

MOBILE BANKING ADOPTION STRATEGY MODEL IN THE INDONESIAN DIGITAL BANKING INDUSTRY

TOTO EDRINAL SEBAYANG



**DOCTOR MANAGEMENT AND BUSINESS
SCHOOL OF BUSINESS
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RINGKASAN

TOTO EDRINAL SEBAYANG. Model Strategi Adopsi *Mobile Banking* Pada Industri *Digital Banking* Indonesia. Dibimbing oleh DEDI BUDIMAN HAKIM, TONI BAKHTIAR dan RADEN DIKKY INDRAWAN.

New normal pasca pandemi COVID-19 menyisakan perubahan terhadap perilaku sosial, teknologi, dan bisnis. Hal ini berdampak signifikan terhadap penggunaan teknologi seperti layanan *mobile banking* yang menawarkan alternatif pembayaran yang lebih higienis dan aman ketimbang uang tunai. Layanan *Mobile banking* dianggap memiliki kemampuan untuk dapat meningkatkan akses perbankan kepada 100 juta orang penduduk Indonesia yang belum memiliki akses layanan perbankan.

Technology Acceptance Model (TAM) terutama digunakan oleh penelitian sebelumnya yang menyelidiki adopsi *mobile banking*, namun penelitian sebelumnya juga menyimpulkan bahwa kerangka *decomposed theory on planned behaviour* (DTPB) mengungguli model lain seperti TAM dan *theory on planned behaviour* (TPB) dalam menjelaskan niat konsumen bank ketika mengadopsi layanan *mobile banking*. Sikap (ATT) digambarkan sebagai perasaan baik atau negatif seseorang dalam mencapai suatu perilaku tertentu dan dalam DTPB, diperluas dengan dimensi berikut: *Perceived Usefulness* (PU), *Perceived Ease of Use* (PEOU), dan *Compatibility* (COMP). Sejauh mana seseorang merasa bahwa penggunaan sistem tertentu akan meningkatkan kinerja pekerjaannya didefinisikan sebagai PU. Sementara itu, PEOU mengacu pada seberapa besar pengguna mengantisipasi sistem tujuan agar mudah digunakan dan sederhana. COMP mengacu pada seberapa cocok suatu teknologi dengan nilai, kebutuhan, dan gaya hidup konsumen. Selain itu, Norma Subjektif (SN) mengacu pada persepsi konsumen terhadap pendapat kelompok acuan terhadap penggunaan jasa dan dipecah menjadi dua dimensi: Pengaruh Interpersonal (IPI) dan Pengaruh Eksternal (EXI). IPI mengkaji pengaruh teman terdekat dan keluarga dalam mengadopsi layanan teknologi. Sebaliknya, EXI mengevaluasi pengaruh siaran berita dan arahan atasan dalam mempengaruhi perilaku adopsi layanan *mobile banking*. Persepsi atas kendali perilaku (PBC) mendefinisikan bagaimana pelanggan memandang peluang, sumber daya, dan kemahiran yang diperlukan untuk menggunakan layanan dan dijelaskan oleh Kemahiran diri (SEF) dan kondisi yang memfasilitasi (FC). SEF mengacu pada kemampuan pelanggan untuk menggunakan layanan *mobile banking*, sedangkan FC mengevaluasi ketersediaan sumber daya untuk melakukan tindakan seperti menggunakan *mobile banking*.

Penelitian ini bertujuan untuk meningkatkan daya saing bank digital di Indonesia dengan menyelidiki bagaimana responden memandang hubungan antara ekspektasi dan kinerja di antara atribut *mobile banking* yang ditawarkan oleh 16 bank digital dengan menggunakan analisis *Importance-Performance Analysis* (IPA), dan mensintesis atribut-atribut yang penting dari layanan *mobile banking* menggunakan *Partial Least Square Structural Equation Modeling* (PLS-SEM), serta mengembangkan strategi yang menghasilkan peningkatan adopsi *mobile banking* menggunakan *Analytic Hierarchy Process* (AHP).

Pengumpulan data dilakukan dengan menggunakan kuesioner *online* pada bulan September 2022 hingga Maret 2023 dengan menggunakan atribut ATT, PU,

