

The Influence of Mobile Banking Attributes on Cashless Society Through Anthropomorphism Adaptation and Task-Fit Technology

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Abstract – This study aimed to analyze the adaptive anthropomorphism and task-fit technology as mediator variables that mediate the relationship between performance expectancy, effort expectancy, perceived security, and cashless society in traditional market traders. The urgency of this study was to identify factors that could facilitate aspects of mobile banking service attributes in encouraging cashless society activities among traditional market traders. The empirical research was quantitative by design. The data respondents consisted of 279 traditional market who had used mobile banking services. The study analysis was to measure the structural relationship integrated with PLS-SEM and This research approach used tools Smart-PLS 3, which had two stages in analyzing research data, which could provide information related to the influence of mediators and their levels. The results of this study provide information about the benefits of using Mobile Banking integrated with UTAUT and TTF so that it can provide scientific explanations, evidence, and sources from customers who use Mobile Banking in financial transactions. Theoretically, adaptive anthropomorphism is positioned as a mediator that bridges the relationship between facilitating conditions, perceived security, perceived trust, and cashless society, whereas task-fit technology can mediate this linkage between effort expectancy, perceived security, perceived trust, and cashless society in the context of mobile banking service. Practically, our findings could be useful for banking management because facilitating conditions positively encourages the use of non-cash payments in the market between merchants and consumers where proof of payment is represented through human-like voice interaction in mobile banking services.

Keywords: UTAUT Model, cashless society, adaptive anthropomorphism, Task-fit technology.

I. INTRODUCTION

Indonesia is currently entering an era of forming a cashless society; this is evidenced by the large number of business actors and buyers using digital technology as a means of a Cashless Society (Priandana et al., 2020). A Cashless Society is an activity related to a non-cash society, where a group of people are accustomed to using non-cash payment instruments, especially in economic activities (Priandana et al., 2020). It has a big impact on small to medium business actors to complete their business activities, thereby making it easier for consumers to carry out non-cash payment activities flexibly and efficiently (Lestari et al., 2020). Most consumers use mobile banking application services with the Indonesian Standard QR Code (QRIS) feature as the QR Code standard for digital payments (Kosim & Legowo, 2021).

The implementation of QRIS in Indonesia does not only apply to traders who already have large-scale businesses but people who act as micro and small-scale merchants in the scope of traditional market traders have used QRIS as a payment method because it is cheap and universal where merchants only need to have one account that can receive payments from mobile banking applications (Raharjo, 2023). One of them is the traditional market, located in Buleleng Regency, Bali, which is the largest traditional market, which foreign tourists often visit to shop for local specialty products such as handicrafts, food, etc. However, based on research results, most traders in traditional markets already have mobile banking services, but some traders in the

market tend to carry out transactions in cash (Prasetia & Lestari, 2023). The biggest challenge faced by traditional merchants is that lack of trust and security concerns are generally the main reasons behind merchants' refusal to adopt such mobile banking services (Nubatonis et al., 2024). Additionally, understanding merchants' needs and behavioral patterns in optimizing their experience with mobile banking payments is still very limited (Maurida et al., 2024).

Limited understanding and skills in information and communication technology make merchant acceptance of Mobile Banking (MB) difficult, and usage levels remain relatively stagnant (Azis, 2024). The effectiveness of using QRIS on MB in traditional markets as a form of non-cash transaction that is being pursued and introduced by the government shows that business actors and consumers experience low transaction activity via MB (Aman et al., 2023). MB services do not have a significant impact on the development of traders' businesses because performance expectations, effort expectations, and facility conditions are not running optimally (Eneizan et al., 2019). Based on the results of work expectations, small-medium merchants are less confident in using MB because of obstacles in obtaining their financial reports (Rachapaettayakom et al., 2020). In addition, expectations of efforts oriented towards the level of convenience associated with merchants with the payment process via MB services experience problems because merchants must check their mobile accounts periodically (Guo & Bouwman, 2016). Furthermore, conditions facilitate market traders if payment transaction funds have not been received where there is no technical service available on the MB application for the direct refund process (Dahlberg et al., 2015). Thus, there is a research gap between MB service attributes and the perceived acceptance of traders in implementing cashless-based payment transactions in traditional markets.

To address the research gap above, the authors use adaptive anthropomorphism and Task-Fit Technology (TFT) to mediate the relationship between mobile banking services and cashless society activities for traditional market traders based on TFT theory, which states that adaptive anthropomorphism provides

