.857	0.857
ITU	4	0.741 – 0.891	13.249	0.932	0.932

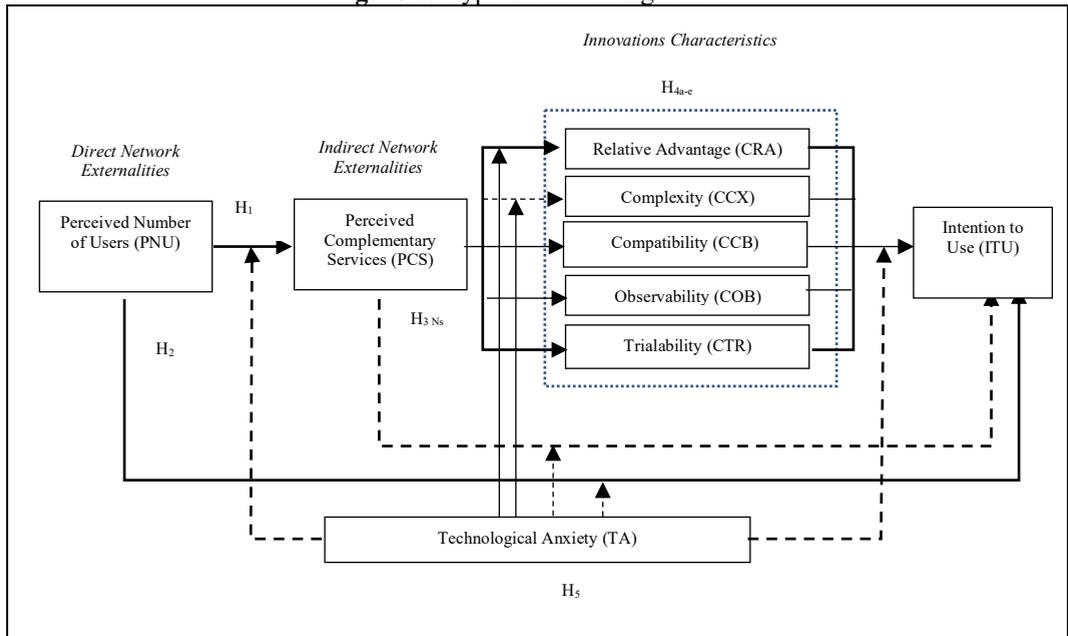
Notes: Perceived number of users (PNU), perceived complementary services (PCS); characteristic of innovation: relative advantage (CRA), complexity (CCX), compatibility (CCB), observability (COB), trialability (CTR); technological anxiety (TAX); intention to use (ITU).

4.3. Structural Model (Path Analysis)

With the acceptable goodness of fit of the measurement model, the research analyzes the path model (Figure 2 and Appendix 1). The result is still a good and marginally fit structural model despite decreases in some scores. The structural model's RMSEA is still at 0.6 and remains a good fit; further, ECVI is still close to its saturated model. The incremental fit experiences a significant decrease but is still in a marginal fit above 0.8. The hypotheses were tested one-tail at $\alpha=5\%$ (t -value= 1.65).

4.4. Discussion of Results

The H_1 has one direct relationship, i.e., the path of PNU to PCS with a t -value of 5.571 (significant). Thus, we accept this hypothesis. This finding is in line with Ewe et al., (2015), i.e., that direct network externalities positively affect the perceived availability of complementary services (indirect network externalities) as its antecedent. The H_2 has a t -value of 2.934 between PNU to ITU, which is found to be significant. Thus, we can accept this hypothesis. This means that the more people perceived that there are more users, the more they are likely intending to use/adopt. This is also similar with the findings of Strader et al., (2007), where network externalities have a positive impact on the use of innovations. The H_3 has a t -value of 0.333 between PCS and ITU; thus, this hypothesis is not supported. Because there is no significant relation between PCS and ITU, the perceived complementary services of an online bank will not increase people's intention to use, at least not significantly. This is the opposite of Ewe et al., (2015) findings and implies that any relation it has with ITU is partially mediated through CIs.

