

Determining factors in the adoption of fintech of sharia in Indonesia: analysis of the effect of utaut2, Es-qual, and religiosity

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Abstract: This research examines the antecedents of actional desires towards using Islamic financial application among Indonesian customers. The objectives of the study empirically tested the expanded unified theory of acceptance and use of application (UTAUT2), ES-QUAL and religiosity as independent variables to explain the adoption of Islamic financial application in Indonesia. The method was quantitative. The 200 data are analyzed using the Partial least squares (PLS). The research results show that Effort Expectancy (EE), Social Influence (SI), Hedonic Motivation (HM), Esqual (ESQ), and Religiosity (RE) have a positive effect on Desire to Use Islamic Financial Application (IB). Furthermore, the Desire to Use Islamic Financial Application (IB) positively affects the Use Action of Islamic Financial Application (UB). In addition, only gender (GE) can weaken the influence of hedonic motivation and habit on the Desire to Use Islamic financial application. The influence actional desires to use Islamic financial application because of the lack of research in this domain in Indonesia, especially considering the context of religiosity and combining the concepts of UTAUT2 and ESQUAL. This research contributes to the service quality literature by identifying E-SQ and confirming its effectiveness in FinTech adoption. This can also enhance to the development of understanding financial concepts.

Keywords: ESQUAL, Islamic financial application, Religiosity, UTAUT2.

1. Introduction

Global interest in Sharia Banking continues to increase in all religion (Darmansyah et al., 2020). Sharia Banking is based on honest and transparent concept in Sharia. Therefore, commitment to sharia financial strategies has become an attractive classic transaction (Rabbani et al., 2020). In facing technological enhancements in the financial sector, Sharia Banking has adopted and advanced financial application systems (fintech) were created for consumers convenience (Hassan et al., 2020). Fintech has the effective to contribute the enhancement of Sharia Banking (Banna et al., 2021b). The presence of Fintech is expected to make positif effects of sharia finance (Reuters, 2018). Fintech is innovation in the use of digital application to compete and solve problems in financial intermediation (Fenwick et al., 2017; Majid, 2021). Fintech of sharia has the same definition as conventional Fintech, but with Sharia compliance being the difference (Rabbani et al., 2020; Chong, 2021; Khan et al., 2022), as well as a focus on institutions that comply with Islam or Islamic countries (Alshater & Otsman, 2020). In the rapid enhancement of Fintech, Sharia Banking has utilized it to increase services to consumers (Ajib, 2022). Despite the Covid-19 pandemic which has had a negative impact on many sectors, specially manufacturing and tourism, the Islamic financial industry continues to grow well due to the adoption of Fintech in facilitating transaction access through digital platforms provided by Islamic financial institutions (Ajib, 2022). By adopting the Fintech concept, Islamic financial assets in the industry

reached US\$3.374 trillion in 2020 compared to US\$2.88 trillion in 2019 (Dar et al., 2021), and are purposed to enhance US\$4.95 trillion in 2025 (Refinitiv, 2021).

The Fintech of sharia industry has the potential to become a large global industry, especially with the growth of the Muslim population which is estimated to reach 26.4% of the total world population in 2030 (The World Bank, 2020; Majid, 2021). Indonesia is a country with a world-famous sharia fintech financial centre. Fintech has developed rapidly in Indonesia. Foreign investors and even from various countries have highlighted the enhancement of fintech in Indonesia. (Hendratmi et al., 2019; Darmansyah et al., 2020). In the last four years, Indonesia has taken effect steps in developing its Sharia Banking sector and Islamic economy, with coordination from a central government committee in collaboration with the Vice President and President (Revinitiv, 2022). The government's (OJK, BI, KNEKS, and DSN MUI) commitment to sharia economic growth is reflected in the national agenda and programs that support this ecosystem.

However, the Sharia FinTech market in Indonesia is still smaller compared to region that has the largest fintech Sharia market in the world is Iran, the United Arab Emirates, Malaysia and Saudi Arabia, but among all Saudi Arabia is the biggest, with transactions worth \$17.9 billion in 2020, while Iran accounted for \$9.2 billion, the UAE \$3.7 billion, Malaysia \$3.0 billion and Indonesia \$2.9 billion. (Muryanto et al., 2021). Fintech of sharia faces the problem of low public interest in using Fintech of sharia services (Rusydia, 2016). The Deputy Commissioner of the OJK Institute and Digital Finance noted that as of April 2021, of the 381 fintech's licensed and registered in Indonesia, only 17 of them had adopted the Sharia economic system. Ten fintech's are engaged in lending or P2P Lending, and seven others are engaged in Digital Financial Innovation. Therefore, to advance Fintech of sharia, understanding the factors that can increase the desire of Indonesian action in utilizing Fintech of sharia services is very important (Amini et al., 2020).

Discussions regarding banking law from a traditional perspective are not widely discussed in some of the literature (Rafay, A., & Sadiq, R. 2015 Hoehle, Scornavacca & Huff, 2012), Pesendorfer, & Lehner, 2016, and De Haan, & Vlahu, 2016) . Previous researchers focused more on discussing how to develop and use financial transactions using the internet or e-commerce and the benefits that consumers obtain from banking transactions. Few researchers have discussed integrated finance such as Sharia-based vintage, especially in Indonesia (Johar & Suhartanto, 2019; Riptiyono et al., 2021). This study purposes to fill this gap by analysing the factors that influence actional desires to use Fintech sharia services in Indonesia, including payments, peer-to-peer (P2P) lending, and crowdfunding. This research adopts the Integrated Theory of Acceptance and Use of Application (UTAUT) 2 by Venkatesh and Davis (2000), ES-QUAL by Parasuraman (2000), and dimensions of religiosity. In the context of sharia Fintech, previous research shows that one of the main factors that guides consumers in choosing sharia Fintech is religiosity (Kusuma, Wibowo, 2021, Ibrahim, & Mohd Sopian, 2023, Sugiarto, I., & Disemadi, H. S. 2020, and Rahim, Bakri, M. Fianto, Zainal, & Hussein Al Shami, 2023). This has an impact on consumers' ignorance that there is a Sharia-based integrated financial system, which aims to simplify and make financial transactions more effective. In this research, researchers want to analyze more deeply and provide information that a Sharia-based vintage will really attract consumers to make transactions. based on Islamic rules where the two are related (Bananuka et al., 2019; Suhartanto, 2019).

2. Literature Review

2.1. *Extended Unified Theory of Acceptance and Use of Application*

One of the models developed by Venkatesh et al. (2003) is a model used to predict or predict consumer action in using, accepting and utilizing application, namely the Unified Theory of Acceptance and Use of Application. Previous research has used UTAUT functions as a tool to analyse factors which can influence consumer desires in the use and enhancement of modern application. These four constructs are: Performance Expectancy (PE), Relates to the extent to which individuals believe that using an application will help them perform a particular task more effectively or efficiently. It focuses on the perceived usefulness of application. Effort Expectancy (EE), Implies the extent to which a person

believes that using application will be easy or effortless. This reflects the individual's belief that using application will be easy. Social Influence (SI), This construct includes the impact of social factors and influences on an individual's decision to use a application. This involves influence from friends, family, coworkers, and other social networks. Facilitating Conditions (FC), Relates to individuals' perceptions of the support and resources available to them in using a application. This involves confidence that the necessary infrastructure, assistance and support is accessible.) to increase prediction which is more accurate.