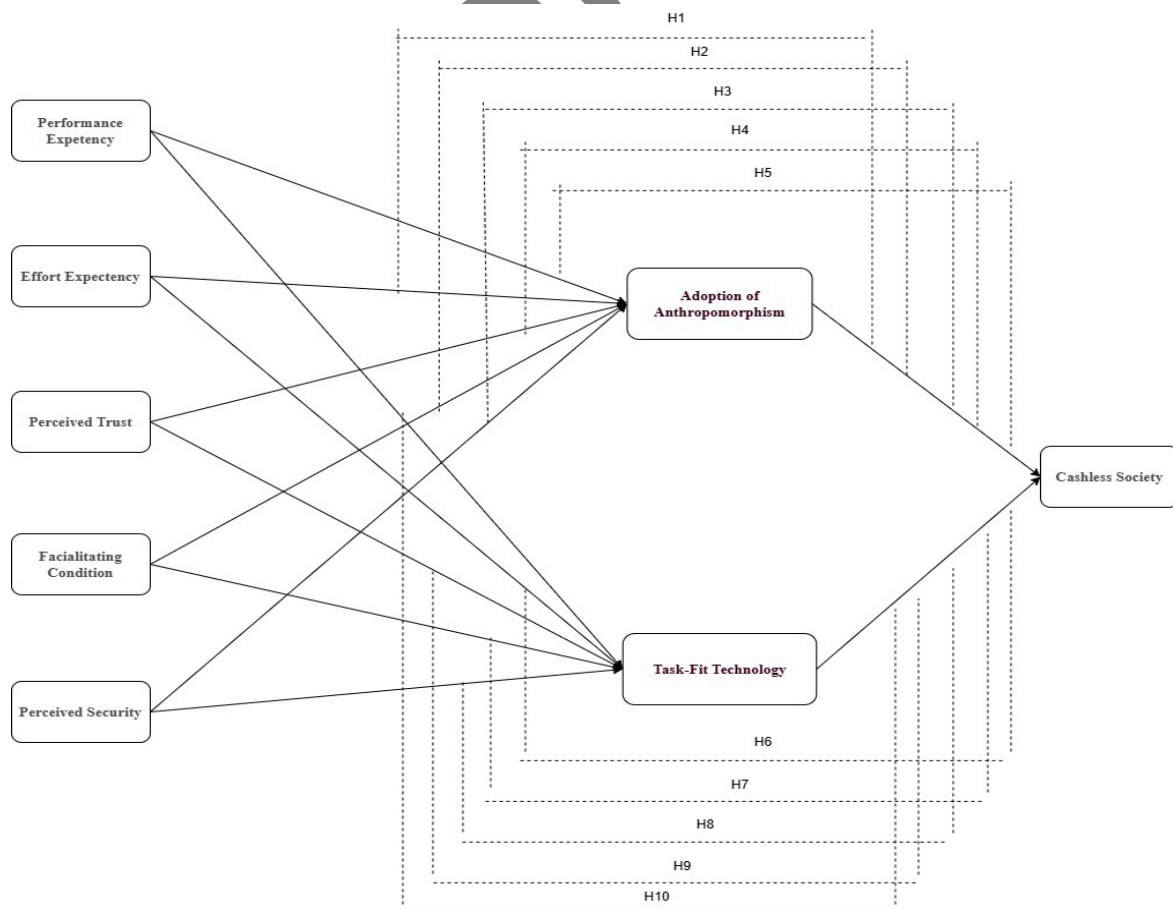
a familiar feeling to users in the form of visual or audio features adapted from human behavior to provide a more contextually interactive response (Moriuchi, 2021). Contextual interaction is related to providing semantically accurate nominal information on payment transactions in the form of a human voice so that traders do not need to open the mobile banking application intensively every time they validate a payment transaction received and create an emotional or social connection (Ochs et al., 2017). Performance expectations focus on consumer expectations of a result that is carried out by using services (Arcand et al., 2017). MB services that have developed human-like AI features provide convenience for consumers to carry out financial transactions because they can communicate with these features like humans (Lee & Chen, 2022). Effort expectations focus on the steps taken by consumers in utilizing the use of MB (Baabdullah et al., 2019). Current technological developments affect the appearance of MB, which is now more attractive (Tran & Corner, 2016). Consumer efforts in using MB services are also minimized by providing maximum results because the features in MB are very easy to understand, use, and access by consumers (Jamshidi et al., 2018). MB features that are more developed than standard MB features have provided various positive impacts for consumers in financial transactions because virtual assistants that are similar to humans have intelligent abilities in providing solutions to various consumer tasks in financial transactions (Manser Payne et al., 2021). So that consumers will be motivated to use MB services in financial transactions that can have an impact on business development (Molina-Collado et al., 2021).

Facilitating conditions focus on aspects used in utilizing technological developments (Baptista & Olifia, 2015). One of these aspects is the social aspect that can help consumers overcome problems faced by consumers in financial transactions of MB (Laukkanen, 2016). MB has a virtual assistant feature that is similar to humans in the form of artificial intelligent that can give the impression of consumers interacting with humans (Priya & Sharma, 2023). It is known as a chatbot that can provide services that are similar to humans. Chatbots will run optimally with the facilities in

the form of resources by MB (Oruganti, 2020). Chatbots are designed to understand the tasks given by consumers with language, intonation, and how to deliver assistance politely. Anthropomorphism characteristics have an important role in maximizing chatbot services in MB because they can provide more reliable interactions between consumers and AI (Pelau et al., 2021). So that consumers will have a positive perception of MB services in the form of chatbots that are reliable, safe, and comfortable.