Figure 2: Hypotheses Testing Result

With all of the PCS relationships with CIs being significant, there is a significant relationship between CCX and ITU. This means there is partial mediation between PCS and ITU. Therefore, the H_{4a} is accepted because the perceived relative advantage significantly affects intention to use (t -value, 2.02). This contradicts the previous research by Ewe et al., (2015) but not with Parthasarathy and Bhattacharjee (1998), Van Slyke et al., (2007), and Limthongchai and Speece (2003) whose research results are significant. Nonetheless, this means CRA is able to mediate PCS and ITU. Meanwhile, the H_{4b} is rejected due to an insufficient t -value of -1.243 in between CCX and ITU. This mediation hypothesis becomes infeasible and is the opposite of previous research (Ewe et al., 2015; Van Slyke et al., 2007; Limthongchai & Speece, 2003; Parthasarathy & Bhattacharjee, 1998), which conclude that complexity is significant; thus, the H_{4c} is supported because perceived compatibility significantly influences intention to use with a t -value of 1.819. Thus, compatibility can be said to mediate between perceived complementary service on ITU. This hypothesis is in line with previous research (Ewe et al., 2015; Van Slyke et al., 2007; Limthongchai & Speece, 2003; Parthasarathy & Bhattacharjee, 1998).

Despite being claimed as unsupported/insignificant in Moore's research and excluded from many others, H_{4d} is supported because the t -value between COB and ITU is 2.91. This means perceived observability is able to mediate the perceived complementary service, and intention to use is mediated by the perceived visibility. This is in line with Limthongchai and Speece (2003) and Bozbay and Yasin's (2008) findings. The H_{4e} is also supported because of the significant t -value of 2.272 between CTR and ITU. Thus, it can be said that perceived complementary service and intention to use are mediated by the perceived trialability, which differs from Limthongchai and Speece's (2003) findings.

Only three relationships of H₅ are significantly moderated by technological anxiety, out of 13 available relationships in the model, making it partially supported. The effects of PCS on compatibility, observability, and trialability from H₅'s moderation hypothesis and, respectively, scored -1.691, -2.586, -2.350 are quite according to the model. It can also be seen as being similar to Ewe et al., (2015) findings of insignificance, albeit more specific of the moderated parts because it shows which parts are moderated. Technological anxiety is related to technophobia, which is said to remain present in the fast changing/dynamic technologies (Ahmad, 2011). This means there might be resistance in re-adoption of the new method of doing things that were influenced by people's anxiousness to technology based on their degree of fear of technology.

In this study, technological anxiety could diminish the capability of perceived complementary service to enhance compatibility, specifically the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. Technological anxiety could also diminish the capability of perceived complementary service to enhance observability, the degree to which the results of an innovation are visible to others. Finally, technological anxiety also diminishes the capability of perceived complementary service to enhance trialability, the degree to which an innovation may be experimented with on a limited basis. This result demonstrated that the technological anxiety of Jenius, which was perceived by respondents, could decrease the positive influence of indirect network externalities toward innovation characteristics, specifically compatibility, observability, and trialability. Even though there are direct impacts of PNU and PCS to ITU, innovation characteristics still play important roles as a mediating variable that can enhance total effect of these two types of network externalities (direct and indirect) toward the level of intention to use Jenius as online banking.

5. CONCLUSION

Online bank managers should address the significant relationship within their marketing strategy (i.e., marketing campaign, branding, theme) in making managerial decisions. This research should provide insight toward better understanding of how their potential customers behave (potential online bank users) in Indonesia and its similarities or differences with other previous research with different environments. In a practical application, this research will help in gauging the impact of branding components of their business model.

PNU is found to have a positive influence on PCS and ITU, which implies the importance of perceived number of users of an online bank in: 1) influencing potential customers to perceive the availability of complementary service and 2) intention to use or adopt it into their daily lives. Despite PCS having an insignificant direct effect on ITU, it is still crucial for online bank managers to create an image that they have many complementary uses for their potential customers. PCS significantly affects all CIs; thus, its effects on ITU are fully mediated through several CIs with a significant direct effect to ITU (i.e., CRA, CCB, COB, and CTR). This implies that complementary service affected all the perceived characteristics of an online bank; further, these perceived characteristics (the significant ones) then affect people's intention to use/adopt it. Some relationships from PCS to CIs are moderated by TAX, specifically, its relationship toward CCB, COB, and CTR. That said, technological anxiety has a small moderating effect in the mediation of CIs between PCS to ITU. The moderating effect dilutes people's perceptions on