PEOU, COMP, SN, IPI, EXI, PBC, FC, SEF, FIRM, TRU, DSR, PER, FIR, PRI, TIR, PSR, dan PR. Hasil analisis IPA ditampilkan dalam empat kuadran: "concentrate here", "keep up the good work", "low priority", dan "possible overkill". Temuan IPA menunjukkan bahwa terdapat kesenjangan negatif yang signifikan antara tingkat kinerja dan tingkat ekspektasi pada karakteristik Risiko Privasi (perlindungan data pribadi) dan Risiko Finansial. Bank yang mencari keunggulan kompetitif harus mendorong inovasi untuk melindungi pengguna dengan menurunkan Risiko Privasi dan Risiko Keuangan karena kepuasan rendah sementara ekspektasi tinggi, sedangkan Kredibilitas Bank (Reputasi Perusahaan), Integritas (Kepercayaan), ketersediaan (*Perceived Behavior Control*) dan kinerja layanan *mobile banking* merupakan pendorong utama kepuasan nasabah, dan peran manajemen adalah untuk memastikan bahwa bank 'terus bekerja dengan baik'. Persepsi (Norma Subjektif, Risiko Psikologis, dan Persepsi Risiko) terhadap layanan *mobile banking*, serta waktu yang diperlukan untuk mempelajari dan memahaminya, merupakan kriteria dengan prioritas rendah. Kinerja yang rendah di bidang-bidang ini tidak menjadi masalah karena tidak penting bagi responden. Sikap (*Attitude*) dan Risiko Penyakit (*Disease Risk*) memiliki tingkat kepuasan yang tinggi dan tingkat ekspektasi yang rendah sehingga Manajemen Bank dapat memutuskan untuk mengalokasikan sumber daya kepada atribut lain dengan tetap mempertahankan pelayanan dasar atribut-atribut tersebut.

Hasil PLS-SEM mengungkapkan bahwa faktor terpenting dalam mempercepat pilihan layanan *mobile banking* adalah *Attitude*, *Perceived Behavior Control*, *Trust*, *Disease Risk*, *Psychological Risk*, dan *Perceived Risk*. Risiko Penyakit mempunyai dampak terbesar terhadap percepatan pilihan layanan *mobile banking* di kalangan responden bank, disusul oleh *Attitude*, *Perceived Behavior Control*, dan *Trust*. Temuan menunjukkan bahwa sikap merupakan faktor terbesar kedua dalam adopsi *mobile banking*. Navigasi pengguna yang mudah digunakan dan manfaat yang sesuai dengan gaya kerja, gaya hidup, dan kebutuhan individual membentuk sikap untuk menggunakan layanan *mobile banking*. Hasil studi menunjukkan bahwa bank yang mencari keunggulan kompetitif harus mendorong inovasi untuk meningkatkan perlindungan data pribadi dan menurunkan risiko kehilangan finansial akibat dari potensi serangan siber.

Bank digital dan regulator terkait perlu mengedukasi pelanggan *mobile banking* mengenai standar keamanan layanan *mobile banking* sehingga dapat meningkatkan tingkat kepercayaan calon pengguna dan mempercepat adopsi. Strategi adopsi layanan *mobile banking* disusun dengan AHP yang memperlihatkan bahwa Bank harus memprioritaskan inovasi dan memfokuskan upaya dan sumber daya strategis mereka untuk meningkatkan perlindungan keamanan siber *mobile banking* guna melindungi konsumen dan meningkatkan pengalaman pengguna dengan memanfaatkan *Big Data* dan *machine learning* untuk meningkatkan pemahaman terhadap kebutuhan nasabah. Penelitian di masa depan dapat memperluas populasi dengan menyertakan responden dari berbagai latar belakang, negara dan kategori usia, termasuk yang tidak memiliki rekening bank dan belum menggunakan layanan *mobile banking*, termasuk melakukan studi *longitudinal* yang kemudian dapat dibandingkan dengan hasil temuan pada penelitian ini.

Kata kunci: *Analytic Hierarchy Process*, COVID-19, *Importance-Performance Analysis*, *Mobile Banking*, *Structural Equation Model*



SUMMARY

TOTO EDRINAL SEBAYANG. Mobile Banking Adoption Strategy Model in The Indonesian Digital Banking Industry. Supervised by DEDI BUDIMAN HAKIM, TONI BAKHTIAR, RADEN DIKKY INDRAWAN.

A new normal has been established as a result of the COVID-19 pandemic's effects on social behaviour, technology, and business. This significantly affects how technology is used, like mobile banking services, which offer more hygienic and secure payment alternatives than cash. Mobile banking has been viewed as having the ability to enhance access for unbanked customers in developing economies such as Indonesia, where 100 million people remain unbanked.