Furthermore, another approach applies Task-Fit Technology (TFT) in the form of structural assurance regarding guaranteed protection of funds entering the account and security of payment transactions to encourage traders to implement a cashless society (Xia et al., 2023). Strong structural assurance is very important in ensuring payment security as a foundation for merchants to build their trust in mobile banking services (Geebren et al., 2021). The suitability of MB service functions with user tasks influences consumer perceptions that MB can help consumers carry out consumer tasks in financial transactions (Alalwan et al.,

2018). MB users can check their financial reports easily without having to make excessive efforts because MB provides information related to transaction reports for all periods (Komulainen & Saraniemi, 2019). Technological developments MB affect features to suit user tasks in financial transactions better. User trust is the main goal of MB in improving services in financial transactions (Che et al., 2023). One factor in improving MB services is the condition of facilities, which can be in the form of resources that affect the function, performance, and security of transactions. These transactions can be in the form of purchasing goods, exchanging money, sending money, checking balances, and checking financial reports. The use of technology in developing MB services also influences the user experience in financial transactions that can be carried out online safely, comfortably, and easily (Shahid et al., 2022). Password security is integrated using biometric characteristics that can prevent problems in accessing MB (Wang et al., 2020). This sophistication is in the form of user facial recognition which can minimize errors in



logging into MB accounts (Wang et al., 2020). Despite the growth of cashless payments in Indonesia, many traditional market traders are still hesitant to switch to mobile banking. Their concerns primarily revolve around transaction security and trust in digital systems, which often feel impersonal. In this context, adaptive anthropomorphism serves as a solution by creating a more human-like interaction. With voice-based virtual assistants or chatbots, traders can more easily understand and manage their transactions, making them feel more comfortable and increasing their trust in technology. However, technology should not only be easy to use but also tailored to traders' needs. Task-Fit Technology (TFT) ensures that mobile banking is not just sophisticated but also practical. For example, traders can receive automatic voice notifications when a payment is received, eliminating the need to constantly check the app. With technology that aligns with the way traders work, mobile banking Adaptive feels more natural and beneficial. By combining the human touch of adaptive anthropomorphism with the right functionality of TFT, mobile banking can become more than just a financial tool—it can be a solution that makes traders feel safe, comfortable, and confident in using digital financial services. This not only accelerates the transition to a cashless society but also empowers traders to embrace the digital era with ease. This study aimed to analyze the adaptive anthropomorphism and Task-Fit Technology (TFT) as mediator variables that mediate the relationship between performance expectancy, effort expectancy, facilitating condition, perceived trust, perceived security, and cashless society in traditional market traders. The urgency of this study was to identify factors that could facilitate aspects of mobile banking service attributes in encouraging cashless society activities among traditional market traders. The proposed model is shown in Figure 1. Furthermore, information related to these factors would be useful for banks in developing mobile banking services so that, in the end, they support market digitalization programs and attract traders to carry out non-cash payment transactions in traditional markets.

The easier a technology is to use, the more likely users are to adopt Anthropomorphism elements such as chatbots

or transaction notifications, which assist in using digital financial services. This can accelerate the Adaptive of digital payment methods and support a cashless society. Studies indicate that Effort Expectancy positively influences users' willingness to use mobile banking due to the ease of learning and system usage (Wardani & Masdiantini, 2022; Shara & Widodo, 2018).

H1: Adaptive of Anthropomorphism mediates the relationship between Effort Expectancy and Cashless Society

Supportive facilities and Anthropomorphism elements, such as virtual assistants, can enhance accessibility and user experience, encouraging the Adaptive of digital payment methods without requiring third-party applications, thereby accelerating the transition to a cashless society. Research has found that Facilitating Conditions positively influence mobile banking usage, supported by user knowledge, resources, and technological infrastructure (Rachmadi et al., 2020; Asmita & Hamid, 2022).

H2: Adaptive of Anthropomorphism mediates the relationship between Facilitating Conditions and Cashless Society

Technology with human-like characteristics that instill trust, such as warning notifications for suspicious transactions, enhances users' sense of security. This strengthens the Adaptive of digital payment methods and supports a cashless society. When users feel secure, they are more satisfied and more likely to continue using digital financial services, as they feel protected from cyber threats (Subani & Roostika, 2024).

H3: Adaptive of Anthropomorphism mediates the relationship between Perceived Security and Cashless Society

User trust increases with Anthropomorphism elements such as interactive tutorials from virtual assistants, helping them understand new features. This strengthens trust in digital financial services and accelerates the transition to a cashless society. Perceived Trust has been found to affect user loyalty, demonstrating that trust influences customers' perception of value alignment and

the overall experience of using financial technology (Rahmansyah et al., 2023).

H4: Adaptive of Anthropomorphism mediates the relationship between Perceived Trust and Cashless Society

When technology meets performance expectations by providing a responsive and proactive experience, such as financial recommendations from a virtual assistant, users are more likely to adopt digital payment methods, supporting a cashless society. Studies have found that Performance Expectancy strongly influences mobile banking Adaptive due to its ease of use and efficiency in financial transactions (Migliore et al., 2022; Nazar et al., 2023).