how much the online bank's complementary services result in compatibility, observability, and trialability. A manager can still exercise precaution in regard to significant moderation relationships. Therefore, a manager could design communication to deliver information about the technology of Jenius to minimize the target's anxiety. This could be accomplished by convincing one how the Jenius's system is easy and safe to use in monetary transactions. Although the research object is a product of the National Bank in Indonesia, the system is not similar to those of conventional banks; further, this service focuses on noncash transactions and mobile payments. The government had already developed regulations that concern digital banking practices, to secure online transactions and mobile payments, and also private information about the customers. The growing number of mobile payments in the form of FinTech that are not issued by banks requires government attention to issue regulations that protect users. Target customers must focus on and carefully evaluate the network externalities (direct and indirect) of online banking, as this issue could enhance their intention even though the characteristic of innovations is in doubt.

To put this research to good use, business practitioners will need to understand its limitations, mainly in regard to its samples and sampling method. In addition, many of its respondents are unemployed or are students/housewives, and they occupy more than just the Jabodetabek area. The screening was also loose, as it only questioned how much the sample is known but has yet to adopt the innovation. Thus, in using this research as a basis for strategy, the researcher suggests that managers consider the samples' diverse characteristics. This research provides only the broad and rough understanding of consumers' behaviours. That said, this research also only studies potential adopters, most whom have experience in conventional banks or FinTech. Future researchers might want to narrow their research to be more applicable to a specified group of consumers (e.g., young people, students, workers, etc.). They can also integrate more theory or replicate this model into similar innovations. For example, researchers can include more resistance factors than technological anxiety, which has been proven to have insignificant influence.

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Appendix 1: Hypotheses Testing Result

Hypothesis	Path	Estimates	t-value	Conclusion
H ₁ : Perceived number of users positively influence perceived complementary service	PNU → PCS	0.442	5.571	Supported
H ₂ : Perceived number of user positively influence intention to use	PNU → ITU	0.179	2.934	Supported
H ₃ : Perceived complementary service positively influences intention to use	PCS → ITU	0.061	0.333	Not Supported
H _{4a} : Perceived relative advantage mediate the influence of perceived complementary service and intention to use	PCS → CRA CRA → ITU	0.848 0.263	11.299 2.020	Supported
H _{4b} : Perceived complexity mediate the influence of perceived complementary service and intention to use	PCS → CCX* CCX* → ITU	-0.295 -0.074	-3.397 -1.243	Not Supported
H _{4c} : Perceived compatibility mediate the influence of perceived complementary service and intention to use	PCS → CCB CCB → ITU	0.679 0.147	9.119 1.819	Supported
H _{4d} : Perceived observability mediate the influence of perceived complementary service and intention to use	PCS → COB COB → ITU	0.377 0.176	4.532 2.917	Supported
H _{4e} : Perceived trialability mediate the influence of perceived complementary service and intention to use	PCS → CTR CTR → ITU	0.694 0.201	8.808 2.272	Supported
H ₅ : Technological anxiety moderates the relationships between the variables				Partially Supported
Technological anxiety moderates the relationships between perceived number of users and perceived complementary service	PNU → PCS	0.574	0.0419	Not Supported
Technological anxiety moderates the relationships between perceived complementary services and intention to use	PCS → ITU	0.102	1.473	Not Supported
Technological anxiety moderates the relationships between perceived number of users and intention to use	PNU → ITU	-0.027	-0.358	Not Supported
Technological anxiety moderates the relationships between perceived number of users and innovation characteristics	PCS → CRA PCS → CCX	0.274 0.912	-1.243 -0.507	Not Supported Not Supported
	PCS → CCB PCS → COB PCS → CTR	0.525 0.821 0.493	-1.691 -2.586 -2.350	Supported Supported Supported
Technological anxiety moderates the relationships between innovation characteristics and intention to use	CRA → ITU CCX → ITU CCB → ITU COB → ITU CTR → ITU	-0.018 0.004 -0.019 0.027 -0.078	-0.230 0.086 -0.242 0.425 -1.146	Not Supported Not Supported Supported Not Supported Supported Not Supported

Notes: *CCX's negative in nature