The Technology Acceptance Model (TAM) was mainly used by earlier studies investigating mobile banking adoption. However, previous studies also concluded that the decomposed theory on planned behaviour (DTPB) framework outperformed other models such as TAM and the theory of planned behaviour (TPB) by better-explaining bank consumer's intention in adopting mobile banking services. ATT is described as a person's good or negative feelings on attaining a specific behaviour and in DTPB, further extends as the following dimensions: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Compatibility (COMP). The degree to which a person feels that utilizing a given system will increase their job performance is defined as PU. Meanwhile, PEOU refers to how much the user anticipates the target system to be easy to use and simple. COMP refers to how well a technology matches a consumer's values, needs, and lifestyle. In addition, Subjective Norm (SN) refers to consumers' perceptions of a reference group's opinions on the use of services and is decomposed into two dimensions: Interpersonal Influence (IPI) and External Influence (EXI). The IPI examines the influence of closest friends and colleagues, family, and leaders in adopting technological services. In contrast, EXI evaluates the influence of news broadcasts, direction from superiors, and information delivered over the use of media in influencing behaviour to adopt mobile banking services. Perceived Behavior Control (PBC) defines how customers perceive the opportunities, resources, and proficiency required to use a service, which is explained by two components: self-efficacy (SEF) and facilitating conditions (FC). Self-efficacy (SEF) refers to the customer's capability to use mobile banking services, whereas Facilitaing Condition (FC) evaluates the availability of resources to perform specific actions, such as using mobile banking. Previous research has identified various threats associated with online transactions, including performance risks, financial risks, time risks, and psychological risks. Most research revealed that perceived risk has a negative impact on behavior. However, if the risk is linked to a pandemic, like COVID-19, the results will most likely differ. Customers' willingness to utilize nonphysical money is positively influenced by their perception of the risk of virus transmission. Unfortunately, empirical findings in this area remain understudied.

This study aims to improve the competitiveness of digital banks in Indonesia by investigating how respondents viewed the relationship between importance and performance among mobile banking attributes offered by 16 digital banks using importance-performance analysis (IPA), addressing to identify the critical indicators of mobile banking services using Partial Least Square Structural

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Equation Modelling (PLS-SEM) and developing strategies that result in accelerating mobile banking adoption using Analytic Hierarchy Process (AHP).

Data were collected from 1441 respondents using an online survey from September 2022 to March 2023 during the COVID-19 pandemic using the attributes of ATT, PU, PEOU, COMP, SN, IPI, EXI, PBC, FC, SEF, FIRM, TRU, DSR, PER, FIR, PRI, TIR, PSR, and PR. The IPA results were divided into four quadrants: "concentrate here", "keep up the good work", "low priority", and "possible overkill", with a graphic illustration that respondents regard as important and well-addressed. The IPA findings show that Privacy Risk and Financial Risk are characteristics with significant negative gaps between performance and importance, demonstrating that service performance in these areas is significantly lower than the importance of the service, thus requiring 'Fix' as satisfaction is low, but the importance is high. Bank strategists seeking competitive advantage must push innovation efforts by improving Privacy Risk and Financial Risk to protect users. Meanwhile, Bank Credibility (Firm Reputation), Integrity (Trust), availability (Perceived Behavior Control), and performance of mobile banking services are key drivers of customer satisfaction, and the management's role is to ensure that the bank 'Keep up the good work' as satisfaction is high and importance is high. Perceptions (Subjective Norm, Psychological Risk, and Perceived Risk) of mobile banking services and time (Time Risk) required to learn and understand them are low-priority criteria. The poor performance in these characteristics is relatively no problem because they are relatively unimportant to respondents as satisfaction is low and importance is low. Attitude and Disease Risk has high satisfaction and low importance showing that Bank Management could decide to allocate resources to other attributes while maintaining the basic standard of performance of these essential attributes.

The PLS-SEM results reveal that the most important factors in accelerating the choice of mobile banking services are Attitude, Perceived Behavior Control, Trust, Disease Risk, Psychological Risk, and Perceived Risk. Disease Risk has the largest impact on accelerating the choice of mobile banking services among bank respondents, followed by Attitude, Perceived Behavior Control, and Trust. The findings show that Attitude is the second-largest factor in mobile banking adoption. The easy-to-use user navigation and benefits that fit an individual's working style, lifestyle, values, and needs provided by mobile banking technology shape their Attitude with regard to their choice to use mobile banking services.

The adoption strategy for mobile banking services is developed by using AHP that concluded that banks must prioritize innovation and focus their strategic efforts and resource allocation on improving mobile banking cyber security protection to protect consumers and improve user experience by leveraging Big Data and machine learning to improve understanding of customer needs in an increasingly dynamic business environment. Future research should expand the target population to include respondents from various backgrounds, such as unbanked and individuals that have not adopted mobile banking services, different countries, and age categories, as well as performing longitudinal studies of mobile banking adoption, which can then be compared with the findings of this study.

Keywords: Analytic Hierarchy Process, COVID-19, Importance-Performance Analysis, Mobile Banking Adoption, Structural Equation Model



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MOBILE BANKING ADOPTION STRATEGY MODEL IN THE INDONESIAN DIGITAL BANKING INDUSTRY

TOTO EDRINAL SEBAYANG

Dissertation
Submitted in partial fulfillment of requirements for
Doctoral Degree
in
Management and Business Study Program

**DOCTOR MANAGEMENT AND BUSINESS
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FOREWORD

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Bogor, August 2024

Toto Edrinal Sebayang

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