H5: Adaptive of Anthropomorphism mediates the relationship between Performance Expectancy and Cashless Society

Technology that aligns with user needs and facilitates navigation and transactions—such as quick transfer features and automated bill payments—enhances effort expectancy and encourages the Adaptive of digital payment methods. Research indicates that technology aligned with user tasks increases efficiency, and users' expectations regarding Effort Expectancy influence mobile banking Adaptive for transactions (Vendramin et al., 2021; Savić & Pešterac, 2019).

H6: Task-Fit Technology mediates the relationship between Effort Expectancy and Cashless Society

Supportive infrastructure, such as mobile banking compatibility with user devices and QRIS payment features, simplifies transactions and enhances facilitating conditions, accelerating cashless society Adaptive. Studies have found that applications compatible with users' devices positively influence usage intentions, and the efficiency of mobile banking services is influenced by accessibility and system stability (Marciano et al., 2022; Asmita & Hamid, 2022).

H7: Task-Fit Technology mediates the relationship between Facilitating Conditions and Cashless Society

Security features such as two-factor authentication, data encryption, and real-time

transaction notifications enhance users' sense of security, encouraging the Adaptive of task-fit technology and accelerating the shift to a cashless society. Perceived Security significantly influences users' intention to use mobile banking, particularly for financial transactions requiring data protection (Tahar et al., 2020; Chiu et al., 2017).

H8: Task-Fit Technology mediates the relationship between Perceived Security and Cashless Society

Trust in mobile banking systems increases with features such as automatic payments and guaranteed data security. This strengthens task-fit technology, increases digital financial service usage, and supports a cashless society. Perceived Trust significantly influences continuance intention, particularly regarding data privacy, which determines customer loyalty toward banks (Kurniawan et al., 2024).

H9: Task-Fit Technology mediates the relationship between Perceived Trust and Cashless Society

Features such as fast transactions, QRIS payments, and process automation enhance user efficiency and productivity. When technology meets performance expectations, digital payment Adaptive increases, accelerating the transition to a cashless society. Studies show that users continue to use technology when they see the value and innovation it offers, and QRIS technology has been proven to enhance user productivity in financial transactions (Marciano et al., 2022; Wardani & Masdiantini, 2022).

H10: Task-Fit Technology mediates the relationship between Performance Expectancy and Cashless Society

II. METHODS

The data collection technique in this study uses a cross-sectional survey method, meaning the survey is conducted once at a single point in time with traditional market traders. The data collection technique in this study utilized a cross-sectional survey, which was conducted once at a specific point in time with market traders. The data collection process

followed these steps: (1) The researchers visited traditional markets in person to ensure that the selected respondents met the research criteria; (2) The researchers distributed pre-prepared questionnaires to market traders as the primary data collection instrument; and (3) The researchers conducted informal interviews to gain additional insights into respondents' choices. These informal interviews were conducted to understand the reasoning behind respondents' answers, provide deeper context to the collected data, and ensure that the responses genuinely reflected the respondents' understanding of the questions. The study relies on primary data, which includes responses from a closed-ended questionnaire as well as supplementary information from the interviews. The main objective is to analyze market traders' acceptance of mobile banking service attributes and how these services align with their financial transaction needs. To measure responses effectively, the study uses a Likert scale, where traders indicate their level of agreement on a scale of 1 to 5 (1 = Strongly Disagree, 5 = Strongly Agree). This structured approach ensures a comprehensive understanding of traders' perceptions, providing valuable insights into the factors influencing the Adaptive of mobile banking in traditional markets. To further analyze the data, this study employs Partial Least Squares-Structural Equation Modeling (PLS-SEM), a modeling technique that focuses on multivariate statistical techniques based on empirical data to explore both direct and indirect relationships between research variables (Hair Jr et al., 2017). The aim is to assess the structural relationships within the model using PLS-SEM, which provides insights into the role and impact of mediating variables whether partial or full mediation occurs (Hair Jr et al., 2021). This study applies Smart-PLS 3 software, which involves two key analysis stages. The first stage examines exogenous variables such as performance expectancy, effort expectancy, facilitating conditions, perceived trust, and perceived

security. The endogenous variables include adaptive anthropomorphism, Task-Fit Technology (TFT), and the cashless society. This stage helps ensure the validity and reliability of the model. The second stage focuses on analyzing the relationships between exogenous and endogenous variables, mediated by adaptive anthropomorphism and TFT. This study follows a quantitative research approach, involving 920 traders from the Singaraja traditional market. The target population is based on data from the Buleleng Market Regional Company (Kusuma, 2023), where traders have adopted electronic levies through mobile banking services. The sample consists of traditional market traders from various sectors, including food, vegetables, fruits, meat, fish, and groceries.