Venkatesh and his colleagues (2012) proposed the enhancement of UTAUT to UTAUT2 involved the addition of additional factors and moderation to increase the model's accuracy and ability to explain application adoption. Here are some of the extensions that make up UTAUT2: Hedonic Motivation (HM), as an additional factor influencing users' desire to adopt application. Price Score (PV), a factor influencing user intent. Habit (HT), refers to a user's tendency to automatically use application based on daily habits. Voluntariness of Use (VU), to identify the extent to which users feel voluntary or forced in adopting application. Performance Expectancy- Effort Expectancy (PE-EE) Interaction, considers the interaction between performance expectancy and effort expectancy as variables that influence user desire. Social Influence- Facilitating Conditions (SI-FC) Interaction, influence and facility conditions is also recognized as a factor that can moderate user desires.

2.2. Performance Expectancy (PE)

Performance expectations reflect users' beliefs that the use of application will provide positive benefits in terms of their performance or productivity (Schmitz et al., 2022; Venkatesh et al., 2012). Performance expectations are one of the four main factors that influence user action toward application adoption, along with effort expectations, social influences, and facility conditions (Baudier et al., 2020; Cabrera-Sánchez et al., 2021; Cimperman et al., 2016; Shaw & Sergueeva, 2019), and the tool of desire (Akhtar et al., 2019). Mugni & Rikumahu (2019) show that Performance Expectancy positively affects actional desire to use E-Money in Bandung, Indonesia. Intarot (2018) and Acharya et al (2019) India and Thailand also use this. Thus, the following is hypothesized:

2.3. Effort Expectancy (EE)

Effort expectancy denotes the “perceived ease of use” (Venkatesh et al., 2003). When consumers do not perceive that using the application will require any excess effort on their part, they will intend to use it, mainly for digital financial applications. Mizal and Wijayangka (2020), in the context of their study, identify ease of application as the decision to adopt FinTech as a business transaction tool for. Meanwhile, from the perspective of application-literate consumers, the choice of application is determined by the novelty of the system and the advantages of the convenience offered. Interest in adoption will increase if these two conditions are met (Chang 2012). UTAUT has been used to study the Sub- Effort Expectancy theory in research on digital banking services and FinTech payment applications (Yan et al. 2021). Subsequently, Effort Expectancy has a strong predictor of actional desires (Louho & Kallioja, 2006; Thaker et al., 2019). Thus, the following is hypothesized:

2.4. Social Influence (SI)

Social Influence means as the extent that the social environment influences a person's acceptance of application (Sun et al., 2013). This includes that they should modern application (Venkatesh et al., 2003). In the update of UTAUT to UTAUT 2, which focuses on voluntary use, Social Influence remains one of the main elements (Venkatesh et al., 2012). Recent research confirms that Social Influence has an important role of new application (Baudier and friends, 2020; Cabrera-Sánchez and friends, 2021). Thus, the following is hypothesized:

2.5. Facilitating Conditions (FC)

Facilitating conditions is consumer's view of the availability of environment and sosial necessary to carry out an action (Venkatesh et al., 2012). Gupta, Dogra, and George (2018) explained that An atmosphere that can influence all the benefits of the resources needed, especially modern technological sources. Wu et al. (2021) prove that facilitating conditions have been focused in Korea (Wu et al., 2021). It aligns with Tusyanah et al. (2021), whose research validates that the positif advance the choice to use electronic money (Tusyanah et al., 2021). In addition, previous scientific literature has discussed many facilitating conditions in encouraging FinTech adoption (Singh et al., 2020). Thus, the following is hypothesized:

2.6. Hedonic Motivation (HM)

Hedonic motivation reflects the satisfaction that arises from the use of modern application to have a crucial rule of application and adoption (Brown & Venkatesh, 2005). In the context of this research, hedonic motivation is interpreted as satisfaction that arises from utilizing sharia fintech services. According to Venkatesh and colleagues (2012), hedonic motivation has important relevance in determining usage desires and action. Similar findings were also found in research by Putri (2018), Ariyanti (2017), and Megadewandanu and friends (2017), which showed that hedonic motivation had a positive impact on actional desires. Salimon, Yusoff, Sanuri, and Mokhtar (2017) emphasized that enjoyable and satisfying experiences intrinsically motivate users to continue using application-based services. Thus, the following is hypothesized:

2.7. Price Score (PV)

Price score is the score that comes from benefits and drawbacks (Ramdhani, Rachmawati, Sidiq, & Prabowo, 2017). Application is successful when the benefits obtained are greater (Venkatesh et al., 2012). In the framework of this research, price score is defined as the amount of price used in Islamic financial application in order to obtain financing. Findings from research by Manaf & Ariyanti (2017), Santosa and friends (2021), and Baabdullah and friends (2019) state that cost has advance on actional desires to use mobile payments. Thus, the following is hypothesized:

2.8. Habit (HA)

Habits involve aspect that is important into account in influencing actional desires (Cabrera-Sánchez et al., 2021; Limayem et al., 2007). Directly, habits influence both actional desires and usage action (Venkatesh et al., 2012). Consumers' actional desires to use application have been anticipated in various studies that use habits as a determining factor (Venkatesh et al., 2012; Yen & Wu, 2016; Wang et al., 2015). Additionally, tool was used by providing sophisticated and modern range, repetitive “checking action” usage sessions (Merhi et al., 2019). Research also shows that habit plays a effect moderating factor in application adoption in the UK (Tarhini et al., 2016). Thus, the following is hypothesized:

The UTAUT mentioned age, gender, and experience as their hyphothesis. These variables also has been leveraged to moderate the invention for new application adoption in several studies (Agarwa, et al. 2000; Abushanab and Pearson, 2007; Venkatesh, Thong and Xu, 2016; Singh, Srivastava and Sinha, 2017; Moorthy et al., 2019).