The study applies a Proportionate Stratified Random Sampling technique to ensure a fair representation of traders from different business sectors (Hair Jr et al., 2017). From the distributed questionnaires, 279 responses were successfully collected, representing a 30.32% response rate. The results indicate that traders hold positive perceptions of the study and believe that its findings could benefit them in the future. The questionnaire, used as the primary data collection instrument, consists of several structured questions designed to align with the study's research objectives. The variables measured in this study are adapted from previous research (Almaiah et al., 2023; Kaur & Arora, 2021; Lee & Chen, 2022; Oliveira & Tam, 2016; Rahi & Abd. Ghani, 2019). Specifically, the questionnaire includes three items per variable, measuring performance expectancy, effort expectancy, facilitating conditions, perceived security, perceived trust, adaptive anthropomorphism, Task-Fit Technology, and cashless society. This study emphasizes the measurement model, which is used to assess convergent and discriminant validity of the constructs. Convergent validity is evaluated based on factor loading, average

variance extracted (AVE), and reliability scores. Statistical reliability is determined using Cronbach's alpha, with the following acceptance thresholds: AVE >0.5, factor loading >0.6, and composite reliability >0.70 (Chin, 1998; Fornell & Larcker, 1981). The measurement model results confirm that convergent validity is achieved, indicating that all variables meet the required reliability standards (Table 1). The next step in the analysis is assessing discriminant validity, which determines whether each construct is distinct from the others. This study employs the Heterotrait-Monotrait (HTMT) correlation method to measure discriminant validity, ensuring that the correlation values between variables remain below 0.90. The results indicate that all correlations fall within the acceptable range, confirming the validity of the measurement model (Table 2). This rigorous approach ensures that the study's findings provide reliable and meaningful insights into the Adaptive of mobile banking services among traditional market traders..

III. RESULTS AND DISCUSSION

The results of this research focused on the relationship of the research hypothesis which was tested using an internal model test. It can determine the significant influence of the concept and p-values. Figure 2 shows the results of the structural model, and Table 3 shows the standard path coefficient model. The results showed that the indirect relationship of the Effort Expectancy to a Cashless Society mediated by Adaptive Anthropomorphism gives positive and significant results, respectively ($\beta = 0.056$, $p > 0.1$), so H1 is rejected. In addition, the indirect relationship of the Facilitating Condition to Cashless Society mediated by Adaptive Anthropomorphism gives positive and significant results, respectively ($\beta = 0.047$, $p < 0.1$), so H2 is accepted. The indirect relationship of Perceived Security to Cashless Society mediated by Adaptive Anthropomorphism shows positive and significant results, respectively ($\beta = 0.156$, $p < 0.01$), so H3 is accepted. The indirect

relationship of the Perceived Trust to Cashless Society mediated by adaptive Anthropomorphism gives positive and significant results, respectively ($\beta = 0.035$, $p < 0.1$), so H4 is accepted. The indirect relationship of the Performance Expectancy to a Cashless Society mediated by Adaptive Anthropomorphism gives positive and significant results, respectively ($\beta = 0.027$, $p > 0.1$), so H5 is rejected. The results of this research showed that the indirect relationship of the Effort Expectancy to a Cashless Society mediated by Task-Fit Technology gives positive and significant results, respectively ($\beta = 0.115$, $p < 0.01$), so H6 is accepted. The indirect relationship of the Facilitating Condition to Cashless Society mediated by Task-Fit Technology gives positive and significant results, respectively ($\beta = 0.026$, $p > 0.1$), so H7 is rejected. Apart from that, the indirect relationship of the Perceived Security to Cashless Society mediated by Task-Fit Technology gave positive and significant results, respectively ($\beta = 0.051$, $p < 0.05$), so H8 is accepted. The indirect relationship of the Perceived Trust in a Cashless Society mediated by Task-Fit Technology gives positive and significant results, respectively ($\beta = 0.068$, $p < 0.01$), so H9 is accepted. The indirect relationship of the Performance Expectancy to Cashless Society mediated by Task-Fit Technology gives negative and significant results, respectively ($\beta = -0.035$, $p > 0.1$), so H10 is rejected.

The findings of this study reveal that the indirect relationship between various variables and the Cashless Society varies in significance depending on the mediator used, namely Adaptive Anthropomorphism or Task-Fit Technology. The results from the internal model testing indicate that the acceptance or rejection of a hypothesis is based on the standardized path coefficient (β) and significance level (p-value). When compared with previous studies, it was found that Effort Expectancy, despite reducing the administrative costs of transactions, remains a barrier to the Adaptive of voice notification features in mobile banking. The study results indicate that the relationship between Effort Expectancy and Cashless Society, when mediated by Adaptive Anthropomorphism, is not significant (H1 rejected). This is because accessibility controls,

such as voice notification activation, are perceived as relatively difficult to manage when users interact with mobile banking applications. As a result, many merchants do not activate the feature, making consumers less inclined to adopt cashless payments—supporting the idea that effort expectancy enhances adaptive anthropomorphism (Moghavvemi et al., 2021). However, when mediated by Task-Fit Technology, this relationship becomes significant and positive (H6 accepted). This suggests that effort expectancy plays a crucial role in task-fit technology Adaptive because mobile banking reduces administrative burdens, such as eliminating the need for merchants to visit banks frequently to deposit sales revenue (Changchun et al., 2017). Therefore, task-fit technology plays a more dominant role in technology Adaptive compared to anthropomorphism elements.

Furthermore, Facilitating Condition is found to significantly influence Adaptive Anthropomorphism, supporting the Adaptive of voice features in mobile banking (H2 accepted). Supportive facilities make it easier for merchants to accept cashless payments via voice-based interactions that mimic human conversation. This eliminates the need for merchants to manually open their mobile banking applications to verify transactions (Chi et al., 2021; de Kloet & Yang, 2022). This aligns with previous studies, which suggest that customer trust increases when voice intelligence assists in transaction information exchange, particularly in payment confirmation. This trust is influenced by adaptive anthropomorphism, which helps users conduct financial transactions more efficiently—further reinforcing the role of anthropomorphism in supporting a cashless society (de Andrés-Sánchez & Gené-Albesa, 2023). However, when mediated by Task-Fit Technology, the effect becomes insignificant (H7 rejected), which is consistent with findings from Ratna et al. (2020). One possible reason is the limited RAM capacity of mobile devices, which often causes mobile banking applications to crash. This leads to transaction failures and lowers the reliability of the service. Although Facilitating Condition supports voice feature Adaptive, hardware limitations prevent seamless task-technology alignment, ultimately

hindering the optimization of mobile banking features.

Perceived Security plays a crucial role in promoting mobile banking Adaptive, both through Adaptive Anthropomorphism (H3 accepted) and Task-Fit Technology (H8 accepted). Similarly, Perceived Trust positively influences the Cashless Society, whether mediated by Adaptive Anthropomorphism (H4 accepted) or Task-Fit Technology (H9 accepted). These findings are in line with studies by Gupta & Dhingra (2022) and Mahfuz et al. (2017), which highlight that voice intelligence enhances reassuring interactions in mobile banking, while task-fit technology improves customers' trust in digital financial transactions. Additionally, biometric authentication methods, such as facial recognition and fingerprint scanning, play a vital role in maintaining financial transaction security. This supports previous research, which found that advanced security features enhance user trust in digital transactions. Moreover, perceived security continues to be a key factor in improving task-fit technology, as biometric authentication simplifies the login process by eliminating the need for password entry while maintaining transaction security (McLean et al., 2020). A clear example is QRIS technology, which allows users to make payments, check balances, and monitor financial transactions, further strengthening the positive impact of security on task-fit technology (Baabdullah et al., 2019). However, Performance Expectancy does not show significant results in either mediation model. Whether through Adaptive Anthropomorphism (H5 rejected) or Task-Fit Technology (H10 rejected), expectations regarding mobile banking performance do not significantly influence the Cashless Society. This aligns with findings from Njenga et al. (2016), which revealed that transaction notification delays and performance discrepancies in mobile banking applications create concerns among merchants. Many merchants perceive that the expected benefits of mobile banking performance are not fully realized, such as cases where a payment notification appears, but the funds do not immediately reflect in the merchant's account. This results in uncertainty and hesitation among merchants, leading them to believe that performance expectancy does not align with

real-world experiences. However, performance expectancy enhances task-fit technology (Lyu et al., 2022). This suggests that while mobile banking offers additional features like voice notifications, speed and accuracy remain the most critical factors in cashless payment Adaptive.

These findings reinforce previous research indicating that Perceived Security, Perceived Trust, and Facilitating Condition play significant roles in enhancing mobile banking Adaptive and fostering a Cashless Society—particularly when mediated by Adaptive Anthropomorphism or Task-Fit Technology. Meanwhile, Effort Expectancy and Performance Expectancy continue to face Adaptive challenges. To increase mobile banking Adaptive in digital financial transactions, technology should be leveraged effectively by integrating it into mobile banking developments that serve as innovations for seamless financial management. This includes payment processing, balance checking, and financial reporting. Therefore, it can be concluded that mobile banking provides substantial benefits for users by facilitating financial transactions. These findings support the argument that task-fit technology enhances the transition toward a cashless society (Afeti & Owusu, 2022).

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Table 1. Reliability Test

Variable	Outer Loading	Cronbach's Alpha	Average Variance Extracted (AVE)	Description
Effort Expectancy (Almaiah et al., 2023)		0,886	0,814	
EE1	0,887			Reliable
EE2	0,923			Reliable
EE3	0,896			Reliable
Perceived Security (Kaur & Arora, 2021)		0,712	0,623	
PS1	0,640			Reliable
PS2	0,867			Reliable
PS3	0,842			Reliable
Facilitating Condition (Almaiah et al., 2023)		0,705	0,624	
FC1	0,780			Reliable
FC2	0,812			Reliable
FC3	0,776			Reliable
Perceived Trust (Rahi & Abd. Ghani, 2019)		0,715	0,636	
PT1	0,789			Reliable
PT2	0,815			Reliable
PT3	0,789			Reliable
Performance Expectancy (Rahi & Abd. Ghani, 2019)		0,858	0,778	
PE1	0,882			Reliable
PE2	0,910			Reliable
PE3	0,853			Reliable
Adaptive Anthropomorphism (Lee & Chen, 2022)		0,753	0,671	
AA1	0,861			Reliable
AA2	0,859			Reliable
AA3	0,731			Reliable
Task-fit Technology (Oliveira & Tam, 2016)		0,799	0,713	
TFT1	0,851			Reliable
TFT2	0,853			Reliable
TFT3	0,829			Reliable
Cashless Society (Zhou et al., 2010)		0,732	0,651	
CS1				Reliable
CS2	0,780			Reliable
CS3	0,837			Reliable
	0,803			