2.9. ES-QUAL

Service Quality is factors involved customer decision to use financial institution in a Muslim country (Haque et al., 2009; Awan & Bukhari, 2011; Hamid & Masood, 2011; Echchabi & Olaniyi, 2012; Abdullrahim & Robson, 2017; Janahi & Al Mubarak, 2017; Ghosh, 2018; Asnawi et al., 2019). After undergoing enhance e-SQ scale and parasuraman his colleagues designed ES-QUAL as a tool for measuring e-core service quality. According to the concept of Parasuraman and friends (2005), service is interpreted holistically because it is before and after action. In comparison with other metrics, the E-S-QUAL. Thoroughly covers all stages of customer interaction with the website. The initial stage of the

ES-QUAL scale, developed by Parasuraman, consists of 22 items belonging to four main dimensions, namely efficiency, and compliance (Parasuraman et al., 2005). The ES-QUAL dimension is claimed to provide a more comprehensive picture of electronic service quality (Ansari & Farooqi, 2017). Electronic involve a positive impact on consumer attitudes (Carlson & O'Cass, 2010), which in turn influences innovative actional desires (Wu et al., 2011). The actional desire (BI) model has not been fully revealed in the literature on ESQ (Ravichandran et al., 2010; Butt, 2021), Boulding and colleagues (1993) found that the overall perception of ESQ was positively related to motivation to recommend and negatively related to complaint and turnover action (Kelley et al., 1993). However, conflicting findings were reported regarding the correlation between actional desire (BI) and ESQ overall, with Cronin and Taylor (1992) finding a non-effect relationship, whereas further research on the relationship between SQ dimensions and BI models, as proposed by Zeithaml et al. (1996), still requires a deeper understanding (Ravichandran et al., 2010). The following hypothesis is formulated:

2.10. Religiosity (RE)

Religiosity menas one's beliefs and level of obedience to religious teachings as well as adherence to recognized systems (Irons, 2001). Variations in steps of sharia between individuals can guide them in their choices. Several recent studies have established a definition of Muslim religiosity with comprehensive criteria, referred to as the Comprehensive Measurement of Islamic Religiosity (CMIR) (Tiliouine & Belgoumidi, 2009; Mahdzan et al., 2017). CMIR includes Faith, Religious Practice, Muamalah, and Religious Deepening. However, further research is needed to explore the relationship between the influence of religiosity and the adoption of sharia mobile banking services (Suhartanto, Dean, Ismail, & Sundari, 2020). Hence, the hypotheses proposed are:

2.11. Use Action (UB)

In both TAM (Davis, 1986; Davis, 1989) and UTAUT/UTAUT2 (Vankatesh et al., 2012), usage action is considered as a target variable. In TAM, usage action refers specifically to the actual use of the system, while in UTAUT/UTAUT2, this concept is interpreted more broadly as usage action in general (Gansser & Reich, 2021). Usage action includes the level of use involving the frequency and quality of use (Black, 1983). In the context of information systems, usage action becomes a basic score that reflects the way users interact with a application (Hsu & Chen, 2007). In the information systems framework, usage action is also defined as consumer action that influences individual consideration in modern application (Huang & Kao, 2015).

Based on our literature review and the hypotheses obtained from that literature, the type of was formed by detailing the hypotheses developed. This model consists of eight main factors, namely UTAUT2, ES-QUAL, and Religiosity. The diagram illustrates that all above aspects are considered as influences on actional desires. Actional desire to use (BI) Fintech of sharia. Experience moderates the relationship between EE, SI, FC, HM, HA and actional desire to use (BI) Fintech of sharia. Thus, BI involves PE, EE, SI, FC, HM, PV, HA and Use Action (UB) of Fintech of sharia.

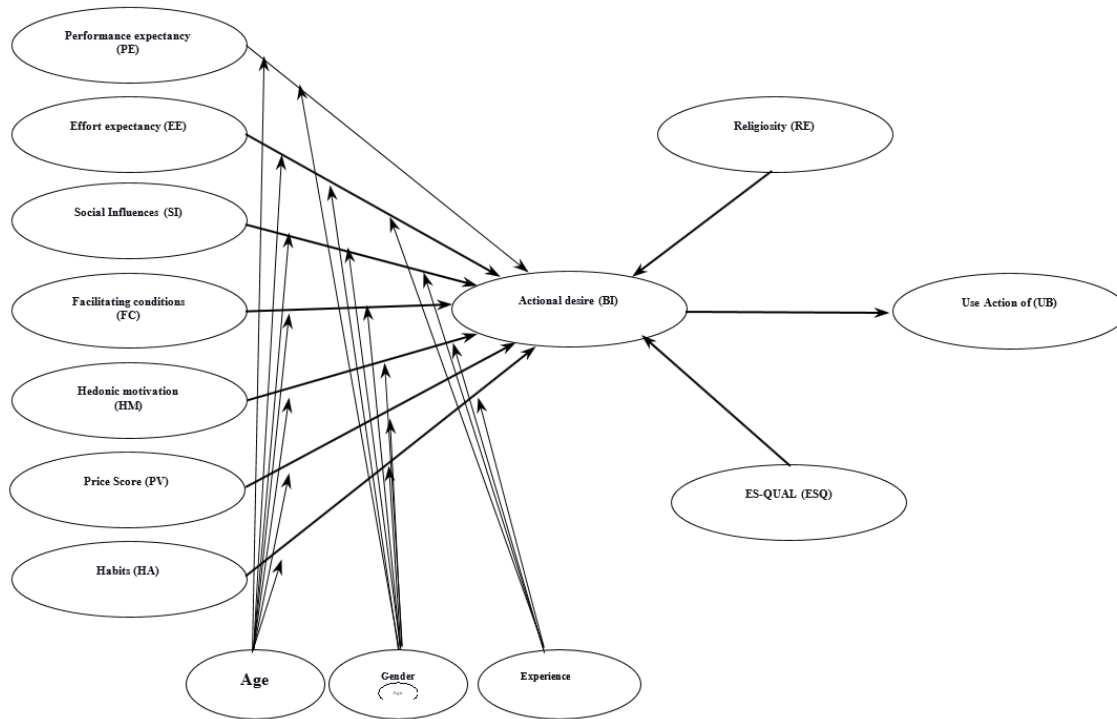


Figure 1.
Research framework.

3. Methodology

This research adopts UTAUT and ES-QUAL as research framework models with the addition of the Religiosity factor. Lawson-Body and friends (2018) explained that it is an excellent way that integrates the eight comprehensive theory (Venkatesh et al., 2003; Gupta et al., 2019; Bin-Nashwan, 2021). Data collection in this research used primary data obtained directly from participants via online questionnaires. The online survey consists of 70 questions and is divided into two parts. The first part consists of nine closed-ended questions that are used to determine demographic variables using a nominal scale (gender, age, education, occupation, status, frequency of fintech use, fintech experience). The second part includes the item-model UTAUT2 adopted from Venkatesh et al. (2012) and related research such as Alalwan and friends (2017), and Sharma and friends (2017). Each factor is measured with five items. In addition, five items were used to measure ES-QUAL (Parasuraman, 2005; Kumas & Dan, 2015), and Religiosity was adopted from the work of Tiliouine and Belgoumidi (2009) and Mahdzan et al. (2017). The use of a Likert scale with five points, ranging from 1 (strongly disagree) to 5 (strongly agree), was used to measure the items in this questionnaire. This cross-sectional research purposes to examine fintech adoption in Indonesia. The questionnaire was initially designed in English and then translated into Indonesian by a professional translator.

This research adopts a non-probabilistic sampling method with an independent selection approach, namely convenience sampling. This approach allows researchers to collect data from potential participants based on their availability. Specifically, the online survey was distributed via social media platforms in Indonesia during the period between January and July 2023. In addition, self-administered questionnaires were also distributed. Previously, the questionnaire was tested by two Sharia Banking experts from Indonesia and Malaysia to verify the effectiveness of its content. The online survey included a cover letter that provided an explanation of the purpose of the study and the rights of participating participants. No financial incentives or other forms of reward were offered in return for participation.

This result was analyzed by PLS for Structural Question Modeling (SEM). PLS analysis allows processing data from large samples, and is very suitable for theoretically based models that may be weak, and does not require the assumption of data normality (Aguirre-Urreta & Rönkkö, 2015). Hair, Black, Babin, & Anderson (2019) stated that (SEM) is a statistical method used to test and confirm correlations between variables in a conceptual model. SEM provides a statistical analysis framework that can model complex variance and covariance in empirical data (Malhotra et al., 2017).

4. Results and Discussion

4.1. Descriptive Analysis

The results had a total of 381 participants during the data collection period from January to July 2023. Filtering resulted in a final tally of 200 participants whose data were ready for processing. The majority of the participants (53.5 percentage) were males, while 41.5 percentage were females. A total of 178 participants (88 percentage) were 20 to 50 years old. Similarly, most of the participants (93 percentage) experienced using fintech for more than 2 years.

As noted in Table 1, the mean scores for all constructs show numbers above 3.5, with a range between 4.48 to 5.5 in the Lebanese sample, while the mean scores vary between 18 and 65.637. This reflects that the majority of participants overall gave positive responses to the factors measured in this study. Additionally, the normal range for skewness and kurtosis scores was set at ± 2.58 , in accordance with the guidelines suggested by Tabachnick and Fidell (2007). Therefore, all items in the sample data set were found to have a normal distribution (i.e., $< \pm 2.58$). Specifically, the skewness and kurtosis indices ranged from -1.36 to -0.116 and -0.614 to 1.535 respectively in the sample.

Table 1.
Descriptive statistics.

| Construct | Mean | Median | Min. | Max. | Standard deviation | Kurtosis | Skewness |
|-----------|--------|--------|------|------|--------------------|----------|----------|
| PE | 20.495 | 21 | 5 | 25 | 3.908 | 1.143 | -0.913 |
| EE | 19.917 | 20 | 9 | 25 | 3.142 | 0.486 | -0.516 |
| SI | 18.201 | 18 | 8 | 25 | 3.341 | 0.065 | -0.087 |
| FC | 18.569 | 19 | 8 | 25 | 3.015 | 0.304 | -0.125 |
| HM | 18.721 | 19 | 5 | 25 | 3.72 | 1.124 | -0.738 |
| PV | 18.49 | 19 | 8 | 25 | 3.177 | 0.438 | -0.288 |
| HA | 18.985 | 20 | 6 | 25 | 3.468 | 1.012 | -0.643 |
| ESQ | 73.5 | 74 | 23 | 100 | 12.172 | 1.527 | -0.638 |
| RE | 65.637 | 69 | 15 | 75 | 10.486 | 4.179 | -1.836 |
| BI | 18 | 19 | 5 | 25 | 3.8 | 0.732 | -0.506 |
| UB | 18.51 | 20 | 5 | 25 | 3.869 | 1.112 | -0.585 |

4.2. Outer (Measurement) Model

The PLS-SEM analysis method purposes to determine the structural relationship between the independent and dependent variables. The outer model analysis is the first step in PLS-SEM analysis to test effectiveness and reliability (Zeng et al. 2021). After running the data using SmartPLS software, the results indicated the suitability of the research model, meeting the criteria for an outer model in SmartPLS, namely the reflective model as measured by the loading indicators (> 0.5), a Cronbach's alpha score > 0.7 , composite reliability of > 0.7 , and AVE > 0.5 (Sarstedt et al. 2019). Table 2 shows a score of > 0.5 for all of the outer loading scores. Therefore, all question items could be maintained. All of the outer model results also showed a Cronbach's alpha score > 0.6 , composite reliability of > 0.7 , and AVE > 0.5 ; thus, all of the outer model criteria were met.

Table 2.
Measurement model.

| Construct | Loading factor scale | Cronbach's alpha | rho_A | CR | AVE |
|-----------|----------------------|------------------|-------|-------|-------|
| PE | 0,916-0,946 | 0,960 | 0,960 | 0,969 | 0,862 |
| EE | 0,887-0,934 | 0,950 | 0,951 | 0,962 | 0,834 |
| SI | 0,824-0,894 | 0,909 | 0,910 | 0,932 | 0,734 |
| FC | 0,846-0,914 | 0,921 | 0,922 | 0,940 | 0,760 |
| HM | 0,865-0,904 | 0,940 | 0,942 | 0,954 | 0,807 |
| PV | 0,832-0,889 | 0,916 | 0,920 | 0,937 | 0,748 |
| HA | 0,800-0,912 | 0,901 | 0,905 | 0,927 | 0,717 |
| ESQ | 0,737-0,893 | 0,978 | 0,979 | 0,980 | 0,707 |
| RE | 0,00-0,944 | 0,989 | 0,989 | 0,990 | 0,864 |
| BI | 0,865-0,918 | 0,928 | 0,934 | 0,946 | 0,780 |
| UB | 0,832-0,0889 | 0,947 | 0,948 | 0,960 | 0,827 |