Source: Primary Data Processed (2024)

Table 2. Discriminant Validity Test

	Adaptive Anthropomorphism	Cashless Society	Effort Expectancy	Facilitating Condition	Perceived Security	Perceived Trust	Performance Expectancy	Task-fit Technology
Adaptive Anthropomorphism								
Cashless Society	0,723							
Effort Expectancy	0,718	0,616						
Facilitating Condition	0,798	0,751	0,799					
Perceived Security	0,825	0,611	0,749	0,897				
Perceived Trust	0,596	0,481	0,544	0,647	0,588			
Performance Expectancy	0,640	0,591	0,852	0,841	0,594	0,706		
Task-fit Technology	0,732	0,668	0,626	0,585	0,619	0,550	0,490	

Source: Primary Data Processed (2024)

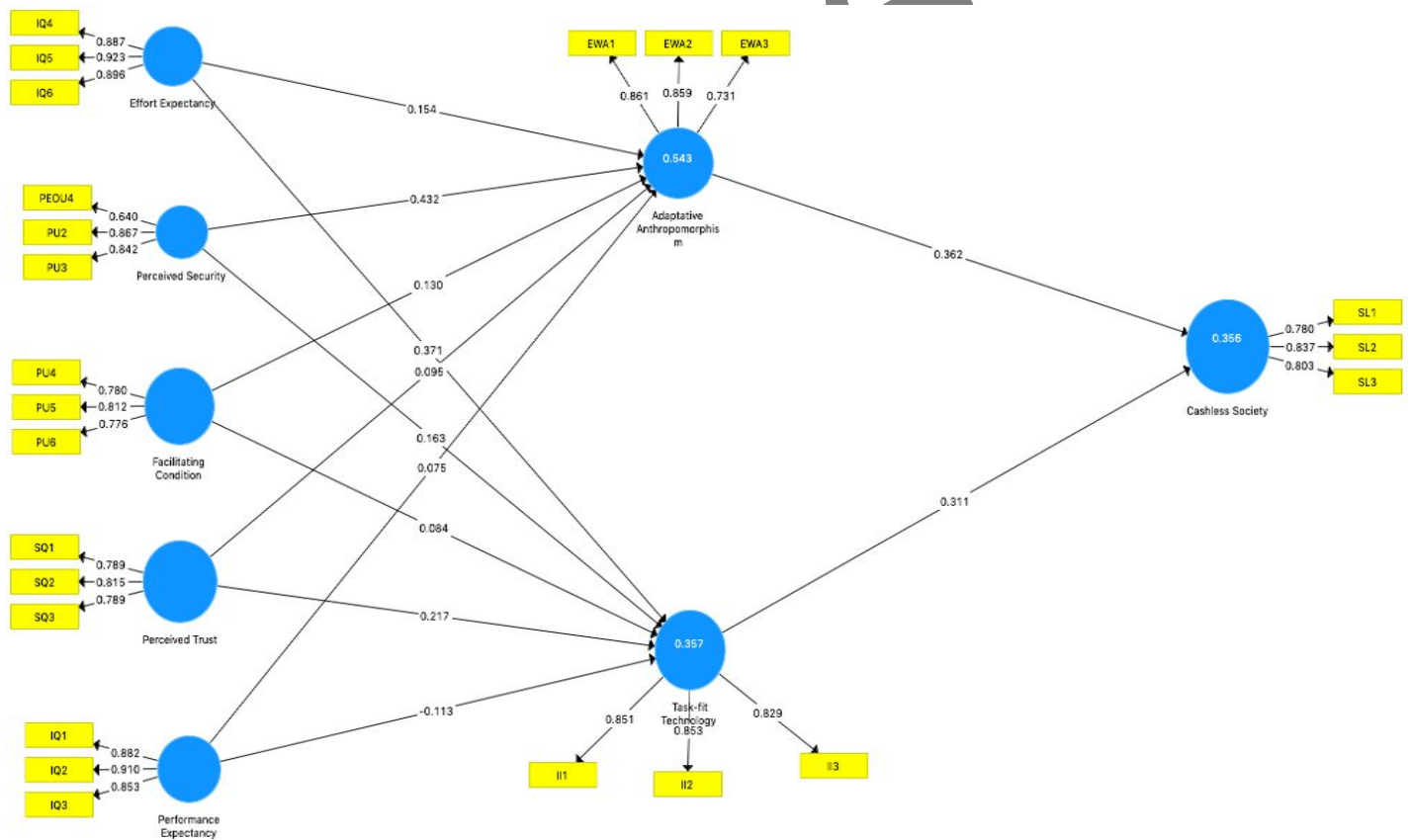


Figure 2. The Result of Conceptual Model

Table 3. Hypothesis Results

Variable Relationships		Path Coefficient	t-statistic	P-Value	Conclusion
H1	Effort Expectancy → Adaptive Anthropomorphism → Cashless Society	0,056	1,513	0,131	Non-Significant
H2	Facilitating Condition → Adaptive Anthropomorphism → Cashless Society	0,047	1,698	0,090	Significant
H3	Perceived Security → Adaptive Anthropomorphism → Cashless Society	0,156	4,841	0,0001	Significant
H4	Perceived Trust → Adaptive Anthropomorphism → Cashless Society	0,035	1,798	0,073	Significant
H5	Performance Expectancy → Adaptive Anthropomorphism → Cashless Society	0,027	0,863	0,389	Non-Significant
H6	Effort Expectancy → Task-Fit Technology → Cashless Society	0,115	3,009	0,003	Significant
H7	Facilitating Condition → Task-Fit Technology → Cashless Society	0,026	1,698	0,115	Non-Significant
H8	Perceived Security → Task-Fit Technology → Cashless Society	0,051	2,177	0,030	Significant
H9	Perceived Trust → Task-Fit Technology → Cashless Society	0,068	2,754	0,006	Significant
H10	Performance Expectancy → Task-Fit Technology → Cashless Society	-0,035	1,061	0,289	Non-significant

Source: Primary Data Processed (2024)

IV. CONCLUSION

The mediating role of adaptive anthropomorphism is more influential when compared to task-fit technology in bridging the influence of market traders' perceptions of non-cash payments by buyers through mobile banking services. The results of this study provide information about the benefits of using Mobile Banking integrated with UTAUT and TTF so that it can provide scientific explanations, evidence, and sources from customers who use Mobile Banking in financial transactions. The results of the integrated model show that 45.4% of the variance in cashless society uses MB, which is proven by five of the ten proposed hypotheses of this study. In addition, the results of this study focus on customer perceptions related to perceived security, perceived trust, and facilitating conditions showing positive results. Thus, a cashless society accepts the use of Mobile Banking mediated by adaptive anthropomorphism and task-fit technology

except for performance expectancy and effort expectancy. From theoretical perspective, adaptive anthropomorphism is positioned as a mediator that bridges the relationship between facilitating conditions, perceived security, perceived trust, and cashless society, whereas task-fit technology can mediate this linkage between effort expectancy, perceived security, perceived trust, and cashless society in the context of mobile banking service. These mediators can address the research gap for these links. We also found that a mediating effect of adaptive anthropomorphism has more influence than task-fit technology on the relationship between the perception of end-users toward a cashless society. In turn, the application of appropriate anthropomorphism characteristics transforms human-mobile banking application interactions into a more trustworthy process. It can be concluded that task-fit technology is proof that technological developments, especially the use of Mobile Banking, can adapt

to customer tasks, namely financial transactions that can be carried out effectively and efficiently.

From practical standpoint, our findings could be useful for banking management because facilitating conditions positively encourages the use of non-cash payments in the market between merchants and consumers where proof of payment is represented through human-like voice interaction in mobile banking services. Merchants do not need to open the mobile banking application to validate proof of payment because notification of successful payment transactions from customers has appeared. The use of adaptive anthropomorphism in Mobile Banking in the form of formal voice intonation can influence customer perceptions of the benefits of Mobile Banking in non-cash payment transactions. Then, the effort expectation shows that traders can reduce the administrative costs of payment transactions when using mobile banking, where previously traders had to deposit cash from sales in the market to the bank it took time and energy for the task. Thus, the existence of task-fit technology facilitates traders with the reconciliation of sales reports with fund receipt transaction activities so that users can monitor financial flows quickly and in real-time.

This study has several limitations that should be considered for future studies to provide deeper and more comprehensive insights. First, this study uses a cross-sectional approach, meaning that data was collected at a single point in time. While this method helps capture the current situation, it does not reflect how traders' behavior evolves over time. To gain a better understanding of this transition, future research could adopt a longitudinal approach to observe how traditional market traders gradually adapt to mobile banking services and how this shift influences their move toward cashless transactions in the long run. Second, this study focuses only on traditional market traders in Singaraja, which may limit the ability to generalize the findings.

Different regions have different levels of digital literacy, access to technology, and transaction habits. To gain a more well-rounded perspective, future research could expand to include traders from various cities in Bali or even other parts of Indonesia, ensuring a broader and more representative understanding of mobile banking Adaptive in traditional markets. Additionally, this study primarily examines the role of adaptive anthropomorphism and task-fit technology in mobile banking Adaptive. However, many other factors could influence traders' willingness to switch to cashless transactions, such as trust in digital payments, government support, financial literacy, and infrastructure readiness. Future studies could explore these aspects to develop more tailored solutions that address traders' actual needs and challenges.

Lastly, this study relies on a quantitative approach, meaning it does not fully capture traders' personal experiences and challenges in adopting mobile banking. To gain deeper and more nuanced insights, future research could incorporate qualitative methods such as in-depth interviews or focus group discussions. This would help uncover traders' real-life experiences, struggles, and perspectives, making the research findings more holistic and actionable. By addressing these limitations, future research can offer richer and more meaningful insights into how mobile banking can genuinely support traditional market traders in transitioning to digital financial systems. This will ultimately help build a more inclusive and sustainable cashless society, where technology truly empowers small businesses and strengthens economic resilience.

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