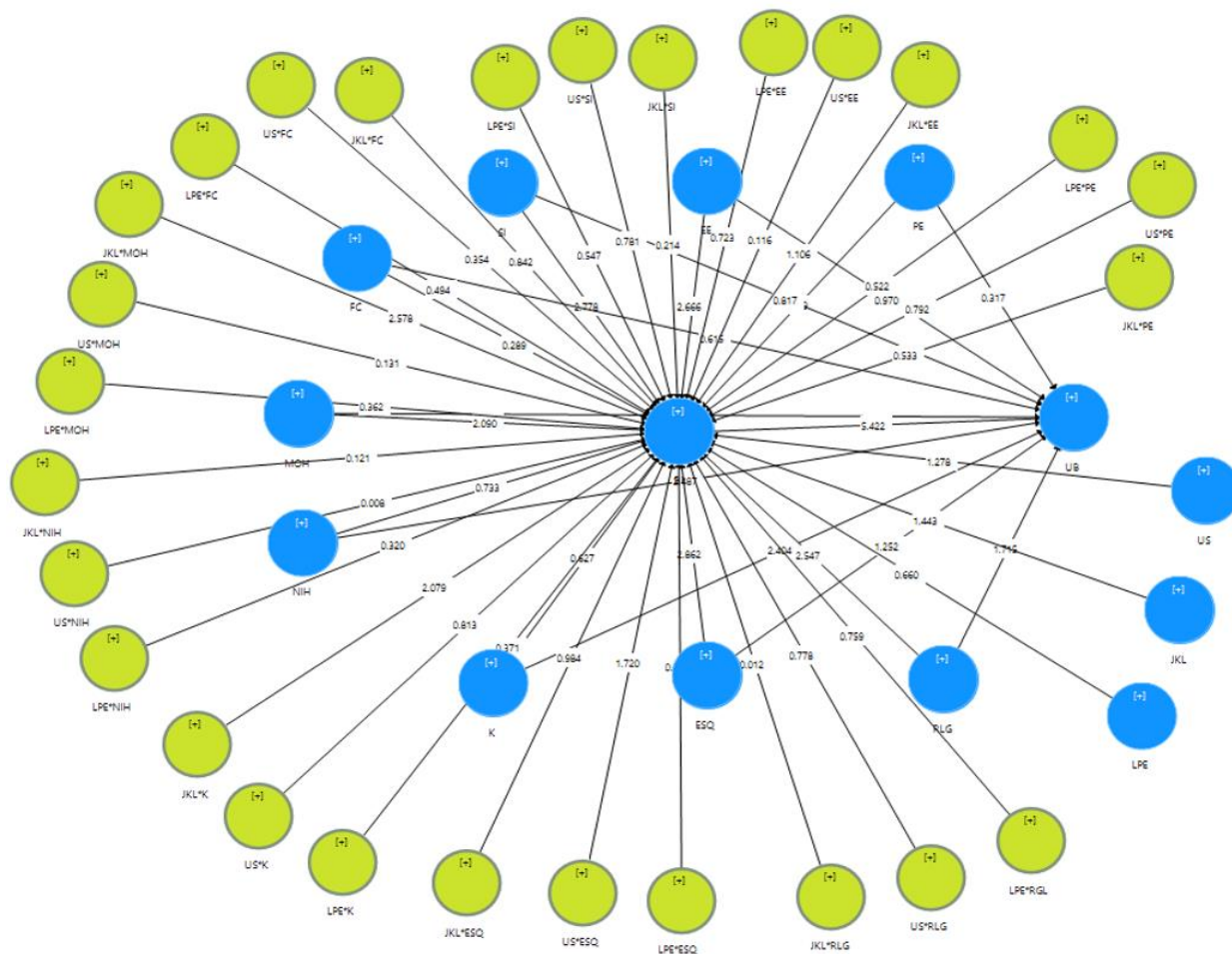


Figure 2.
Bootstrapping output.

4.3. Inner (Structural) Model

After testing the measurement (outer) model, the next step is to test the structural (inner) model to determine whether a hypothesis is accepted or unaccepted. The structural model analysis comprises several stages of testing. The first step is to test the coefficient of determination (R^2). A more effect R^2 score indicates a better level of determination, with three categories of effect: substantive (0.67), moderate (0.33), and weak (0.19) (Memon et al. 2021). The results of the R-squared test in Table 3 show that 0.945 or 94,5% (substantive) of the variance in the endogenous variable. Fintech of sharia Adoption is influenced by the accompanying exogenous variables. Additionally, 82% (substantive) of the endogenous variable use action of Fintech of shariay is influenced by the accompanying exogenous variables.

Structural model hypothesis testing in PLS- SEM uses bootstrapping, which produces a t-statistics score. If the t-statistic score obtained is more effect than the t-table with a 95% confidence level (>1.96), the effect is effect (Hair et al. 2017). Structural (inner) model analysis was carried out using the bootstrapping procedure in SmartPLS 3.0. Figure 2 illustrates the PLS-SEM bootstrapping procedure output from SmartPLS 3.0.

Table 3.
Path coefficient.

| Hypothesis | Constructs | β | T-statistics | P-scores | Decision | R squared | |
|------------|----------------------|---------|--------------|----------|------------|-----------|-------|
| H1 | PE \rightarrow BI | 0,100 | 0,929 | 0,354 | Unaccepted | 0,945 | |
| H2 | EE \rightarrow BI | 0,138 | 2,666 | 0,008 | Accepted | | |
| H3 | SI \rightarrow BI | 0,084 | 2,778 | 0,006 | Accepted | | |
| H4 | FC \rightarrow BI | 0,073 | 0,289 | 0,773 | Unaccepted | | |
| H5 | HM \rightarrow BI | 0,089 | 2,090 | 0,037 | Accepted | | |
| H6 | PV \rightarrow BI | 0,062 | 0,733 | 0,464 | Unaccepted | | |
| H7 | HA \rightarrow BI | 0,068 | 0,627 | 0,531 | Unaccepted | | |
| H11 | ESQ \rightarrow BI | 0,063 | 2,862 | 0,004 | Accepted | | |
| H12 | RE \rightarrow BI | 0,092 | 2,547 | 0,011 | Accepted | | |
| H13 | BI \rightarrow UB | 0,123 | 5,422 | 0,000 | Accepted | | 0,820 |

The results of the structural model revealed that actional desire to use (BI) is jointly predicted by effort expectancy (EE), social influences (SI), hedonic motivation (HM), ES-QUAL (ESQ), and religiosity (RE). Thus, use action (UB) of Fintech of sharia predicted by actional desire (BI). Effort expectancy, social influences, and hedonic motivation had a positive influence on the user desire to adopt fintech ($\beta = 0.138$, t-score = 2.666, effect $p < 0.005$ / $\beta = 0.084$, t-score = 2.778, effect $p < 0.005$ / $\beta = 0.089$, t-score = 2.090, effect $p < 0.005$), hence supporting H2, H3 and H5. Similarly, ES-QUAL and religiosity had a effect influence on the user desire to adopt fintech ($\beta = 0.063$, t-score = 2.862, effect $p < 0.005$ / $\beta = 0.092$, t-score = 2.547, effect $p < 0.005$), thus confirming H1 and H12. Finally, Actional desire to use (BI) had a effect influence on Use Action (UB) of fintech ($\beta = 0.123$, t-score = 5,422, effect $p < 0.005$), thus confirming H13.

4.4. Moderation

The results of the moderating relationship on Table 4, revealed that the indirect effect (GE*HM \rightarrow BI and GE*HA \rightarrow BI, $\beta = 0.083$, t-score = 2.578, effect $p < 0.005$ / $\beta = 0.069$, t-score = 2.079, effect $p < 0.005$) is effect, hence confirming H9e and H9g.

Table 4.
Path coefficients (Moderation).

| Hypothesis | Construct | β | T-statistics | P-scores | Decision |
|------------|-------------------------|---------|--------------|----------|------------|
| H8a | AG*PE \rightarrow BI | 0,114 | 0,792 | 0,429 | Unaccepted |
| H8b | AG*EE \rightarrow BI | 0,138 | 0,116 | 0,908 | Unaccepted |
| H8c | AG*SI \rightarrow BI | 0,099 | 0,781 | 0,435 | Unaccepted |
| H8d | AG*FC \rightarrow BI | 0,081 | 0,354 | 0,724 | Unaccepted |
| H8e | AG*HM \rightarrow BI | 0,083 | 0,131 | 0,896 | Unaccepted |
| H8f | AG*PV \rightarrow BI | 0,073 | 0,008 | 0,994 | Unaccepted |
| H8g | AG*HA \rightarrow BI | 0,082 | 0,813 | 0,417 | Unaccepted |
| H9a | GE*PE \rightarrow BI | 0,118 | 0,533 | 0,595 | Unaccepted |
| H9b | EXP*EE \rightarrow BI | 0,139 | 0,723 | 0,470 | Unaccepted |
| H9c | GE*SI \rightarrow BI | 0,086 | 0,214 | 0,831 | Unaccepted |
| H9d | GE*FC \rightarrow BI | 0,071 | 0,842 | 0,400 | Unaccepted |
| H9e | GE*HM \rightarrow BI | 0,083 | 2,578 | 0,010 | Accepted |
| H9f | GE*PV \rightarrow BI | 0,053 | 0,121 | 0,904 | Unaccepted |
| H9g | GE*HA \rightarrow BI | 0,069 | 2,079 | 0,038 | Accepted |
| H10a | EXP*EE \rightarrow BI | 0,139 | 0,723 | 0,470 | Unaccepted |
| H10b | EXP*SI \rightarrow BI | 0,116 | 0,547 | 0,585 | Unaccepted |
| H10c | EXP*FC \rightarrow BI | 0,083 | 0,494 | 0,622 | Unaccepted |
| H10e | EXP*HM \rightarrow BI | 0,083 | 0,362 | 0,718 | Unaccepted |
| H10f | EXP*HA \rightarrow BI | 0,057 | 0,371 | 0,711 | Unaccepted |

4.5. Mediation

This study has H13c is confirmed as the indirect effect (SI \rightarrow BI \rightarrow UB, β =0.060, t-score=2.556, effect p <0.005) is effect. The indirect effect (HM \rightarrow BI \rightarrow UB, β =0.060, t-score=2.067, effect p <0.005) is effect, hence confirming H13e. Finally, the indirect effect (ESQ \rightarrow BI \rightarrow UB and RE \rightarrow B \rightarrow UB, β =0.060, t-score=2.556, effect p <0.005 / β =0.068, t-score=2.286, effect p <0.005) is effect, confirming H13h and H13i.

Table 5.
Path coefficients (Mediation).

| Hypothesis | Construct | β | T-statistics | P-scores | Decision |
|------------|---------------------------------------|---------|--------------|----------|------------|
| H13a | PE \rightarrow BI \rightarrow UB | 0,064 | 0,959 | 0,338 | Unaccepted |
| H13b | EE \rightarrow BI \rightarrow UB | 0,092 | 2,668 | 0,008 | Accepted |
| H13c | SI \rightarrow BI \rightarrow UB | 0,060 | 2,556 | 0,011 | Accepted |
| H13d | FC \rightarrow BI \rightarrow UB | 0,048 | 0,294 | 0,769 | Unaccepted |
| H13e | HM \rightarrow BI \rightarrow UB | 0,060 | 2,067 | 0,039 | Accepted |
| H13f | PV \rightarrow BI \rightarrow UB | 0,040 | 0,762 | 0,447 | Unaccepted |
| H13g | HA \rightarrow BI \rightarrow UB | 0,044 | 0,643 | 0,521 | Unaccepted |
| H13h | ESQ \rightarrow BI \rightarrow UB | 0,045 | 2,656 | 0,008 | Accepted |
| H13i | RE \rightarrow BI \rightarrow UB | 0,068 | 2,286 | 0,023 | Accepted |

The primary purpose of this research is to analyze key factors that can slow down or accelerate fintech adoption in Indonesia. This research involves expanding the unified theory of acceptance and use of UTAUT2 application with ES-QUAL and religiosity. The research results show that application factors (UTAUT2), service quality (ES-QUAL), and religiosity together explain 94.5 percentage of the variance in users' desire to adopt fintech. These findings validate the newly developed integrated model. In the theoretical aspect, this research identifies several factors that need to be considered, such as PE, FC, PV, and HA, which are not in accordance with the UTAUT2 model. Performance expectations apparently do not have a effect influence on actional desires, with this research concluding that the higher the performance expectations for sharia fintech, the smaller the impact on customers' desires to use fintech, especially on P2P platforms. The results of this study are not in line with previous findings, but are consistent with several other studies which state that performance expectations do not influence application use desires. The structural model shows that effort expectations have a effect influence on desire to use sharia fintech (BI). This finding is in line with previous research and shows that ease of use of sharia fintech features, such as financial transactions, payment of zakat or infaq alms, online purchases or sales, and access to capital, influences usage desires. These results are mainly influenced by participants who have used fintech for more than two years, indicating that previous user experience plays an important role in the influence of effort expectations.

Research by Amy and colleagues (2019) shows a strong correlation between social influences and individuals' desires regarding mobile banking acceptance in Pakistan, highlighting the important role of the social environment such as family, friendships, and community figures in influencing individuals' views. However, in the context of this research, facilitating conditions do not appear to influence the desire to use (BI) sharia fintech. This finding is consistent with the results of research by Indrawati and Haryoto (2015), Oliveira et al. (2014), and Kwateng and colleagues (2019), who show that the presence of technological facilities does not always influence user desires, as other factors such as lifestyle suitability or customer satisfaction can be more relevant. Hedonic motivation apparently influences the user's desire to use (BI) sharia fintech, where the satisfaction obtained after using the system contributes to achieving the user's goals. This finding is in line with previous research by Morosan and DeFranco (2016) and Indrawati and Putri (2018b). However, price scores and user habits do not have effect impact on the desire to use (BI) sharia fintech. In the P2P context, the costs incurred by lenders do not affect their desire to provide financing through Islamic peer-to-peer lending. These findings support the results of previous research by Merhi et al. (2019) and Suchi & Maduku (2020). Even though there are certain costs, lenders feel that the score they receive is commensurate with the results they obtain, and the financing provided is also considered to provide added score for the borrower. In contrast, scores and habits in using gadgets for digital financial transactions do not have a effect impact on the desire to use (BI) sharia fintech. Therefore, the research emphasizes that, although the digitalization of financial transactions using gadgets is increasingly common, attention to security and risk remains a priority, especially in the context of unequal corporate system infrastructure.

Concerning ES-QUAL, effect this result is in stark contrast to previous research (Yen & Wu, 2016; Sharif & Raza, 2017; Alalwan et al., 2015; Najib et al., 2021; Ahmad & Yahaya, 2022; Septiana et al., 2020), it is understandable that Muslims are taught to be careful if there is a risk of endangering the sustainability of their welfare, including the financial health of the business. Habit is not supported due to other more important factors such as application availability and support, confidence in data security and privacy, knowledge and understanding of FinTech application, and ease of use and user experience. The empirical findings successfully prove the hypothesis for the Influence of religiosity on Fintech of sharia adoption. It is interpreted as the role of the religious understanding customers in choosing financial service products expected to bring blessings to their lives. The use of Fintech of sharia indicates that the customers comply with Islamic sharia law, notably concerning the prohibition of usury; it thus contributes to the growth of Islamic financial institutions as pillars of the Islamic economy (Muryanto et al., 2022). Religious scores indicate adherence to sharia principles and norms in business.

While some Indonesian business owners struggle with technological advances due to Islamic conservatism, there is a trend toward Sharia-based socio-economic practices. Sharia FinTech supports progressive and conservative customers, but further education is needed to encourage wider participation. Fintech of sharia companies should thus prioritize Islamic scores in promotions to attract more customers, especially halal MSME owners. Strengthening service products, education, and promotions is recommended to maintain user loyalty. Finally, the research results show that the desire to adopt fintech has a effect relationship with using Fintech of sharia, in line with research by Le (2021). Interestingly, age and experience do not moderate any relationship between determinants in the UTAUT2 model, as discussed actional desire (BI) to use Fintech of sharia for Indonesians. Gender moderately influences hedonic motivation and habit with the actional desire (BI) to use Fintech of sharia. Based on OJK statistical data regarding Fintech users, most are male (Venkatesh et al., 2012).

5. Conclusion

The aim of this research is to gain a better understanding of the factors that influence the actional desire to use Fintech of sharia in Indonesia for all FinTech services (payments, P2P, and crowdfunding) collectively and for each service individually. As explained previously, this research examines key factors that can increase consumer desires to use Fintech of sharia in Indonesia by integrating the Unified Theory of Acceptance and Use of Application 2 (UTAUT2), Service Quality (ES-QUAL), and the construct of religiosity. Of the 38 hypotheses proposed in this research, 13 hypotheses were accepted, and 25 hypotheses were not accepted. The strongest predictors of actional desire were found in effort expectancy, social influence, hedonic motivation, ES-QUAL, and religiosity. Religiosity is proven to be a determining factor in desire to use Fintech of sharia. Customers with higher religiosity scores are more likely to use Fintech of sharia compared to customers with lower levels of religiosity. This makes consumer religiosity a key factor that Fintech of sharia providers must pay attention to.

Based on the theoretical perspective, this research has an effect contribution. First, the literature suggests the need for further research that applies FinTech with the integration of the Unified Theory of Acceptance and Use of Application and E-SQ in the FinTech sector in Indonesia. Therefore, This research makes a positive contribution to the development of financial transactions using fintech in collaboration with UTAUT in Indonesia. This research perfects the shortcomings that occurred in previous research in the form of reviewing Islamic phenomena for customers who choose the Sharia route but still use fintech E-SQ dimensions (Hahn et al., 2017). Additionally, this research contributes to the service quality literature by identifying E-SQ and confirming its effectiveness in FinTech adoption

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References

- Aguirre-Urreta, M. and Rönkkö, M. (2015). Sample size determination and statistical power analysis in PLS using R: an annotated tutorial, *Communications of the Association for Information Systems*, 36, 33-51.
- Akhtar, S., Irfan, M., Sarwar, A., Asma. and Rashid, Q.U.A. (2019). Factors influencing individuals' desire to adopt mobile banking in China and Pakistan: the moderating role of cultural scores". *Journal of Public Affairs*, 19 (1), 1-15.
- Anderson, J.C. and Gerbing, D.W. (1988). Structural equation modeling in practice: a review and recommended two-step approach, *Psychological Bulletin*, 103 (3), 411.
- Bauer, H.H., Falk, T. and Hammerschmidt, M. (2006). eTransQual: a transaction process-based approach for capturing service quality in online shopping. *Journal of Business Research*, 59 (7), 866-875.
- Bauer, H.H., Hammerschmidt, M. and Falk, T. (2005). Measuring the quality of e-banking portals. *International Journal of Bank Marketing*. 23 (2), 153-175.
- Blut, M. (2016). E-service quality: enhancement of a hierarchical model, *Journal of Retailing*. 92 (4), 500-517.
- Davis, F.D. (1985). A application acceptance model for empirically testing new end-user information systems: Theory and results. *Management, Ph.D.Which university?* p. 291, available at: <https:// doi.org/oclc/56932490>.

- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information application. *MIS Quarterly: Management Information Systems*, 13 (3), 319-339, doi: 10.2307/249008.
- Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace1, *Journal of Applied Social Psychology*, 22 (14), 1111-1132.
- De Haan, J., & Vlahu, R. (2016). Corporate governance of banks: A survey. *Journal of Economic Surveys*, 30(2), 228-277.
- Gupta, A. and Xia, C. (2018). A paradigm shift in banking: unfolding Asia's fintech adventures, *International Symposia in Economic Theory and Econometrics*, 25, doi: 10.1108/S1571-038620180000025010.
- Hahn, S.-E., Sparks, B., Wilkins, H. and Jin, X. (2017). E-service quality management of a hotel website: a scale and implications for management. *Journal of Hospitality Marketing & Management*, 26 (7), 694-716.
- Hair, J.F. (2007). Research Methods for Business. and validation, *European Business Review*, 22 (1), 5-24.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2010). *Multivariate Data Analysis*, 7, Prentice Hall.
- Hendratmi, A., Ryandono, M.N.H. and Sukmaningrum, P.S. (2019). Developing Islamic crowdfunding website platform for startup companies in Indonesia, *Journal of Islamic Marketing*, doi: 10.1108/jima-02-2019-0022.
- Ho, C.-T.B. and Lin, W.-C. (2010). *Measuring the service quality of internet banking: scale enhancement*
- Hoehle, H., Scornavacca, E., & Huff, S. (2012). Three decades of research on consumer adoption and utilization of electronic banking channels: A literature analysis. *Decision Support Systems*, 54(1), 122-132.
- Ibrahim, N., & Mohd Sopian, S. (2023). Factors influencing customers' selection of Islamic home financing: a systematic review. *International Journal of Housing Markets and Analysis*, 16(1), 59-84.
- Irons, W. (2001). Religion as a hard-to-fake sign of commitment. *Evolution and the capacity for commitment*, 292309.
- Ismail Hussien, M. and Abd El Aziz, R. (2013). Investigating e-banking service quality in one of Egypt's banks: a stakeholder analysis. *The TQM Journal*, 25(5), 557-576.
- Ismail Hussien, M., & Abd El Aziz, R. (2013). Investigating e-banking service quality in one of Egypt's banks: a stakeholder analysis. *The TQM Journal*, 25(5), 557-576.
- Kusuma, H., & Wibowo, D. (2021, Ibrahim, N., & Mohd Sopian, S. (2023), Sugiarto, I., & Disemadi, H. S. (2020), and Rahim, N. F., Bakri, M. H., Fianto, B. A., Zainal, N., & Hussein Al Shami, S. A. (2023)
- Kusuma, H., & Wibowo, D. (2021, January). The Impact of Service Quality, Application Acceptance and Religiosity on The Selection of Islamic Bank and FinTech—Investigating The Stagnation of Indonesian Islamic Banking. In *Proceedings of the 1st International Conference on Islam, Science and Application, ICONISTECH 2019, 11-12 July 2019, Bandung, Indonesia.*
- Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the desire to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Application in Society*, 59, 101151.
- Mohd Thas Thaker, H., Khaliq, A., Ah Mand, A., Iqbal Hussain, H., Mohd Thas Thaker, M.A.B. and Allah Pitchay, A.B. (2020). Exploring the drivers of social media marketing in Malaysian Islamic banks: an analysis via smart PLS approach, *Journal of Islamic Marketing*, 12(1), 145-165. doi: 10.1108/JIMA-05-2019-0095.
- Morosan, C. and DeFranco, A. (2016). It's about time: revisiting UTAUT2 to examine consumers' desires to use NFC mobile payments in hotels, *International Journal of Hospitality Management*, 53, 17-29.
- Oliveira, T., Thomas, M., Baptista, G. and Campos, F. (2016). Mobile payment: understanding the determinants of customer adoption and desire to recommend the application, *Computers in Human Action*, 61, 404-414.
- Parasuraman, A., Zeithaml, V.A. and Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality, *Journal of Service Research*, 7 (3), 213-233.
- Pesendorfer, J., & Lehner, O. M. (2016). Islamic banking and finance as an ethical alternative: A systematic literature review. *ACRN Oxford Journal of Finance and Risk Perspectives*, 5(2016), 42-64.
- Rafay, A., & Sadiq, R. (2015), Hoehle, H., Scornavacca, E., & Huff, S. (2012), Pesendorfer, J., & Lehner, O. M. (2016), and De Haan, J., & Vlahu, R. (2016).
- Rafay, A., & Sadiq, R. (2015). Problems and issues in transformation from conventional banking to Islamic banking: Literature review for the need of a comprehensive framework for a smooth change. *City University Research Journal*, 5(2), 315-326.
- Rahi, S. (2016a). Impact of customer perceived score and customer's perception of public relation on customer loyalty with moderating role of brand image, *Journal of Internet Banking and Commerce*, 21 (2),1
- Rahi, S. (2016b). Impact of customer score, public relations perception and brand image on customer loyalty in services sector of Pakistan, *Arabian Journal of Business and Management Review*, 2 (2).
- Rahi, S. (2017a). Research design and methods: a systematic review of research paradigms, sampling issues and instruments enhancement, *International Journal of Economics & Management Sciences*, 6 (2), 1-5.
- Rahi, S. (2017b). *Structural Equation Modeling Using SmartPLS*, CreateSpace Independent Publishing Platform.
- Rahi, S. (2018a). *Research Design and Methods*. CreateSpace Independent Publishing Platform.
- Rahi, S. (2018b). *Application Adoption Issues in Banks*. CreateSpace Independent Publishing Platform.
- Rahi, S. and Ghani, M. (2016a). Internet banking, customer perceived score and loyalty: the role of switching costs, *Journal of Accounting and Marketing*, 5 (4), 1-7.
- Rahi, S. and Ghani, M.A. (2016b). Customer's perception of public relation in e-commerce and its impact on e-loyalty with brand image and switching cost, *Journal of Internet Banking and Commerce*, 21 (3).

- Rahi, S. and Ghani, M.A. (2018a). Investigating the role of e-service quality and brand image in internet banking acceptance context with structural equation modeling (SEM-PLS), *paper presented at the Economic and Social Enhancement (Book of Proceedings)*, 30th International Scientific Conference on Economic and Social.
- Rahi, S. and Ghani, M.A. (2018b). A structural equation modeling (SEM-AMOS) for investigating brand loyalty and customer's desire towards adoption of internet banking, *paper presented at the Economic and Social Enhancement (Book of Proceedings)*, 29th International Scientific Conference on Economic and Social.
- Rahi, S., Ghani, M. and Muhamad, F. (2017). Inspecting the role of desire to trust and online purchase in developing countries, *Journal of Socialomics*, 6 (1), doi: 10.4172/2167-0358.1000191.
- Rahi, S., Ghani, M. and Ngah, A. (2018). A structural equation model for evaluating user's desire to adopt internet banking and desire to recommend application, *Accounting*, 4 (4), 139-152.
- Rahi, S., Ghani, M., Alnaser, F. and Ngah, A. (2018). Investigating the role of unified theory of acceptance and use of application (UTAUT) in internet banking adoption context, *Management Science Letters*, 8 (3), 173-186.
- Rahi, S., Ghani, M.A. and Alnaser, F.M. (2017). The influence of e-customer services and perceived score on brand loyalty of banks and internet banking adoption: a structural equation model (SEM), *The Journal of Internet Banking and Commerce*, 22 (1), 1-18.
- Rahim, N. F., Bakri, M. H., Fianto, B. A., Zainal, N., & Hussein Al Shami, S. A. (2023). Measurement and structural modelling on factors of Islamic Fintech adoption among millennials in Malaysia. *Journal of Islamic Marketing*, 14(6), 1463-1487.
- Raza, S.A., Shah, N. and Ali, M. (2018). Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model, *Journal of Islamic Marketing*, 10(1), 357-376. doi: 10.1108/JIMA-04-2017-0038.
- Raza, S.A., Shah, N. and Ali, M. (2019). Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model, *Journal of Islamic Marketing*, 10 (1), 357-376.
- Reuters, T. (2018). State of Global Islamic Economy Report 2018/2019, *Dubai International Financial Centre*, 112. available at: <https://haladinar.io/hdn/doc/report2018.pdf>
- Santos, J. (2003). E-service quality: a model of virtual service quality dimensions, *Managing Service Quality: An International Journal*, 13 (3), 233-246.
- Sugiarto, I., & Disemadi, H. S. (2020). Consumers Spiritual Rights In Indonesia: A Legal Study Of Sharia Fintech Implementation In The Consumers Protection Perspective. *Jurnal IUS Kajian Hukum dan Keadilan*, 8(3), 437-452.
- Suhartanto, D., Dean, D., Ismail, T. A. T., & Sundari, R. (2020). Mobile banking adoption in Islamic banks: Integrating TAM model and religiosity-intention model. *Journal of Islamic Marketing*, 11(6), 1405-1418.
- Taylor, S. and Todd, P. (1995). Understanding information application usage: a test of competing models, *Information Systems Research*, 6 (2), 144-176.
- Venkatesh, V. and Bala, H. (2008). Application acceptance model 3 and a research agenda on interventions, *Decision Sciences*, 39 (2), 273-315, doi: 10.1111/j.1540-5915.2008.00192.x.
- Venkatesh, V. and Davis, F.D. (2000). Theoretical extension of the application acceptance model: four longitudinal field studies, *Management Science*, 46 (2), 186-204, doi: 10.1287/mnsc.46.2.186.11926.
- Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003). User acceptance of information application: toward a unified view, *MIS Quarterly*, 27 (3), 425-478, doi: 10.2307/30036540.
- Venkatesh, V., Thong, J.Y.L. and Xu, X. (2012). Consumer acceptance and use of information application: extending the unified theory of acceptance and use of application, *MIS Quarterly*, 36 (1), 157-178, doi: 10.2307/41410412.
- Wang, M., Cho, S. and Denton, T. (2017). The impact of personalization and compatibility with past experience on e-banking usage, *International Journal of Bank Marketing*, 35(1), 45-55.
- Xue, M., Hitt, L.M. and Chen, P.-Y. (2011). Determinants and outcomes of internet banking adoption, *Management Science*, 57 (2), 291-307.
- Zeithaml, V.A. (2002). Service excellence in electronic channels, *Managing Service Quality: An International Journal*, 12 (3), 135-139.
- Zhang, T., Lu, C. and Kizildag, M. (2018). Banking 'on-the-go': examining consumers' adoption of mobile banking services, *International Journal of Quality and Service Sciences*, 10 (3), pp. 279-295.